

Coordinating Success

Strategy for Restoration of the South Florida Ecosystem

Tracking Success

Biennial Report for FY 2006-2008 of the
South Florida Ecosystem Restoration Task Force

Integrated Financial Plan

to the
U.S. Congress,
Florida Legislature,
Seminole Tribe of Florida
and Miccosukee Tribe
of Indians of Florida

Volume 1
of 2



South Florida Ecosystem Restoration Organization



Task Force

- U.S. Department of the Interior (Chair)
- U.S. Department of Agriculture
- U.S. Department of the Army
- U.S. Department of Commerce
- U.S. Department of Justice
- U.S. Department of Transportation
- U.S. Environmental Protection Agency
- Miccosukee Tribe of Indians of Florida
- Seminole Tribe of Florida
- Florida Department of Environmental Protection
- South Florida Water Management District
- Florida Governor's Office
- Two Local Governments - Cities of Sweetwater and South Bay

Working Group

- U.S. Department of the Interior: National Park Service, Bureau of Indian Affairs, U.S. Fish & Wildlife, U.S. Geological Survey; U.S. Department of Agriculture: Natural Resources Conservation Service; U.S. Department of the Army: U.S. Army Corps of Engineers; U.S. Department of Commerce: National Oceanic and Atmospheric Administration, National Marine Fisheries Service, National Ocean Service; Florida Keys National Marine Sanctuary; U.S. Department of Justice; U.S. Environmental Protection Agency; U.S. Department of Transportation; Miccosukee Tribe of Indians of Florida; Seminole Tribe of Florida;
- State of Florida: Florida Office of the Governor, Florida Department of Environmental Protection, South Florida Water Management District, Florida Fish and Wildlife Conservation Commission, Florida Department of Community Affairs, Florida Department of Agriculture and Consumer Services, Florida Department of Transportation.
- No more than five representatives of local governments or regional planning councils.

Science Coordination Group

- U.S. Department of the Interior: National Park Service, U.S. Fish and Wildlife, U.S. Geological Survey; U.S. Department of Agriculture: Natural Resources Conservation Service, Agricultural Research Service; U.S. Department of Commerce: National Oceanic and Atmospheric Administration, National Marine Fisheries Service - SEFSC, Ocean and Atmospheric Research - AOML; U.S. Department of the Army: U.S. Army Corps of Engineers; U.S. Environmental Protection Agency; Miccosukee Tribe of Indians of Florida; Seminole Tribe of Florida; Florida Fish and Wildlife Conservation Commission; Florida Department of Agriculture and Consumer Services; Florida Department of Environmental Protection; South Florida Water Management District; Miami-Dade Department of Environmental Resource Management; Palm Beach County; Florida Atlantic University.

South Florida Ecosystem Restoration Task Force

Volume 1

COORDINATING SUCCESS 2008:

Strategy for Restoration of the South Florida Ecosystem

and

TRACKING SUCCESS:

Biennial Report of the South Florida Ecosystem Restoration Task Force for

July 2006 – June 2008

To the U.S. Congress, Florida Legislature,
Seminole Tribe of Florida, and
Miccosukee Tribe of Indians of Florida

*This is Volume 1 of a two-volume report.
Volume 1 contains the coordination strategy and biennial report of
the South Florida Ecosystem Restoration Task Force.
Volume 2 contains the Integrated Financial Plan,
including descriptions of all the individual projects that
participating entities have identified as
supporting ecosystem restoration.*

*Both volumes combine information from federal, state, tribal, and
local agencies and therefore do not strictly follow any single agency's format.*

South Florida Ecosystem Restoration Task Force Members*

Jose L. Diaz

Commissioner, Miami-Dade County,
State of Florida Representative

Towson Fraser

Deputy Chief of Staff,
Executive Office of the Governor of Florida

Benjamin Grumbles

Acting Assistant Administrator for Water,
U.S. Environmental Protection Agency

Timothy Keeney

Deputy Assistant Secretary for Oceans and
Atmosphere, National Oceanic and Atmospheric
Administration

Linda Lawson

Director, Office of Safety, Energy, and Environment,
Office of the Assistant Secretary for Transportation
Policy,
U.S. Department of Transportation

Dexter Lehtinen

Special Assistant for Everglades Issues,
Miccosukee Tribe of
Indians of Florida

Gary Mast

Deputy Undersecretary for Natural Resources and
Environment, U.S. Department of Agriculture

Kameran Onley**

Assistant Deputy Secretary,
U.S. Department of the Interior

Jim Shore

General Counsel,
Seminole Tribe of Florida

Michael Sole***

Secretary, Florida Department
of Environmental Protection

Ron Tenpas

Assistant Attorney General,
Environment and Natural Resources Division,
U.S. Department of Justice

Carol Ann Wehle

Executive Director, South Florida
Water Management District

John Paul Woodley, Jr.

Assistant Secretary of the Army (Civil Works),
U.S. Department of the Army

Vacant

State of Florida Representative

Special Advisors:

Michael Collins

Chair, Water Resources Advisory Commission

Greg May

Executive Director, South Florida Ecosystem
Restoration Task Force

* As of June 2008

** Chair

*** Vice-Chair

Task Force Working Group Members*

Ken Ammon**

South Florida Water Management District

Stuart Appelbaum

U.S. Army Corps of Engineers

Billy D. Causey

Florida Keys National Marine Sanctuary

Sheri Coven

Florida Department of Community Affairs

Robert W. Crim

Florida Department of Transportation

Wayne E. Daltry

Lee County Smart Growth

Truman Eugene (Gene) Duncan

Miccosukee Tribe of Indians of Florida

Joe Frank

Bureau of Indian Affairs

Roman Gastesi

Miami-Dade County

George Hadley

Federal Highway Administration

Veronica Harrell-James

U.S. Attorney's Office

Eric Hughes

U.S. Environmental Protection Agency

Greg Knecht

Florida Department of Environmental Protection

Dan Kimball***

Everglades National Park

Barry Rosen

U.S. Geological Survey

W. Ray Scott

Florida Department of Agriculture and Consumer Services

Paul Souza

U.S. Fish and Wildlife Service

Jon Steverson

Executive Office of the Governor, State of Florida

Craig D. Tepper

Seminole Tribe of Florida

Kenneth S. Todd

Palm Beach County Administration

Joseph T. Walsh

Florida Fish and Wildlife Conservation Commission

Edward Wright

Natural Resources Conservation Service,
U.S. Department of Agriculture

Vacant

National Marine Fisheries Service

Vacant

Environmental Protection and Growth Management
Department, Broward County

Special Advisor:

Greg May

Executive Director,
South Florida Ecosystem Restoration Task Force

* As of June 2008

** Chair

*** Vice Chair

Task Force Science Coordination Group Members*

Ken Ammon

South Florida Water Management District

Calvin Arnold

Agricultural Research Service,
U.S. Department of Agriculture

John D. Baldwin

Florida Atlantic University

Lisa Beever

Charlotte Harbor National Estuary Program

Ronnie Best

U.S. Geological Survey

Joan Browder

National Oceanic and Atmospheric Administration

Ken Haddad**

Florida Fish and Wildlife Conservation Commission

Todd Hopkins

U.S. Fish and Wildlife Service

Christopher Kelble

National Oceanic and Atmospheric Administration

Chad Kennedy

Florida Department of Environmental Protection

Dan Kimball

National Park Service

Cherise Maples

Seminole Tribe of Florida

Susan Markley

Miami-Dade Department of Environmental
Resources Management

Bill Reck

Natural Resource Conservation Service,
U.S. Department of Agriculture

Garth Redfield

South Florida Water Management District

Terry Rice

Micosukee Tribe of Indians of Florida

Dan Scheidt

U.S. Environmental Protection Agency

Deborah J. Shafer

U.S. Army Corps of Engineers

Rock Salt***

U.S. Department of the Interior

Special Advisor:

Greg May

Executive Director,
South Florida Ecosystem Restoration Task Force

* As of June 2008

** Chair

*** Vice Chair

Volume I — Table of Contents

xv EXECUTIVE SUMMARY

COORDINATING SUCCESS 2008: Strategy for Restoration of the South Florida Ecosystem

2 STRATEGY PURPOSE AND BACKGROUND

2 Purpose

2 Who Is Involved: The South Florida Ecosystem Restoration Task Force

4 Brief History of South Florida Ecosystem Management

8 What Is at Stake

RESTORATION STRATEGY

9 Guiding Principles

11 Task Force Roles in the Coordination of the Restoration Effort

VISION AND INDICATORS OF SUCCESS

13 Vision

13 Indicators of Success

STRATEGIC GOALS AND OBJECTIVES

22 GOAL 1: Get the Water Right

32 GOAL 2: Restore, Preserve, and Protect Natural Habitats and Species

43 GOAL 3: Foster Compatibility of the Built and Natural Systems

57 Linkages between Strategic Work Efforts and Ecosystem Restoration

TRACKING SUCCESS: Biennial Report of the South Florida Ecosystem Restoration Task Force

62 BIENNIAL REPORT BACKGROUND AND PURPOSE

62 Background

63 Purpose

64 ACTIVITIES, PRIORITIES, POLICIES, STRATEGIES, PLANS, PROGRAMS, AND PROJECTS:

JULY 2006 THROUGH JUNE 2008

64 Intergovernmental Coordination

65 Coordination of Strategic Science Issues

66 Exchange of Information

67 Facilitation and Conflict Resolution

68 Public Participation and Access

69 CERP Programs and Projects

77 GOAL 1: Accomplishments: Getting the Water Right

93 GOAL 2: Accomplishments: Restoring, Preserving, and Protecting Natural Habitats and Species

105 GOAL 3: Accomplishments: Fostering Compatibility of the Built and Natural Systems

121 MEASURING PROGRESS TOWARD RESTORATION

APPENDICES

149 Appendix A: Integrated Financial Plan

167 Appendix B: Total Cost Estimate

171 Appendix C: An Additional View of the Miccosukee Tribe of Indians of Florida

185 Appendix D: Water Resources Development Act of 2000, Title VI, Section 601
Comprehensive Everglades Restoration Plan

195 Appendix E: Water Resources Development Act of 2007
Title VI – Florida Everglades

197 Appendix F: South Florida Ecosystem Restoration Task Force Charter

Volume I — Tables

COORDINATING SUCCESS 2008: Strategy for Restoration of the South Florida Ecosystem

- 6 Strategic Plan Table 1 – Significant Events in South Florida Ecosystem Management
- 14 Strategic Plan Table 2 – Task Force System-wide Indicators for 2008
- 26 Strategic Plan Table 3 – Subgoal 1-A: Get the Hydrology Right
- 31 Strategic Plan Table 4 – Subgoal 1-B: Get the Water Quality Right
- 35 Strategic Plan Table 5 – Subgoal 2-A: Restore, Preserve, and Protect Natural Habitats
- 43 Strategic Plan Table 6 – Subgoal 2-B: Control Invasive Exotic Plants and Animals
- 51 Strategic Plan Table 7 – Subgoal 3-A: Use and Manage Land in a Manner
Compatible with Ecosystem Restoration
- 54 Strategic Plan Table 8 – Subgoal 3-B: Maintain or Improve Flood Protection in a Manner
Compatible with Ecosystem Restoration
- 56 Strategic Plan Table 9 – Subgoal 3-C: Provide Sufficient Water Resources for Built and Natural Systems

TRACKING SUCCESS: Biennial Report 2006 – 2008

- 81 Biennial Report Table 1 – Surface Water Storage
- 83 Biennial Report Table 2 – Research conducted at LILA
- 84 Biennial Report Table 3 – ASR Water Storage
- 86 Biennial Report Table 4 – Impediments to Flow
- 90 Biennial Report Table 5 – Acres of Stormwater Treatment Areas
- 91 Biennial Report Table 6 – Plans for Impaired Waters to Comply with TMDLs
- 94 Biennial Report Table 7 – Land Acquisition for Habitat Protection
- 96 Biennial Report Table 8 – Land Acquisition Expenditures Summary
- 97 Biennial Report Table 9 – Protect Coral Reefs
- 99 Biennial Report Table 10 – Improve Habitat Quality
- 102 Biennial Report Table 11 – Maintenance Control of Invasive Species on Public Lands
- 103 Biennial Report Table 12 – Biological Control of Invasive Species
- 104 Biennial Report Table 13 – Achieving Eradication of Gambian Pouch Rat
- 107 Biennial Report Table 14 – Florida Greenways and Trails Program
- 108 Biennial Report Table 15 – Additional Park, Recreation, and Open Space Land
- 109 Biennial Report Table 16 – Participation in Voluntary Farm Bill Conservation Programs
- 109 Biennial Report Table 17 – Farm Bill Accomplishments
- 110 Biennial Report Table 18 – Comprehensive Plan Compatibility
- 111 Biennial Report Table 19 – Increase Community Understanding
- 116 Biennial Report Table 20 – Flood Protection
- 117 Biennial Report Table 21 – Herbert Hoover Dike
- 118 Biennial Report Table 22 – Regional Water Supply
- 119 Biennial Report Table 23 – Water Reuse
- 119 Biennial Report Table 24 – SFWMD Water Reuse, 2006
- 120 Biennial Report Table 25 – Alternative Water Supplies
- 120 Biennial Report Table 26 – SFWMD Alternative Water Supply Program Achievements, 2007
- 123 Biennial Report Table 27 – Task Force System-wide Indicators for 2008

All photos in this document are provided courtesy the South Florida Water Management District, William Perry, U.S. Army Corps of Engineers or U.S. Department of the Interior.

Volume 2 — Table of Contents

TRACKING SUCCESS: 2008 Integrated Financial Plan (IFP)

1	Purpose
1	Background
1	Criteria and Assumptions
3	How to Use the IFP Project Summary Table
4	2008 Integrated Financial Plan Summary
18	Strategic Goals and Objectives Reference Guide
21	Goal 1 Project Data Sheets
153	Goal 2 Project Data Sheets
261	Goal 3 Project Data Sheets
297	Completed Projects

GLOSSARY

Terms

Acre-foot: The volume of water that will cover an area of one acre to a depth of one foot (43,560 cubic feet).

Adaptive Management: A process for learning and incorporating new information into the planning and evaluation phases of the restoration program. This process ensures that the scientific information produced for this effort is converted into products that are continuously used in management decision-making.

Benthic: Bottom dwelling, as in organisms.

Bentonite: Absorbent aluminum silicate clay used in various adhesives, cements, and ceramic fillers.

Best Management Practices (BMPs): Agricultural and other industrial management activities designed to achieve an important goal, such as reducing farm runoff or optimizing water use and water quality.

Blueways: Routes on streams, rivers, lakes or other waterbodies to allow recreational access and discovery of natural and urban (including retail) waterfront areas.

Cut-Off Wall: A below ground barrier to sub-surface fluid migration often for the purpose of containing contaminants on-site.

Decomartmentalization: Modifications to impediments of sheetflow.

Economic equity: The fair treatment of all persons regardless of color, creed, or belief in aspects of opportunities and/or diseconomies regarding economic or environmental activities.

Ecosystem: A community of organisms, including humans, interacting with one another and the environment in which they live.

El niño/la niña: Warming and cooling patterns in the Pacific Ocean that affect the earth's atmosphere.

Environmental justice: The fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies.

Eutrophication: The natural or cultural enrichment of an aquatic environment with plant nutrients leading to rapid ecological changes and high productivity.

Exotic or invasive species: Exotic species are kinds of plants and animals not native to an area and found beyond their natural range. Exotic plants are introduced by people intentionally for social and economic reasons, and as accidental consequences of travel and commerce. Often such species are highly invasive and dominating to native forms.

Goal: Something to be achieved. Goals can be established for outcomes (results) or outputs (efforts).

Greenways: Constructed or redeveloped path for pedestrian, bicycling traffic, or multiple transportation or retail uses, to foster access and connect humans to their natural and constructed environments.

Hectare: a unit of surface area equal to 10,000 square meters; equivalent to 2.471 acres.

Hydrology: The study of the properties, distribution, and effects of water. When used in the Task Force Strategy and Biennial Reports, the term refers to the quantity, timing, and distribution of water in the ecosystem.

Hydropattern: Water depth and duration, along with the quantity, timing, and distribution of surface water to a specific area; critical for maintaining various ecological communities in wetlands.

Hydroperiod: Depth and duration of inundation in a particular wetland area.

Indicator: A metric that is designed to inform us easily and quickly about the conditions over time and space of an ecosystem.

Lacustrine: Of or pertaining to a lake.

Minimum Flows and Levels (MFLs): Florida statute requires water management districts to set water levels for each major body of water “at which further withdrawals would be significantly harmful to the water resources or ecology of the area.”

Nonpoint source pollution: Comes from many diffuse sources; caused by rainfall (or snowmelt in colder climates) moving over and through the ground. As the runoff moves, it picks up and carries away natural and human-made pollutants, finally depositing them into lakes, rivers, wetlands, coastal waters, and even underground sources of drinking water.

Nonstructural flood protection: Use of operation schedules, redirection of flows, or other operating strategies to manage water other than building new or modifying existing infrastructure.

Objective: A goal expressed in specific, measurable terms.

Outcome: An end result. When used in the Task Force strategy and biennial reports, a quality of the restored South Florida Ecosystem.

Output: Levels of work and effort. When used in the Task Force Strategy and Biennial Reports, the products, activities, or services produced by a project or program.

Periphyton: The biological community of microscopic plants and animals attached to surfaces in aquatic environments. Algae are the primary component in these assemblages and periphyton can be very important in aquatic food webs, such as those of the Everglades.

Performance measure: A desired result stated in measurable terms to allow for an assessment of how well the desired result (outcome) has been achieved.

Piping: Internal erosion that can occur when water seeps through a dike and transports and removes soil particles.

Point source: Any discernible, confined discrete conveyance from which pollutants are or may be discharged which are regulated by federal or state issued National Pollutant Discharge Elimination System ("NPDES") permits.

Restoration: When used in the Task Force Strategy and Biennial Reports, the recovery of a natural system's vitality and biological and hydrological integrity to the extent that the health and ecological functions are self-sustaining over time.

Seiches: Waves on the surface of a lake or other landlocked water body caused by atmospheric or seismic disturbances.

Sheetflow: Water movement as a broad front with shallow uniform depth.

South Florida Ecosystem: An area consisting of the lands and waters within the boundaries of the South Florida Water Management District and the Multi-Species Recovery Plan, including the Kissimmee Basin, Lake Okeechobee, Everglades, the Florida Keys, and the contiguous nearshore coastal waters of south Florida.

Stormwater: Surface water runoff resulting from rainfall that does not percolate into the ground or evaporate.

Subsidence: The lowering of the soil level caused by shrinkage of organic layers. This shrinkage is due to desiccation, consolidation, and biological oxidation.

Sustainability: The state of having met the needs of the present without endangering the ability of future generations to be able to meet their own needs.

Vision: An aspiration of future conditions. In this case, the results that the Task Force members intend to achieve in terms of ecosystem health and quality of life for south Florida residents and visitors.

Weir: A small overflow-type dam commonly used to raise the level of a river or stream.

Wetlands: Areas that are inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support a prevalence of vegetative or aquatic life that require saturated or seasonally saturated soil conditions for growth and reproduction.

ACRONYMS

AM	Adaptive Management	CFS	Cubic foot per second
ASR	Aquifer storage and recovery	CISMA	Cooperative Invasive Species Management Area
AT	Assessment Team	CISRERP	Committee on Independent Scientific Review of Everglades Restoration Progress
AFB	Alternative Formulation Briefing	CREW	Corkscrew Regional Ecosystem Watershed
AWS	Alternative Water Supply	CROGEE	Committee on Restoration of the Greater Everglades Ecosystem
BIPM	Bureau of Invasive Plant Management	CSOP	Combined Structural and Operational Plan
BMP	Best management practices	DACS	Florida Department of Agriculture and Consumer Services
C&SF	Central and Southern Florida Project		
CERP	Comprehensive Everglades Restoration Plan		

Acronyms continued

DCA	Florida Department of Community Affairs	IPCC	Intergovernmental Panel on Climate Change
DEP	Florida Department of Environmental Protection	IRL	Indian River Lagoon
DOI	U.S. Department of the Interior	ISR	Independent scientific review
DOT	Florida Department of Transportation	ITR	Independent technical review
DRI	Development of Regional Impact	KBMOS	Kissimmee Basin Modeling and Operation Study
E&SF	Everglades and South Florida	KRR	Kissimmee River Restoration
EA	Environmental Assessment	LATT	Land Acquisition Task Team
EAA	Everglades Agricultural Area	LILA	Loxahatchee Impoundment Landscape Assessment
EAR	Evaluation and Appraisal Report	LIRS	Lake Istokpoga Regulation Schedule
EFA	Everglades Forever Act	LO	Lake Okeechobee
EIS	Environmental Impact Statement	LOER	Lake Okeechobee and Estuary Recovery
ENP	Everglades National Park	LOFT	Lake Okeechobee Fast Track
EPA	Everglades Protection Area	LOPA	Lake Okeechobee Protection Act
EPR	External Peer Review	LOPP	Lake Okeechobee Protection Plan
ERC	Florida Environmental Regulation Commission	LOST	Lake Okeechobee Scenic Trail
ERN	Everglades Radio Network	MAP	Monitoring and Assessment Plan
ERP	Environmental Resource Permit	MATOC	Multiple award task order contractors
FCAT	Florida Comprehensive Assessment Test	µg/l	Micrograms per liter
FEMA	Federal Emergency Management Agency	MGD	Million gallons per day
FIATT	Florida Invasive Animal Task Team	MERIT	Multi-Species/Ecosystem Recovery Implementation Team
FKNMS	Florida Keys National Marine Sanctuary	MFL	Minimum flows and levels
FRPP	Farm and Ranch Land Protection Program	MISP	Master Implementation Sequencing Plan
FWC	Florida Fish and Wildlife Conservation Commission	MPMP	Master Program Management Plan
FWS	U.S. Fish and Wildlife Service	MPS	Manatee Protection System
GAO	U.S. Government Accountability Office	MRP	Master Recreation Plan
GCSSF	Governor's Commission for a Sustainable South Florida	MRR	Major Rehabilitation Report
GDM	General Design Memorandum	MSRP	Multi-Species Recovery Plan
GPD	Gallons per day	MT	Metric ton
HHD	Herbert Hoover Dike	MWD	Modified Water Deliveries to Everglades National Park
IAR	Incremental Adaptive Restoration	NAS	National Academy of Science
ICU	Initial CERP Update	NEPA	National Environmental Policy Act
IFP	Integrated Financial Plan	NEWTT	Noxious Exotic Weed Task Team
IMC	Interagency Modeling Center		

NGVD	National Geodetic Vertical Datum	SCG	Science Coordination Group
NMFS	National Marine Fisheries Service	SEI	Sustainable Ecosystems Institute
NOAA	National Oceanic and Atmospheric Administration	SFWMD	South Florida Water Management District
NPDES	National Pollutant Discharge Elimination System	SMA	Square mile area
NPS	National Park Service	SSR	System Status Report
NRC	National Research Council	STA	Stormwater treatment area
NRCS	Natural Resources Conservation Service	SWIM	Surface Water Improvement and Management Act
NWR	National Wildlife Refuge	TMDL	Total maximum daily load
OMB	Office of Management and Budget	TSP	Tentatively Selected Plan
OSHA	Occupational Safety and Health Administration	TP	Total phosphorus
PBCWUD	Palm Beach County's Water Utilities District	USACE	U.S. Army Corps of Engineers
PDT	Project Delivery Team	USDA	U.S. Department of Agriculture
PIR	Project Implementation Report	USEPA	U.S. Environmental Protection Agency
PMP	Project Management Plan	USGS	U.S. Geological Survey
PPB	Parts per billion	WBSR	West Basin Storage Reservoir
PSTA	Periphyton stormwater treatment area	WCA	Water Conservation Area
RECOVER	REstoration COordination and VERification Team	WPA	Water Preserve Area
RLG	RECOVER Leadership Group	WRAC	Water Resources Advisory Commission
ROD	Record of Decision	WRDA	Water Resources Development Act
SAV	Submerged aquatic vegetation	WRP	Wetlands Reserve Program
		WY	Water year

Executive Summary



Coordinating Success

2008 Strategy for Restoration of the South Florida Ecosystem

Tracking Success

June 2006 - July 2008 Biennial Report of the South Florida
Ecosystem Restoration Task Force

EXECUTIVE SUMMARY

Progress continues in developing and coordinating the highly complex plans and initiating action to restore the quality of the South Florida Ecosystem, one of America's most unique natural areas. The revised *Coordinating Success: Strategy for Restoration of the South Florida Ecosystem (Strategy)* and *Tracking Success: Biennial Report of the South Florida Ecosystem Restoration Task Force, July 2006 – June 2008 (Biennial Report)*, both included in Volume 1, summarize recent progress, ongoing challenges, and plans that guide the coordinated efforts of local, state, tribal, and federal governments as they implement their respective work. The *Strategy and Biennial Report* were prepared in accordance with Congressional guidance by the South Florida Ecosystem Restoration Task Force (hereinafter referred to as the Task Force), an intergovernmental group created by the Congress in 1996 to coordinate the restoration effort.

The purpose of the revised *Strategy* is to update the strategy document submitted to Congress in 2006. This *Strategy* responds to Congressional direction to outline how the restoration effort will occur, identify the resources needed, establish responsibility for accomplishing actions, and link strategic goals to outcome-oriented goals. The *Strategy* describes how the restoration effort is being coordinated among many government entities to achieve broad improvements throughout the ecosystem. The *Strategy* retains the three strategic goals first published in July 2000:

- (1) Get the water right;
- (2) Restore, preserve, and protect natural habitats and species; and
- (3) Foster compatibility of the built and natural systems.

The overall premise of restoration is that the ecosystem must be managed from a system-wide perspective. Rather than dealing with issues independently, the challenge is to understand the interrelationships that exist between all the components of the ecosystem. The same issues that are critical to the natural environment – getting the water right and restoring, preserving, and protecting diverse habitats and species – are equally critical to maintaining a quality environment and lifestyle for south Florida's residents and visitors.

The success of this comprehensive approach will depend on the coordination and integration of hundreds of individual restoration projects carried out by various agencies at all levels of government, and with input from the public. Each agency brings its own authority, jurisdiction, capabilities, and expertise to this initiative and applies them through its individual programs, projects, and activities.

The Task Force strategy is to:

- Focus the efforts of its members on a shared vision and set of strategic goals and objectives for achieving that vision,
- Coordinate individual member projects,
- Track and assess progress through indicators of success, and,
- Facilitate the resolution of issues and conflicts as they arise.

Accordingly, the Task Force developed the three overarching strategic goals listed above. These goals and their associated sub-goals and objectives are illustrated on pages xviii-xix and provide the framework for this *Strategy* and the *Biennial Report*. The *Strategy* outlines the many programs and projects that work together to achieve the ecosystem restoration goals. The *Biennial Report* documents the activities of the Task Force and its members and progress made between July 2006 and June 2008 in achieving the strategic goals and objectives included in the Task Force *Strategy*.

The Comprehensive Everglades Restoration Plan (CERP), an effort which began in 1996 and was authorized in 2000, is vital to accomplishing all three strategic goals but primarily focuses on goal one (get the water right). Some of the pre-CERP projects that are also critical to achieving goal one include the Kissimmee River Restoration, Modified Water Deliveries to Everglades National Park, (Canal) C-111, Critical Projects, and the Everglades Construction Project. More recently delineated projects are also helping to “get the water right” (the right quality and amount of water at the right time). The Lake Okeechobee Protection Act, expanded in 2007, includes the latest action plan to help restore the ecological health of Lake Okeechobee and the St. Lucie and Caloosahatchee Estuaries (Northern


Everglades and Estuaries Protection Program). In 2004, the state launched a suite of various expedited restoration projects in an effort to accelerate several projects to reach goal one. The expedited restoration projects, with an estimated construction cost of \$1.5 billion, are being implemented by the SFWMD.

For goal two (restore, preserve, and protect natural habitats and species), the state's Florida Forever program is the lynchpin of the effort to acquire lands for the preservation, protection, and restoration of important habitats. Other critical goal two efforts involve the prevention, control, and eradication of invasive, exotic plant and animal species.

For goal three (foster compatibility of the built and natural systems), state and local governments are improving the coordination between land use and water supply planning to ensure availability of adequate water supplies to support existing development while not

degrading the environment, as the Legislature directed. The State of Florida's ongoing Florida Forever program increases the spatial extent of open space and multiplies their benefits by linking them with park, conservation, recreation, water resource, and other open space lands. These efforts help protect natural systems by providing additional habitat and serving as buffers between the natural and built environments.

Restoring the Everglades is a global, national, and state priority. The South Florida Ecosystem supports the economy and the quality of life of Native American Indians and all Floridians who live there. It also enriches the national legacy of all Americans. By working cooperatively and communicating with the public in this unique conservation effort, the Task Force members seek to ensure that all interests are protected as each member works to fulfill their individual responsibilities to local residents and the nation at large.



Strategic Goals and Objectives

of the
South Florida Ecosystem
Restoration Task Force



Goal 1:

Get the Water Right

Subgoal 1-A: Get the hydrology right

Objective 1-A.1: Provide 1.8 million acre-feet of surface water storage by 2036

Objective 1-A.2: Develop alternative water storage systems capable of storing 1.7 billion gallons per day by 2030

Objective 1-A.3: Modify 361 miles of impediments to flow by 2020

Subgoal 1-B: Get the water quality right

Objective 1-B.1: Construct 96,010 acres of stormwater treatment areas by 2035

Objective 1-B.2: Prepare locally-based plans to reduce pollutants as determined necessary by the total maximum daily loads by 2011



Goal 2: Restore, Preserve, and Protect Natural Habitats and Species

Subgoal 2-A: Restore, preserve, and protect natural habitats

Objective 2-A.1: Complete acquisition of 5.7 million acres of land identified for habitat protection by 2020

Objective 2-A.2: Protect 20 percent of the coral reefs by 2010

Objective 2-A.3: Improve habitat quality for 2.4 million acres of natural areas in south Florida

Subgoal 2-B: Control invasive exotic plants and animals

Objective 2-B.1: Achieve maintenance control of Brazilian pepper, melaleuca, Australian pine, and Old World climbing fern on south Florida's public conservation lands by 2020

Objective 2-B.2: Release 2 biological control insects per year for the control of invasive exotic plants

Objective 2-B.3: Achieve eradication of Gambian pouch rat by 2012



Goal 3: Foster the Compatibility of the Built and Natural Systems

Subgoal 3-A: Use and manage land in a manner compatible with ecosystem restoration

Objective 3-A.1: Prepare a land use analysis for selected restoration projects

Objective 3-A.2: Designate or acquire an additional 10,000 acres of lands needed for parks, recreation, and open space to complement South Florida Ecosystem Restoration through local, state, and federal programs by 2015

Objective 3-A.3: Increase participation by 350,000 acres in the Grassland Reserve Program, Wetland Reserve Program, Farm and Ranch Land Protection Program, and the Environmental Quality Incentive Program to promote compatibility between agricultural production and South Florida Ecosystem Restoration by 2014

Objective 3-A.4: Increase the number of local governments that adopt into their comprehensive plans (goals, objectives, policies, and related strategies) - concepts compatible with South Florida Ecosystem Restoration

Objective 3-A.5: Increase the use of educational programs and initiatives to further the publics' and local governments' understanding of the benefits of South Florida Ecosystem Restoration

Subgoal 3-B: Maintain or improve flood protection in a manner compatible with ecosystem restoration

Objective 3-B.1: Maintain or improve existing levels of flood protection for the urban, agricultural, and natural environments

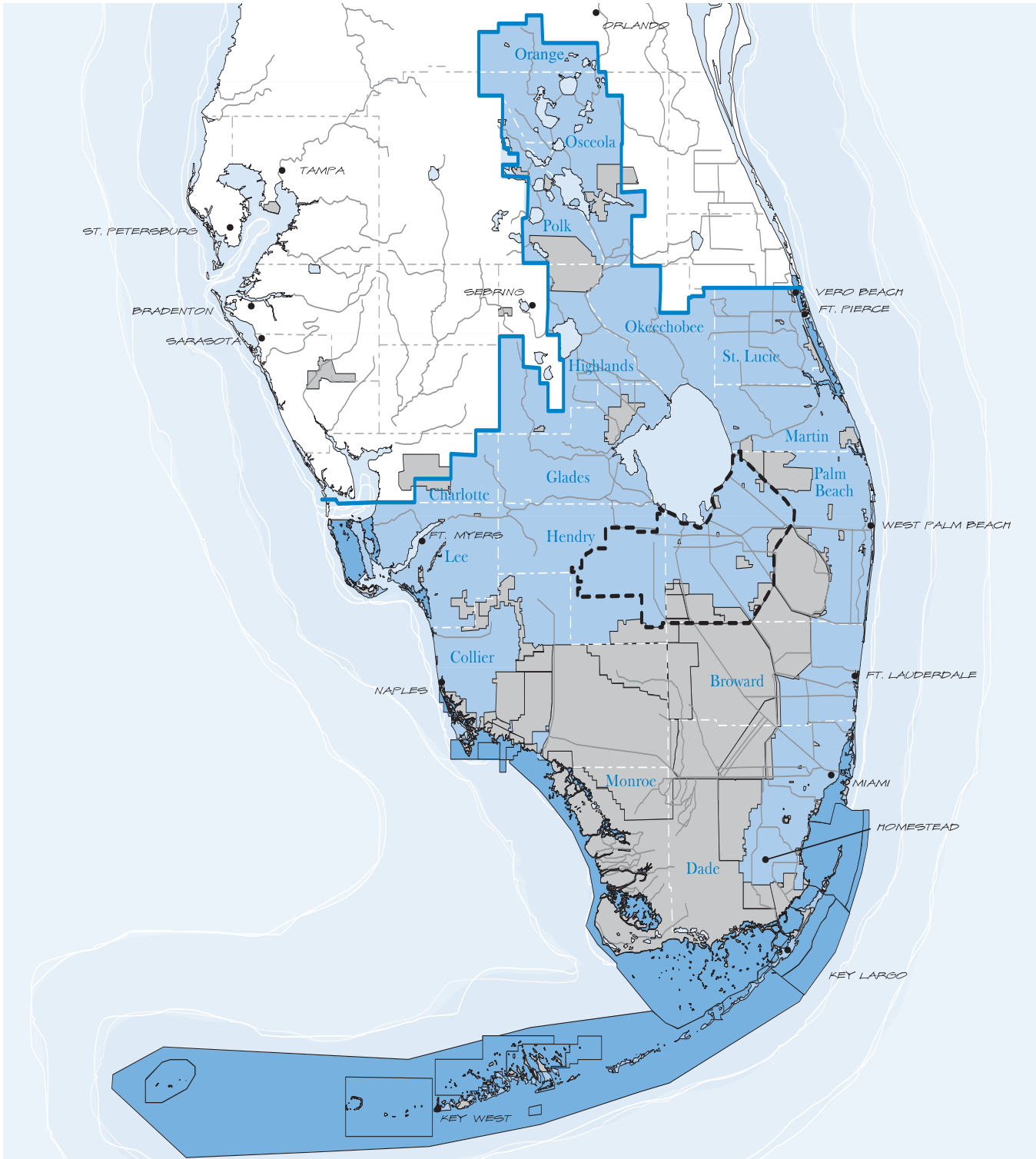
Objective 3-B.2: Rehabilitate the Herbert Hoover Dike to provide adequate levels of flood protection to the communities and lands surrounding Lake Okeechobee

Subgoal 3-C: Provide sufficient water resources for built and natural systems

Objective 3-C.1: Plan for regional water supply needs

Objective 3-C.2: Increase volumes of reuse on a regional basis

Objective 3-C.3: Increase water made available through the State's Water Protection and Sustainability Program and the SFWMD Alternative Water Supply Development Program



The South Florida Ecosystem

- South Florida Ecosystem Boundary
- Everglades Agricultural Area
- Conservation and Tribal Lands
- Non-Public Land

Coordinating Success 2008:

Strategy for Restoration of the South Florida Ecosystem

Strategy Purpose and Background

Restoration Strategy

Vision and Indicators of Success

Strategic Goals and Objectives

STRATEGY PURPOSE AND BACKGROUND

Purpose

The purpose of *Coordinating Success 2008: Strategy for Restoration of the South Florida Ecosystem (Strategy)* is to describe how the South Florida Ecosystem Restoration Task Force (Task Force) will coordinate the intergovernmental effort to restore and sustain the imperiled South Florida Ecosystem. The American people have a strong national as well as a state and local interest in preserving this 18,000-square-mile region of subtropical uplands, wetlands, and coral reefs that extends from the Kissimmee Chain of Lakes south of Orlando through Florida Bay and the reefs southwest of the Florida Keys. The South Florida Ecosystem supports the economy and the distinctive quality of life of the Floridians and the Native American Indians who live there, and greatly enriches the shared legacy of all Americans. It encompasses many significant conservation areas, including Everglades, Biscayne, and the Dry Tortugas National Parks, the Big Cypress National Preserve, the Everglades in the Water Conservation Areas (WCAs), the Fakahatchee Strand, the Picayune Strand State Forest, the Collier-Seminole, John Pennekamp, and Jonathan Dickinson State Parks, the Rookery Bay National Estuarine Research Reserve, the Arthur R. Marshall Loxahatchee National Wildlife Refuge, and the Florida Keys National Marine Sanctuary.

Many federal, state, tribal, and local entities are working to address the ecological conditions in south Florida. The Task Force reports on and facilitates the coordination of the work. In 1999 Congress directed the Task Force to produce a restoration strategy that meets four requirements as recommended by the United States Government Accountability Office (GAO):

1. Outline how the restoration effort will occur
2. Identify the resources needed
3. Establish responsibility for accomplishing actions
4. Link the strategic goals established by the participants to outcome-oriented goals

This *Strategy* describes how the restoration effort is being coordinated. The Task Force members have agreed upon guiding principles for restoration and a

vision for the results to be achieved; they have established three broad strategic goals and measurable objectives for the work needed to achieve the vision; they have identified the projects needed to achieve the objectives; they are coordinating those projects so that they are mutually supportive and non-duplicative; and they are tracking progress toward both the work-oriented strategic goals and the results-oriented vision. The vision, strategic goals, objectives, indicators of success, and individual project data (including cost, responsible agency, and targeted completion dates) are all specified in this *Strategy*. The project details are summarized in the Integrated Financial Plan (IFP) Summary Table provided as Appendix A in Volume 1. Additional information for each project is available in the complete IFP that is provided in Volume 2.

The Task Force *Strategy* is designed for planning purposes only, is subject to modification as needed, and is not legally binding on any of the Task Force members. Each Task Force member entity retains all of its sovereign rights, authorities, and jurisdiction for implementation of the projects identified as part of the Task Force *Strategy*.



Who Is Involved: The South Florida Ecosystem Restoration Task Force

Six federal departments (twelve agencies), seven Florida state agencies or commissions, two American Indian tribes, sixteen counties, scores of municipal governments, and interested groups and businesses from throughout south Florida participate in the restoration effort. Four sovereign entities (federal, state, and two tribes) are represented.

The Task Force sought extensive involvement from local agencies, citizen groups, nonprofit organizations, and other interested parties as part of its assessment for this *Strategy*.

The Task Force was created in 1993 as a federal interagency partnership with informal participation by the State of Florida, the Seminole Tribe of Florida, and the Miccosukee Tribe of Indians of Florida. In recognition of the magnitude of the restoration effort and the critical importance of partnerships with state, tribal, and local governments, the Water Resources Development Act of 1996 (WRDA 1996) expanded the Task Force to include tribal, state, and local governments.



WRDA 1996 outlines the Task Force duties:

- Consult with, and provide recommendations to, the Secretary of the Army during development of the Comprehensive Everglades Restoration Plan (CERP)
- Coordinate development of consistent policies, strategies, plans, programs, projects, activities, and priorities for addressing the restoration, preservation, and protection of the South Florida Ecosystem
- Exchange information regarding programs, projects, and activities of the agencies and entities represented on the Task Force to promote ecosystem restoration and maintenance
- Establish a Florida-based Working Group that includes representatives of the agencies and entities represented on the Task Force as well as other governmental entities as appropriate for the purpose of formulating, recommending, coordinating, and implementing the policies, strategies, plans, programs, projects, activities, and priorities of the Task Force
- May establish advisory bodies as determined necessary to assist the Task Force in its duties, including public policy and scientific issues
- When desired, designate an existing advisory body or entity that represents a broad variety of private and public interests for additional input into their work
- Facilitate the resolution of interagency and intergovernmental conflicts associated with the restoration of the South Florida Ecosystem among agencies and entities represented on the Task Force
- Coordinate scientific and other research associated with the restoration
- Provide assistance and support to agencies and entities represented
- Prepare an integrated financial plan and recommendations for coordinated budget requests to be expended by agencies and entities on the Task Force
- Submit a biennial report to Congress that summarizes the restoration activities and progress made toward restoration

The original Working Group charter was updated by the Task Force in December 2003.

The duties of the Working Group are:

- A draft biennial report that summarizes the activities of the Task Force and progress made toward restoration
- A draft integrated financial plan and recommendations for a coordinated budget request
- A draft biennial update to the strategic plan; a draft biennial update to the total cost report
- Responses to specific priority activities assigned by the Task Force

The Task Force established a Science Coordination Group (SCG) in December 2003 to assist it in coordinating scientific and other research. This group was charged to develop, for Task Force approval, a draft science coordination plan that tracks and coordinates programmatic-level science and other research, identifies programmatic level priority science needs and gaps, and facilitates management decisions. The SCG also provides specific responses to priority work activities assigned by the Task Force.

The Task Force does not have any oversight or project authority, and participating agencies are responsible for meeting their own projected accomplishments. The Task Force serves as a forum in which ideas are shared and consensus is sought. This enhances the productivity of each member government or agency effort.

Brief History of South Florida Ecosystem Management

Early land developers viewed the Everglades and related habitats as worthless swamps. By the late 1800s efforts were underway to "reclaim" these swamplands for productive use. These initial efforts were encouraging, and more wetlands were drained or filled for agriculture and for residential and commercial development. Little by little, canals, roads, and buildings began to displace native habitats and disrupt historic water flows.

In 1934 national concern about the degradation of the South Florida Ecosystem led to the creation of Everglades National Park (ENP). The portion of the Everglades included in the park was to be permanently reserved as a wilderness with no development that would interfere with preserving the unique flora and fauna and the essential primitive character existing at the date of enactment. This mandate to preserve wilderness is one of the strongest in the national park system. The park was authorized by Congress in 1934 and opened to the public in 1947. Other parks and preserves were subsequently authorized (see Strategic Plan Table 1).

The Miccosukee and the Seminole Indians, whose culture and way of life depend on a healthy Everglades Ecosystem, had been living and thriving in this natural environment, which was being dramatically altered by human actions, for generations. The legislation establishing ENP specifically recognized the rights of the Miccosukee Tribe to live in the park and subsequent legislation clarified the tribe's right to live in its community along the border of the park and to govern its own affairs in perpetuity.

The South Florida Ecosystem has historically been plagued with both hurricanes and droughts. A 1928 hurricane caused Lake Okeechobee to overflow, drowning approximately 2,400 people. Droughts from 1931 to 1945 lowered groundwater levels, creating serious threats of saltwater intrusion into wells and damaging muck fires. In 1947 successive storms left 90 percent of south Florida—more than 16,000 square miles from south of Orlando to the Keys—under water for the better part of the year.

In 1948 the ongoing efforts to drain the Everglades, protect the region from hurricanes, and make the

region habitable culminated in the Congressional authorization of the original Central and Southern Florida Flood Control Project that later evolved into the current Central and Southern Florida Project (C&SF), a flood control project jointly built and managed by the U.S. Army Corps of Engineers (USACE) and the South Florida Water Management District (SFWMD). The C&SF Project significantly altered the region's hydrology. The primary project goal was to provide water and flood control for urban and agricultural lands. Another goal was to ensure a water supply for ENP and fish and wildlife resources in the Everglades. The first goal was achieved. The project succeeded in draining half of the original Everglades and allowing for expansion of the cities on the lower east coast of Florida and the farming area south of Lake Okeechobee known as the Everglades Agricultural Area (EAA). The second goal has not yet been accomplished. Getting the correct quantity, quality, timing, and distribution of water to the South Florida Ecosystem has been the subject of much study. Many projects have been authorized to begin to restore more natural water flows to this region.

The original C&SF Project water supply component for ENP was based on the understanding of the park's hydrologic and ecologic needs at the time the plan was developed. Subsequent research has indicated the importance of hydroperiods to the health of natural systems as opposed to a conventional water supply delivery. Historically most rainwater flowed slowly across the extremely flat landscape, soaking into the region's wetlands and forming what became known as the "River of Grass." This natural functioning system began to be altered a century ago. The most significant alteration was the C&SF canal system, which by the year 2000 was comprised of over 1,800 miles of canals and levees and 200 water control structures and drained approximately 1.7 billion gallons of water per day into the Atlantic Ocean and the Gulf of Mexico. As a result, not enough water was available for the natural functioning of the Everglades or for the communities in the region and at times portions of the Everglades actually suffered from too much water. Water quality also was degraded. Excess phosphorus from agriculture and other sources polluted much of the northern Everglades and Lake Okeechobee and caused destructive changes to the food chain.

During the 1970s and 1980s public policy, in line with predominant public opinion, moved in the direction of environmental protection and restoration in south

Florida. In 1972, for example, the Florida Legislature passed the Florida Water Resources Act to balance human and natural system water resource needs. In the same year the Florida Land Conservation Act was enacted to protect lands for environmental preservation and recreation. In 1983, under the leadership of Governor Bob Graham, the Save Our Everglades program was initiated to protect and restore the Kissimmee River Basin, Lake Okeechobee, the state-managed WCAs, Big Cypress Swamp, ENP, Florida Bay, and endangered wildlife. In 1987 the Florida Legislature passed the Surface Water Improvement and Management Act (SWIM), which directed the five water management districts to clean up the priority water bodies in the state. In 1988 Congress, with strong support from the State of Florida, passed the Big Cypress National Preserve Addition and Florida/Arizona Land Exchange Acts, which added 146,000 acres to the Big Cypress National Preserve. This act also affirmed the rights of the Seminole Tribe and Miccosukee Tribe of Indians to customary use and occupancy in the Preserve. In 1989 Congress passed the Everglades Expansion and Protection Act, which added 107,600 acres to ENP and authorized the Modified Water Deliveries Project to restore more natural water flows through Shark River Slough into the park.

Despite progress toward restoration in the 1980s and early 1990s, dramatic growth in the population and development of south Florida kept pressure on the environment. Research at this time detected declines in many native plant and animal species and discovered heightened phosphorus pollution in the Everglades. Particularly alarming was evidence of the decline of Florida Bay, indicated by dramatic losses in seagrass habitat, algae blooms, reductions in shrimp and many fish species, and a decline in water clarity.

In 1988 the federal government sued the State of Florida, alleging that the state had failed to direct the SFWMD to require water quality permits for the discharge of water into the C&SF Project canals, thereby causing a violation of state water quality standards and causing conditions that allowed for the replacement of native species in the Everglades marsh with invasive vegetation. After three years and much additional litigation, no settlement had been reached. In 1991 Governor Lawton Chiles agreed to reach a settlement. For several years, mediation efforts helped reduce the scope of conflict between the state and

federal governments and between agricultural and environmental interests. In February 1992 a court settlement was achieved to reduce the level of phosphorus entering ENP and the Arthur R. Marshall Loxahatchee National Wildlife Refuge (NWR) by creating artificial wetlands designed to process and remove nutrients from agricultural runoff. In 1993 the sugar industry agreed to adopt best management practices (BMPs) and to pay for approximately one-third of the costs of the artificial wetlands to help reduce the phosphorous pollution in the Everglades. The settlement also called for additional measures to be implemented over the long term to meet a numeric phosphorus criterion for Class III waters.

The mid-1990s saw the establishment of two important consensus building forums for Everglades issues. In 1993 the Task Force was established through a federal interagency agreement. In recognition of the magnitude of the restoration effort and the critical importance of partnerships with state, tribal, and local governments, the Task Force was formalized and expanded to include tribal, state, and local governments in WRDA 1996. In 1994 the Governor of Florida established the Governor's Commission for a Sustainable South Florida (GCSSF) "to develop recommendations and public support for regaining a healthy Everglades Ecosystem with sustainable economies and quality communities." The Task Force and the GCSSF were instrumental in formulating consensus in the early stages of Everglades restoration.

In 1996 two significant pieces of legislation were approved by the U.S. Congress. The Federal Agriculture Improvement and Reform Act (the Farm Bill) provided \$200 million to conduct restoration activities in the Everglades Ecosystem, including land acquisition, resource protection, and resource maintenance. The second piece of legislation, WRDA 1996, clarified Congressional guidance to the USACE to develop a comprehensive review study for restoring the hydrology of south Florida. This study, commonly referred to as "the Restudy," has since resulted in the CERP, a consensus plan that was approved by Congress and signed by the president as part of WRDA 2000. The CERP is designed to reverse unintended consequences resulting from the operation of the C&SF Project. The physical limitations of the existing water management system still have the potential to exacerbate resource conflicts. Implementation of the CERP should

increase the system’s flexibility, helping water managers avoid such conflicts. In 2000 Governor Jeb Bush proposed, and the legislature passed, the Everglades Restoration and Investment Act, which committed the state to provide \$2 billion over 10 years to implement the first 10 years of the CERP.

The Seminole and Miccosukee Tribes, which have maintained their way of life in this natural system, became active participants in the dialogue on restoration and were formally added to the Task Force under WRDA 1996. In 1934, the Enabling Act establishing ENP recognized the right of the Miccosukee Tribe of Indians to continue to live in

their traditional homeland. In 1998, Congress passed the Miccosukee Reserved Area Act which clarified the rights of the Miccosukee Tribe to live in the park and set aside 666.6 acres along its border for the tribe to govern its own affairs in perpetuity. The presence of two Indian tribes living in the Everglades, whose culture and way of life depend on the health of this ecosystem, is an important reason to restore the ecosystem.

The growing body of federal and state legislation and regulatory approvals directed at managing growth and protecting the natural environment is summarized in Strategic Plan Table 1.

Strategic Plan Table 1 – Significant Events in South Florida Ecosystem Management

1934	Everglades National Park is authorized.		
1968	Biscayne National Park is established as a national monument; expanded to a national park in 1980.		
1972	Florida Water Resources Act establishes fundamental water policy for Florida, attempting to meet human needs and sustain natural systems; puts in place a comprehensive strategic program to preserve and restore the Everglades Ecosystem.		
1972	Florida Land Conservation Act authorizes the issuance of bonds to purchase environmentally endangered and recreation lands.		
1974	Big Cypress National Preserve is created; legislation incorporates concerns of the Seminole Tribe and the Miccosukee Tribe for access to this preserve.		
1982	Florida Indian Land Claims Settlement Act establishes a perpetual lease from the State of Florida for the Miccosukee Tribe’s use and occupancy of 189,000 acres in WCA-3A, which is to be preserved in its natural state, and a 75,000-acre Federal Indian Reservation in the Everglades.		
1983	Florida Governor’s Save Our Everglades Program outlines a six-point plan for restoring and protecting the South Florida Ecosystem so that it functions more like it did in the early 1900s.		
1984	Florida Warren Henderson Act authorizes the Department of Environmental Regulation (now the Department of Environmental Protection) to protect the state’s wetlands and surface waters for public interest.		
1985	Florida Local Government Comprehensive Planning and Land Development Regulation Act requires the development and coordination of local land use plans.		
1987	Compact among the Seminole Tribe, the State of Florida, and the federal government is completed, clearly describing the Tribe’s water supply and flood control rights; the goal of the compact is to harmonize state and federal water law.		
1987	The Seminole Tribe transfers ownership to lands critical to the State of Florida’s Everglades Construction Project in WCA-3.		
1987	Florida Surface Water Improvement and Management	Act requires the five Florida water management districts to develop plans to clean up and preserve Florida lakes, bays, estuaries, and rivers.	
		1988	Federal government sues the State of Florida, alleging that the state had failed to direct the SFWMD to require water quality permits for the discharge of water into the C&SF project canals.
		1988	Land Settlement Act transfers acreage in WCA-3 and the Rotenberger tract to the State of Florida for Everglades restoration.
		1988	Big Cypress National Preserve Addition Act expands the preserve and affirms the Seminole and Miccosukee Indian Tribes’ customary use and occupancy rights in the preserve.
		1989	Everglades National Park Expansion Act adds the East Everglades addition.
		1990	Florida Preservation 2000 Act establishes a coordinated land acquisition program at \$300 million per year for 10 years to protect the integrity of ecological systems and to provide multiple benefits, including the preservation of fish and wildlife habitat, recreation space, and water recharge areas.
		1990	Florida Keys National Marine Sanctuary and Protection Act establishes a 2,800-square-nautical-mile marine sanctuary and authorizes a water quality protection program.
		1991	Florida Everglades Protection Act provides the SFWMD with clear tools for ecosystem restoration.
		1992	Federal and state parties enter into a consent decree on Everglades water quality issues in federal court. The Miccosukee Tribe signs a Memorandum of Agreement with the federal government which gives it the right to seek enforcement of the Settlement Agreement entered as a Consent Decree.
		1992	WRDA 1992 authorizes the Kissimmee River Restoration Project and the C&SF Project Restudy; also provides for a fifty/fifty cost share between the federal government and the project sponsor, the SFWMD.
		1993	Task Force is established to coordinate ecosystem restoration efforts in south Florida.

- 1993** Seminole Tribe is approved by the U.S. Environmental Protection Agency (USEPA) to establish water quality standards for reservation lands in accordance with section 518 of the Clean Water Act.
- 1994** Florida Everglades Forever Act establishes and requires implementation of a comprehensive plan to restore significant portions of the South Florida Ecosystem through construction, research, and regulation.
- 1994** Governor's Commission for a Sustainable South Florida is established to make recommendations for achieving a healthy South Florida Ecosystem that can coexist with and mutually support a sustainable economy and quality communities.
- 1994** Miccosukee Tribe is approved by USEPA to establish water quality standards for reservation lands in accordance with section 518 of the Clean Water Act.
- 1996** WRDA 1996 authorizes a comprehensive review study for restoring the hydrology of south Florida; expands the Task Force to include tribal, state, and local governments; mandates extensive public involvement.
- 1996** Section 390 of the Farm Bill grants \$200 million to conduct restoration activities in the South Florida Ecosystem.
- 1997** Seminole Tribe of Florida's water quality standards for the Big Cypress Reservation are approved by USEPA.
- 1997** Miccosukee Tribe water quality standards for the Tribe's Federal Indian Reservation establish a 10 ppb criterion for total phosphorus in tribal waters.
- 1997 - 2000** Annual Interior Appropriations Acts provide for land acquisition by the National Park Service and the Fish and Wildlife Service in the South Florida Ecosystem.
- 1998** Miccosukee Reserved Area Act clarifies the rights of the Miccosukee Tribe to live in ENP and sets aside 666.6 acres along the border for the tribe to govern in perpetuity.
- 1998** Seminole Tribe of Florida's water quality standards for the Brighton Reservation are approved by USEPA.
- 1998** Miccosukee Reserved Area Act directs the Miccosukee Tribe to establish water quality standards for the Miccosukee Reserved Area (inflow points to ENP).
- 1999** WRDA 1999 extends Critical Restoration Project authority until 2003; authorizes two pilot infrastructure projects proposed in the CERP.
- 1999** Governor's Commission for the Everglades is established to make recommendations on issues relating to Everglades protection and restoration, environmental justice, and water resource protection, among other issues.
- 1999** Miccosukee Tribe water quality standards are established for the Miccosukee Reserved Area on the border of ENP and they are approved by USEPA.
- 1999** Florida Forever Act improves and continues the coordinated land acquisition program initiated by the Florida Preservation 2000 Act of 1990; commits \$300 million per year for 10 years.
- 1999** Florida State Legislature passes Chapter 99-143, Laws of Florida, authorizing the SFWMD to be the local sponsor for Everglades restoration projects.
- 2000** Florida Everglades Restoration Investment Act creates a funding and accountability plan to help implement the CERP; commits an estimated \$2 billion in state funding to Everglades restoration over 10 years.
- 2000** Florida Legislature passes the Lake Okeechobee Protection Act, a phased, comprehensive program designed to restore and protect the lake.
- 2000** WRDA 2000 includes \$1.4 billion in authorizations for 10 initial Everglades infrastructure projects, four pilot projects, and an adaptive management and monitoring program; also grants programmatic authority for projects with immediate and substantial restoration benefits at a total cost of \$206 million; establishes a 50 percent federal cost share for implementation of CERP and for operation and maintenance.
- 2001** Numeric water quality criterion of 10 ppb geometric mean is proposed by Florida DEP in the Everglades Protection Area.
- 2001** The Water Resources Advisory Commission (WRAC) is established by the SFWMD Governing Board as a representative public interest group to advise them on all aspects of water resource protection in south Florida.
- 2002** Task Force designates the WRAC as an advisory body to the Task Force on ecosystem restoration activities.
- 2003** Senate Bill 626 amends the Everglades Forever Act.
- 2003** Science Coordination Group is established with direct reporting responsibilities to the Task Force.
- 2003** Combined Structural and Operational Plan (CSOP) Advisory Team is established with direct reporting responsibilities to the Task Force.
- 2003** Final USACE Programmatic Regulations are issued.
- 2003** SFWMD develops the Long-Term Plan for achieving Everglades water quality goals.
- 2003** Environmental Regulation Commission adopts phosphorus rule for the Everglades Protection Area.
- 2003** State of Florida initiates early start on Southern Golden Gate Estates Hydrologic Restoration Project.
- 2004** Indian River Lagoon-South CERP project is approved by State of Florida under Section 373.1501.F.S.
- 2004** State of Florida unveils plan to accelerate restoration of America's Everglades (Acceler8).
- 2005** USEPA approves State of Florida's phosphorus rule for the Everglades Protection Area.
- 2005** The State of Florida's Water Resource Protection and Sustainability Program requires a higher level of water supply planning and coordination between the water management districts and local governments.
- 2005** State of Florida announces the Lake Okeechobee Estuary Recovery Plan to help restore the ecological health of Lake Okeechobee and the St. Lucie and Caloosahatchee Estuaries.
- 2007** Water Resources Development Act authorizes three projects for construction: Picayune Strand Restoration, Site 1 Impoundment (Fran Reich Preserve), and Indian River Lagoon – South. See Appendix E.
- 2007** State of Florida expands the Lake Okeechobee Protection Act to include protection and restoration of the interconnected Kissimmee, Lake Okeechobee, Caloosahatchee, and St. Lucie watersheds (Northern Everglades and Estuaries Protection Program).

What Is at Stake

Current efforts to restore the South Florida Ecosystem must address a century of changes to the environment that have put the ecosystem in jeopardy. The seriousness of the problem was fully evident during the initial strategic planning process of the Task Force in 2000. Problems noted at that time included:

- Fifty percent reduction in the original extent of the Everglades, including important habitat and groundwater recharge areas
- Ninety percent reductions in some wading bird populations
- Sixty-nine species on the federal threatened and endangered species list
- Declines in commercial fisheries in Biscayne and Florida Bays
- Loss of over five feet of organic soil in the EAA
- Decline in the clarity of water in the Florida Keys
- Infestations of exotic plant species on over 1.5 million acres
- Damaging freshwater releases into the St. Lucie and Caloosahatchee Estuaries
- Loss of 40,000 acres of grass beds in Lake Okeechobee
- Loss of tree islands and damaging ecological effects in the state-managed WCAs
- Loss of 37 percent of living corals at 40 sites in the Florida Keys National Marine Sanctuary from 1996 to 2000

In 2008, south Florida is now home to over 6.9 million people. The region also receives more than 37 million tourists annually. The quality of life in south Florida and the region's \$200 billion economy depend on the health and vitality of the natural system. If the coral reefs, estuaries, and shallow waters of Florida Bay cannot support populations of aquatic species, south Florida's tourism industry and associated economy will decline. The loss of fertile soil and conversion of land to nonagricultural uses will make farming and ranching harder to maintain and less profitable.

The stakes are high. The South Florida Ecosystem once supported some of the greatest biodiversity on earth. The biological abundance and the aesthetic values of the natural system warrant regional, national, and even international interest and concern. In addition to numerous local parks and private conservation areas, south Florida encompasses Federal Indian Reservations; thirty state parks; numerous state forests and wildlife management areas; seventeen state aquatic preserves; thirteen federal wildlife refuges; a national marine sanctuary; three national parks; a national preserve; and a national estuarine research reserve. ENP has been designated a world heritage site, a wetland of international significance, and an international biosphere reserve. Biosphere reserves are protected examples of the world's major ecosystem types, which are intended to serve as standards for measuring human impacts on the environment worldwide.



RESTORATION STRATEGY

The Task Force *Strategy* includes a set of guiding principles, which have been adopted by the Task Force member agencies to guide all aspects of ecosystem restoration, and a clear definition of the roles of the Task Force as a coordinating, facilitating, and reporting body. Each of these is described separately in this chapter.

Guiding Principles

The Ecosystem Must Be Managed as a Whole

This is the overall premise that guides ecosystem planning and management. It demands that managers, scientists, and the public view the natural and the built environments and the resources needed to support them as parts of a single larger system. The challenges faced in south Florida must be solved collaboratively. Rather than dealing with issues independently, the challenge is to seek out the interrelationships and mutual dependencies that exist among all the components of the ecosystem.

The Task Force advocates a system-wide approach that addresses issues holistically, recognizing that the various levels of government have distinct jurisdictions and responsibilities that can be coordinated but not shared. For example, the state retains exclusive responsibility for all land management and water use except for lands and waters specifically reserved by the federal government or the Miccosukee or Seminole Tribes.

Holistic management by a variety of jurisdictions will require broad-based partnerships, coordinated management, and considerable public outreach and communication.

Broad-based Partnerships. It is critical that federal, state, local, and tribal governments and other interested and affected parties work together in broad-based partnerships. Maintaining open communication and examining different views and needs will form the basis for the respect and trust needed to work together.

Coordinated Management. To be successful, governmental entities will need to coordinate their ecosystem restoration activities, including the coordination of land and water use and the development of cooperative programs. The Task

Force will foster this cooperation and facilitate the resolution of conflicts and disputes among the diverse participants.

Public Outreach and Communication. Innovative partnerships and coordinated management will not be possible without the understanding, trust, and support of the public, including historically underserved communities and neighborhoods. Therefore, public outreach and communication will be an important part of the ecosystem restoration efforts. Outreach strategies will seek two-way communication with all public sectors to broaden understanding and to instill a sense of stewardship among all south Floridians and visitors.

The Natural and Built Environments Are Inextricably Linked in the Ecosystem

Understanding the complexities of the South Florida Ecosystem is daunting. Until recently, the term ecosystem generally referred to the natural environment. However, the ecosystem also includes people and their built environment, which is inextricably linked to the natural environment. Events in the built environment can have catastrophic consequences in the natural environment, such as the destruction of wetlands when they are drained for development. Similarly, disruptions in the natural environment can have catastrophic consequences in the built environment, such as the unnaturally severe flooding that occurs when natural wetlands are gone.

The Task Force recognizes that the restoration of the South Florida Ecosystem is not possible if subsequent decisions about the built environment are not consistent with ecosystem health. At the same time, the solutions to restore ecosystem health must be supportive of human needs. These links make it critical that decision-makers for both the natural and the built environments be involved in the restoration effort.

Expectations Should Be Reasonable

Major ecological improvements will take many years to realize in south Florida. The large-scale hydrological improvements that will be necessary to stimulate major ecological improvements will depend upon and follow the implementation of CERP features designed to substantially increase the water storage capabilities of the regional system and to provide the infrastructure needed to move the water.

Other features of the CERP must be in place before the additional storage and distribution components can be constructed and operated. Substantial alteration and degradation of the South Florida Ecosystem has occurred over many decades, and it will take decades to reverse this process.



Decisions Must Be Based on Sound Science

Science plays two major roles in the restoration process. One is to facilitate and promote the application of existing scientific information to planning and decision-making. The other is to acquire critical missing information that can improve the probability that restoration objectives will be met.

The Task Force has adopted an adaptive management process, authorized by Congress in WRDA 2000, which will continuously provide managers with updated scientific information, and will then be used to guide critical decisions. In this process, scientific models provide a conceptual framework and identify critical support studies. Support studies provide data and analysis that lead to better understanding of problems and the development of alternative solutions. Monitoring may be used to help establish a baseline, and once an alternative is implemented, to assess the effectiveness of the action and provide feedback on ways to modify it (if warranted). Similarly, monitoring data can be used to revise and refine the original concepts and models, thereby continuing an interactive feedback loop of decision-making, implementation, and assessment.

The importance of adaptive management has been reiterated by the Committee on Independent Scientific Review of Everglades Restoration Progress (CISRERP) in their report, *Progress Toward Restoring the Everglades: The First Biennial Review, 2006*. The report introduced the term Incremental Adaptive Restoration which recommends that projects which provide immediate benefits and address scientific uncertainties to enhance implementation efficiencies be implemented early.

Economic Equity and Environmental Justice Need to Be Integrated into Restoration Efforts

The federal members of the Task Force are directed by federal law and executive orders to promote economic equity and environmental justice through fair treatment of all persons, regardless of color, creed, or belief.

In WRDA 2000 Congress specifically recognized the importance of ensuring that small business concerns were addressed during the implementation of CERP. Fair treatment associated with economic equity includes efforts required to expand opportunities to small business concerns, including those controlled by socially and economically disadvantaged individuals and persons with limited proficiency in English. Additional targeted efforts will be needed to provide opportunities to socially and economically disadvantaged individuals and small businesses to participate in the implementation of restoration programs and projects.

Fair treatment associated with environmental justice means that no group of people, including no racial, ethnic, or socioeconomic group, should bear a disproportionate share of any negative environmental consequences resulting from industrial, municipal, or commercial operations or the execution of federal, state, or local programs or policies.

In WRDA 2000 Congress specifically recognized the importance of ensuring to the maximum extent practicable, that public outreach and educational opportunities are provided to all the individuals of south Florida.

The unique cultural and ethnic diversity of south Florida's population, with its strong representation of peoples from all over the world, will require significant efforts on behalf of the restoration partners to ensure that projects are implemented in ways that do not result in disproportionate impacts on any communities.

The Task Force and Working Group see this guiding principle as critical to long-term success. The Working Group established a task team for outreach and environmental and economic equity. The team solicited input about the various restoration outreach efforts of member agencies and developed an inventory of these efforts.

Restoration Must Meet Applicable Federal Indian Trust Responsibilities

The restoration of the South Florida Ecosystem involves a unique partnership between the Indian tribes of south Florida and the federal, state, and local governments. In carrying out the Task Force's responsibilities laid out in WRDA 2000, the Secretary of the Interior must fulfill the obligations to the Indian tribes in Florida specified under the Indian Trust Doctrine, and other applicable legal obligations. All federal agencies have a trust responsibility and are responsible for meaningful consultation with the tribes under Executive Order 13175 and Secretarial Order 3206.

Task Force Roles in the Coordination of the Restoration Effort

The role of the Task Force is to facilitate the coordination of conservation and restoration efforts implemented through a combination of federal, state, local, and tribal initiatives in south Florida. It provides a forum for the participating agencies to share information about their restoration projects, resolve conflicts, and report on progress. Congress and the public are particularly interested in how each individual agency's efforts contribute to the larger framework of total ecosystem restoration. The Task Force *Strategy* and *Biennial Report* are critical vehicles for sharing information and coordination.



Providing a forum for consensus building and issue engagement is a collaborative role, not one in which the Task Force can dictate to its members. Because on-the-ground restoration is accomplished through the efforts of the individual Task Force member agencies, they are the ones that are ultimately responsible for their particular programs, projects, and associated funding. This is an important distinction. Each member is accountable individually to its appropriate

authorities and to each other for the success of the restoration. The Task Force has no overriding authority to direct its members. Instead the Task Force's coordination role complements the implementation roles of its members.

The Task Force meets regularly to report on progress, facilitate consensus, and identify opportunities for improvement. The Task Force members coordinate and track the restoration effort as follows.



Focus on Goals

The Task Force *Strategy* establishes strategic goals and measures of success that represent the scope of the restoration initiative and answer these fundamental questions: What will the restoration partners accomplish? When will the restoration effort be done? What key indicators will signal progress and success?

Coordinate Projects

To be effective, individual projects should contribute to the vision and strategic goals, be consistent with all the guiding principles, be timely, and support rather than duplicate other efforts. The Task Force *Strategy* includes a master list of restoration projects that compiles information about goals and objectives, start and end dates, lead agencies, and funding (see Appendix A). The IFP in Volume 2 provides additional details about all of these projects.

Track and Assess Progress

The Task Force facilitates the coordination of the ecological monitoring processes used by the member agencies to track and assess restoration progress. Because natural systems are complex, it is difficult to predict how they will respond to management actions to encourage habitat restoration. Consequently, member agencies have chosen to use an adaptive management (AM) approach to address these uncertainties. AM is a management approach that

addresses uncertainties regarding predicted restoration responses through monitoring and assessment of actual project(s) performance compared to expected results based on system-wide indicators. AM also introduces robust and flexible designs for projects and their operations to provide options to adjust current and future management actions based on assessed monitoring results. This process acknowledges that not all the data needed to restore the South Florida Ecosystem is currently available and that as additional knowledge is gained through field experimentation, project implementation, or operational adjustment, managers will have increased confidence in their decision-making.

As project managers track incremental progress in restoration objectives, confirmed restoration success may be conveyed to the Task Force members or performance issues can be raised that require some type of adjustment through the AM process. Detecting problems early allows managers to make the following potential adjustments to minimize impacts on the total restoration effort: (1) revise current and future project design, (2) evaluate changing resource needs, (3) adjust project operations, (4) work collaboratively on projects that fall behind, or (5) add new projects. Because each Task Force member is responsible for its particular programs, projects, and funding, such decisions are made by the entities involved. The Task Force will modify the South Florida Ecosystem Restoration goals and objectives as relevant information becomes available.

Recognize and Work with Conflicting Goals

As restoration activities move forward in south Florida, there may be occasional conflicts between the strategic goals described in this Strategy and individual agency programs or missions. When such conflicts occur, the strategic goals should prevail whenever possible, and it is the statutory duty of the Task Force to facilitate their resolution in ways that advance the strategic goals of restoring natural hydrology and ecology throughout south Florida. The Task Force recognizes that it may on occasion be appropriate to take short-term or interim management actions that are not immediately consistent with long-range strategic goals, while allowing time for other activities more consistent with strategic goals to take effect. The Task Force is committed to facilitating the resolution of these issues, consistent with its statutory duties, without compromising its long-term focus on

restoring natural conditions to south Florida. Where there may be conflicts between existing statutes and strategic goals, the Task Force recognizes that it may be necessary to have Congress address such issues.

Facilitate the Resolution of Issues and Conflicts

Disagreements and conflict are to be expected given the scope, complexity, and large number of sponsors and interests involved in ecosystem restoration. The ability of the Task Force to resolve conflicts is complicated by the large number of governmental entities involved at the federal, state, tribal, and local levels, the differing, and sometimes conflicting, legal mandates and agency missions among the entities involved, and the diverse public interests, which include environmental, agricultural, Native American, urban, recreational, and commercial values.



The Task Force will facilitate the prevention and resolution of conflict to the extent possible by clarifying the issue(s), identifying public concerns, obtaining and analyzing relevant information, and identifying possible solutions. Although these efforts are intended to facilitate conflict resolution, opportunities will always exist for parties to pursue conflicts through litigation. Litigation may prove to be time consuming, costly, and uncertain, and it may divert resources from restoration efforts.

Changes made through project coordination, adaptive management, and the conflict resolution process will be incorporated into future editions of this *Strategy*.

VISION AND INDICATORS OF SUCCESS

One of the first actions of the Task Force was to describe a vision for a resulting condition of the South Florida Ecosystem that all the member agencies could strongly support. Translating that vision into discernable and measurable terms is an ongoing process supported by intensive discussion, research, and monitoring. Teams of scientists are working to develop and refine the indicators that the Task Force will use to know when they have finally achieved their vision. The Task Force vision is presented below, followed by a discussion of the indicators of success.

Vision

The participants in the South Florida Ecosystem Restoration Task Force share this vision:

A healthy South Florida Ecosystem that supports diverse and sustainable communities of plants, animals, and people.

To this end, hundreds of different entities have been working to restore and preserve more natural hydrology in the ecosystem, to protect the spatial extent and quality

of remaining habitat, to promote the return of abundant populations of native plants and animals, and to foster human development compatible with sustaining a healthy ecosystem. These efforts, which are described in detail in the "Strategic Goals and Objectives" section of the *Strategy*, will continue. The results will be continuously analyzed to provide restoration managers with increasingly comprehensive information about what remains to be done to achieve ecosystem restoration.

The Task Force members believe that the efforts described in this *Strategy*, managed through an adaptive management process, will achieve their vision. The region's rich and varied habitats—Biscayne Bay; Lake Okeechobee; the Wild and Scenic Loxahatchee River; the Caloosahatchee, St. Lucie, and other estuaries; the Everglades, mangroves, coastal marshes, and seagrass beds of south Florida; and the coral reef ecosystem of the Florida Reef Tract—will become healthy feeding, nesting, and breeding grounds for diverse and abundant fish and wildlife. The American crocodile, manatee, snail kite, Cape Sable seaside sparrow, and



other endangered species will recover. The large nesting rookeries of herons, egrets, ibis, and storks will return. Commercial fishing, farming, recreation, and tourism dependent businesses and associated economies will benefit from a viable, productive, and aesthetically beautiful resource base. The quality of life enjoyed by residents and visitors will be enhanced by sustainable natural resources and by access to natural areas managed by federal, state, and local governments to provide a great variety of recreational and educational activities.

It is important to understand that the restored Everglades of the future will be different from any version of the Everglades that has existed in the past. While it is very likely to be healthier than the current ecosystem, it will not completely match the predrainage system. The irreversible physical changes made to the ecosystem make restoration to pristine conditions impossible. The restored Everglades will be smaller and arranged somewhat differently than the historic ecosystem. However, it will have recovered those hydrological and biological characteristics that defined the original Everglades and made it unique among the world's wetland systems. It will evoke the wildness and richness of the former Everglades.

Indicators of Success

The Task Force recognizes that restoration must be based on the best science available and that this will require use of adaptive management principles to continually incorporate new knowledge and tools. Over the prior four reporting periods (1998-2000, 2000-2002, 2002-2004, and 2004-2006), a great deal of modeling and analysis has generated new information providing the technical and scientific basis for developing a more integrated and rigorous set of indicators than was originally included in the

2002 report. To that end, the Task Force created the Science Coordination Group (SCG) in December 2003 to support its efforts to coordinate the scientific aspects of policies, strategies, plans, programs, projects, activities, and priorities and to respond to Congressional directives to improve science coordination based on GAO’s recommendations. In August 2004, the Task Force assigned this group the duty of developing a proposed integrated suite of System-wide Indicators for helping assess the direction and success of the restoration efforts updating the indicators reported in the 2002 *Strategy* and *Biennial Report*.

After examination of comments from an Independent Scientific Review and public comments, the SCG developed a suite of proposed system-wide Indicators in 2006. In September 2006, the Task force approved a suite of 11 ecological indicators for use in assessing the progress of Everglades restoration. The selected indicators are organism based and represent attributes in the Everglades conceptual ecological models. The current suite of indicators was chosen to provide the Task Force and Congress with the broadest scale of information for a “top-of-the-mountain” assessment of ongoing restoration activities.

**Strategic Plan Table 2 –
Task Force System-wide Indicators for 2008**

ECOLOGICAL INDICATORS

- Fish and Macroinvertebrates
- Wading Birds (White Ibis and Wood Stork)
- Wading Birds (Roseate Spoonbill)
- Florida Bay Submerged Aquatic Vegetation
- Florida Bay Algal Blooms
- Crocodylians (American Alligators and Crocodiles)
- American Oysters
- Periphyton and Epiphyton
- Juvenile Pink Shrimp
- Lake Okeechobee Littoral Zone
- Invasive Exotic Species

COMPATIBILITY INDICATORS

- Water Volume
- Biscayne Aquifer Saltwater Intrusion
- Flood Protection – C-111 Basin

Ecological Indicators

Fish and Macroinvertebrates

Significance and background. Marsh and estuarine aquatic fauna, including small fishes and crustaceans,

are critical in the food web as primary and secondary consumers and as prey for focal Everglades predators such as wading birds. This indicator uses the density (number of animals per unit area) and community composition (how many of each species per unit area) of a suite of native fishes (e.g., eastern mosquito fish, bluefin killifish, sheepshead minnows, sailfin molly) and crustaceans (slough and Everglades crayfish, riverine grass shrimp) to describe trends in their populations related to hydrology.

Fish and macroinvertebrate responses are directly related to the suitability of environmental conditions. Correlations between biological responses and environmental conditions contribute to an understanding of the species’ status and trends over time. The positive or negative trends of this indicator relative to hydrological changes permit an assessment of positive or negative trends in restoration.

Factors affecting success. The most important factors affecting fish abundances regionally are the loss of habitat, hydroperiod, and water depth and frequency of drying events. Because of relatively dry hydrological conditions in the Everglades Ecosystem resulting from water management over the past several decades, and a loss of habitat to agricultural and urban uses, fish and macroinvertebrate densities have decreased and community structure has changed.

Toward restoration. The broad restoration goals for this indicator are to enhance population density and community composition of fish and macroinvertebrates through hydrologic restoration and improved water management.

Wading Birds (White Ibis, Wood Stork, and Roseate Spoonbill)

Significance and background. Extremely large numbers of wading birds were one of the defining characteristics of the pre-drainage wetlands of south Florida. Of particular relevance in understanding the population dynamics of wading birds in the pre-drainage system are the combined features of large spatial extent and highly variable hydrological conditions that created and maintained a mosaic of wetland habitats. This combination is what made it possible for the region to support large nesting colonies of wading birds with quite different foraging strategies and prey requirements.

Factors affecting success. The drainage of extensive areas of short-hydroperiod wetlands, large-scaled alterations in water depth and distribution patterns due to compartmentalization of wetlands in the central Everglades, and the reduction of freshwater flows into the formerly more productive estuaries are the human induced stressors that have substantially impacted ibis, storks, spoonbills, and other wading birds in south Florida. The number of ibis nesting in south Florida has declined from an estimated 100,000 – 200,000 birds in the 1930s and 1940s to 20,000 – 60,000 birds since the late 1990s. The number of nesting storks has declined from 14,000 – 20,000 birds prior to 1960 to about 2,000 – 5,000 birds since the late 1990s.

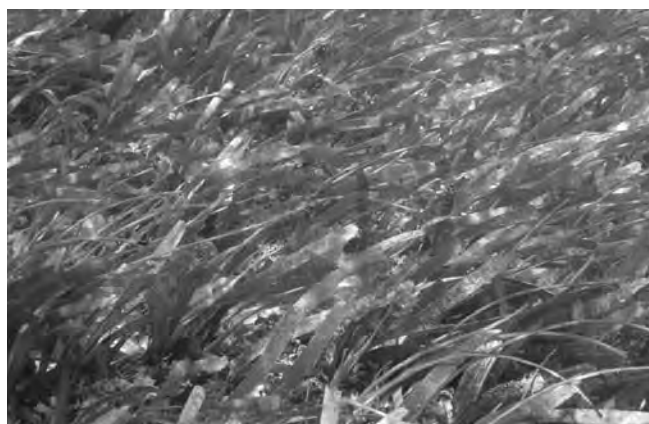
Toward restoration. The broad restoration goals for this indicator are recovering the kind of ecosystem with the spatial and temporal variability to support large numbers of these wading birds. This will include specific restoration goals for these species with targets defined for numbers of nesting pairs, location of colonies, timing of nesting, and an increase in the size and frequency of the larger nesting assemblages referred to as “super colonies.”

Florida Bay Submerged Aquatic Vegetation

Significance and background. Florida Bay and adjacent areas of the Florida Keys and southwest Florida coastal zone contain one of the largest contiguous seagrass beds in the world. Within Florida Bay, seagrasses are the dominant biological community, covering 90 percent of the 180,000 hectares of the bay’s subtidal mudbanks and basins. Submerged aquatic vegetation (SAV) is well documented as a community that serves many critical functions within estuarine and coastal ecosystems, including habitat for higher trophic level species, a base of primary production for the food web, and a beneficial influence on water quality through sediment stabilization and nutrient retention. A conceptual ecological model of Florida Bay, developed for the Restoration Coordination and Verification Team (RECOVER), identifies the SAV community and its structure and dynamics as being central to the health of the entire Florida Bay ecosystem—the condition of this community is an essential indicator for South Florida Ecosystem restoration.

Factors affecting success. The SAV indicator for the southern estuaries focuses only on Florida Bay as it currently has the best models available for this

indicator. Changes in the seagrass community of Florida Bay have been one of the primary drivers behind a public call for Everglades restoration. Starting in 1987, a mass-mortality event or “die-off” of SAV through much of central and western Florida Bay devastated the once lush seagrass beds. This die-off initiated a cycle of changes in the Florida Bay ecosystem, likely due to increased sediment suspension, turbidity, nutrient mobilization, and phytoplankton blooms resulting in decreased light that caused additional seagrass mortality. The extent to which fish and birds will recover following a sustained recovery of these plants remains to be seen and is a major focus of ongoing research.



Toward restoration. The broad restoration goal for this indicator is an increase in two species, *Halodule wrightii* and *Ruppia maritima*, that are associated with relatively lower salinities and are far less common than the dominant species, *Thalassia testudinum*, and greater species richness and density through a greater proportion of the bay. Another restoration goal is widespread SAV coverage that includes increases in species diversity and richness with moderate density with overall vegetation coverage similar to those found prior to the 1987 “die-off.”

Florida Bay Algal Blooms

Significance and background. Algal blooms are a major concern regarding the current and future health of Florida Bay, as well as of waters near the Florida Keys and the southwest Florida coastal zone. The initiation of algal blooms in Florida Bay in 1991, following the seagrass mass-mortality event of the late 1980s, has been a major element of ecological change. Algal blooms decrease light penetration through the water column and can lead to seagrass mortality, which in turn can release nutrients and stimulate more algal blooms.

Factors affecting success. The role of nutrient inputs from the Everglades as a cause of Florida Bay algal blooms is not clear, but it has been hypothesized that these inputs are an important factor and increased freshwater flow with restoration could increase such blooms. The algal bloom indicator reflects overall water quality and is based on the assessment and evaluation of chlorophyll-a concentrations in the water column. The indicator has three components: bloom magnitude, frequency, and spatial extent.

Toward restoration. The broad restoration goal for this indicator is to reduce or eliminate the number and extent of algal blooms in the watershed.

Crocodylians (American Alligators and Crocodiles)

Significance and background. Crocodylians are important in south Florida wetlands and play a major role in influencing the overall health and ecological patterns of the region. Alligators and crocodiles are critical in the food web as top predators, influencing abundance and composition of prey. The American alligator's behavior creates variations in physical conditions that otherwise would not exist in the Everglades landscape such as the holes they dig that become habitat for other species. The American crocodile is an endangered species representing the importance of freshwater inflow to estuarine health and productivity.

Factors affecting success. Reproduction, growth, and survival of crocodylians are dependent on food availability—birds, mammals, fish, and macroinvertebrates—that, in turn, are entirely dependent on hydrologic conditions. Loss of flow and relatively dry hydrologic conditions, resulting from water management over the past several decades and a loss of habitat in the Everglades, have adversely affected alligators and crocodiles. Loss of habitat in southern marl prairies and rocky glades and reduction in depth and period of inundation of remaining areas have reduced abundance of alligators and alligator holes in these habitats. Reduced prey availability throughout the system as a result of hydrologic alterations corresponds with lower growth rates, survival, and reproduction of alligators.

In estuaries, crocodylians of all species orient towards areas of low salinity and sources of freshwater. In mangrove estuaries, alteration of location and quantity of freshwater flow has lowered the relative

density of crocodiles where freshwater has been diverted and decreased growth and survival of juvenile crocodiles throughout the estuary in areas of higher salinities. Reduced freshwater flow into the mangrove estuaries also has resulted in succession of former freshwater mangrove areas to saltwater systems, reducing American alligator populations in tidal rivers and tributaries.

Finally, a large portion of the adult alligator population in the Everglades exists in canals but does not contribute to population growth due to the combination of increased nest flooding and decreased hatchling and juvenile survival during low water periods (predation and cannibalism).



Toward restoration. The broad restoration goal for this indicator is based on recovery of more natural hydropatterns regionally, which in turn will promote increased habitat quantity and improved habitat quality that will support healthy populations of these species. The alligator indicator uses relative density (reported as an encounter rate), body condition, nesting effort and success, and occupancy rates of alligator holes, while the crocodile indicator uses relative density, growth, and survival to describe trends in their populations related to hydrology.

For example, alligators are now largely absent from over-drained rocky glades and marl prairies, and hence are no longer creating alligator holes. As restoration proceeds the occupancy rate of alligator holes should increase, providing ecosystem services for other species. With the resumption of natural patterns of volume, timing, and distribution of flow to the Everglades, the American alligator is expected to repopulate and resume nesting in the rocky glades and the freshwater reaches of tidal rivers in the mangrove estuaries and will increase in population size and body condition throughout most of the Everglades wetlands.

American Oysters

Significance and background. Oysters are indicative of ecosystem health as a whole. They are natural components of estuaries along the eastern seaboard of the United States as well as the Gulf of Mexico and were documented to once be abundant in the South Florida Ecosystem. The American oyster is the dominant species in these oyster reef communities. Oyster bars provide important habitat and food for numerous estuarine species including mollusks, worms, crustaceans, sponges, fish, and birds. Oysters are also an important commercial and recreational resource. The American oyster improves water quality by filtering particles from the water, serves as prey and habitat for numerous other organisms, and plays an important role in the estuarine food chain. Salinity conditions suitable for oysters also produce optimal conditions suitable for a suite of other desirable estuarine organisms. In the Caloosahatchee, Loxahatchee, and St. Lucie Estuaries, oysters have been identified as a valued ecosystem component.

Factors affecting success. Historically, rainfall on the watershed was detained in natural wetland systems and gradually percolated into the groundwater, evaporated, and/or flowed overland into tributaries. As south Florida developed, the canal network built as a result of the C&SF Project drastically altered the quantity, quality, timing, and distribution of freshwater entering the system. Resultant rapid changes in salinity resulted in degradation of biological integrity of the system and introduced contaminants from urban and agricultural development, including excess suspended solids, nutrients, pesticides, and other harmful pollutants. Inflows became extremely variable and tended to be too great in the wet season and too little in the dry season to support a healthy estuary. The inflow extremes and degraded water quality (particularly suspended solids and nutrients) severely compromise the development of healthy, sustainable oyster and related estuarine communities.

Toward restoration. The broad restoration goal for this indicator in the northern estuaries is the restoration of oyster beds within the St. Lucie, Caloosahatchee, Loxahatchee, and Lake Worth Lagoon Estuaries, including the restoration of habitat function and oyster health in areas that become suitable habitat. Acre increases are identified in the 2005 RECOVER Interim Goals and Targets recommendation report and these are currently being

further defined as to locations and definition of what an acre of oysters means (i.e. how many oysters per meter square, what quality, reproductive capacity, etc.).

Periphyton and Epiphyton

Significance and background. Periphyton communities, comprised of algae, floating plants, and associated animals, are a common feature of Everglades marshes and respond strongly to alterations in hydrologic conditions and water quality, especially phosphorus. Epiphyton communities are also comprised of algae and associated animals, but instead of floating are attached to other plants and underwater surfaces. Both periphyton and epiphyton are important both as a food source and a refuge for aquatic invertebrates that are consumed by small fish, crayfish, and grass shrimp. Periphyton has been studied extensively in the Everglades because of its utility as an early warning indicator of impending ecosystem change and the significant consequences of altered periphyton communities on the rest of the food web. Epiphyton serves much the same role as periphyton but is primarily associated with estuarine and coastal ecosystems, particularly seagrass beds.



Factors affecting success. Increased nutrient delivery to natural Everglades marshes causes periphyton mats to disintegrate and collapse, resulting in a major alteration in food availability at the base of the food web. Research shows periphyton losses are initiated upon exposure to even very low nutrient enhancements. Models have been developed to determine the extent of periphyton losses throughout the South Florida Ecosystem because of nutrient enrichment. Further, hydrologic changes have strong functional and structural consequences in the periphyton community. Studies have shown that sites that are dry for a majority of the year have minimal production values, while sites that are flooded for less than six months are most productive. The timing of

reflooding of previously dried periphyton mats is also important as dried periphyton releases large quantities of nutrients into the water column upon reflooding that subsequently may negatively affect downstream systems. Periphyton cover, biomass, productivity, and composition are affected by the duration and frequency of droughts. The reduction of hydroperiod resulting from long-term water and land management practices has limited the period of production for periphyton in Everglades wetlands for many decades. Recovery of this indicator will depend on hydrological restoration to improve habitat for periphyton production in both long and short hydroperiod wetlands.

Toward restoration. The broad restoration goal for this indicator is to increase the periphyton mat cover, structure, and composition to periphyton communities that were characteristic of the spatially distinct hydroperiods and low nutrient conditions that were present in the greater Everglades wetland communities historically.

Juvenile Pink Shrimp

Significance and background. Pink shrimp are important both economically and ecologically in south Florida and are a core component of the ecologic food chain. Juvenile pink shrimp are present in coastal waters throughout south Florida and densities are highest in western Florida Bay. Biscayne Bay supports small local fisheries for food shrimp and bait shrimp. The growth and survival of young pink shrimp is influenced by salinity.

Factors affecting success. Historically, water management practices have changed the quantity, timing, and distribution of freshwater inflow to estuaries, which have affected the frequency and rate of salinity change. Both Florida Bay and parts of Biscayne Bay have been subjected to prolonged hypersaline conditions. Eastern Florida Bay, Whitewater Bay, and Biscayne Bay experience large, rapid changes in salinity.

Restoration of flows more similar to rainfall-driven flows should benefit the Tortugas pink shrimp fishery. The potential for improving shrimp nursery habitat in Florida Bay may be greatest in the north-central bay, where water management changes associated with the CERP could potentially reduce the frequency, spatial extent, and duration of hypersaline conditions.

Toward restoration. The broad restoration goal for this indicator is increased juvenile pink shrimp density at peak abundance during the August-October period in optimal habitat (seagrass) in three regions of Florida Bay, in Ponce de Leon Bay on the lower southwestern mangrove coast, and in western nearshore southern Biscayne Bay.

Lake Okeechobee Littoral Zone

Significance and background. The SAV in Lake Okeechobee provides nesting habitat and food resources for economically important sport fish populations, wading birds, migratory waterfowl, alligators, and the federally-listed endangered Everglades snail kite. In addition, the SAV community stabilizes shoreline sediments and supports attached algae that help to remove phosphorus from the water. The littoral zone emergent vegetation community in the lake covers an area larger than 400 square kilometers.

Factors affecting success. Florida has an annual rainfall cycle that can lead to prolonged or extreme high or low lake levels that in turn can stress the ecosystem. The spatial extent of the SAV in the lake has fluctuated significantly over the years according to wet and dry years and management schedules. Just after a period of low water levels in 1989 to 1991, between 43,000 and 51,000 total SAV acres were found. In 1998, after many years of high lake levels, a rough estimate indicated that only 3,000 acres of total SAV remained in the lake. In July 2002, the spatial extent of SAV was back up to 43,000 acres, though not all desirable species. In the most recent sampling, conducted in August 2004, the total acres had increased to nearly 55,000.

Toward restoration. The broad restoration goals for this indicator include lowering average water levels in the lake, reducing frequency of extreme high water levels, and decreasing phosphorus inputs. Under those conditions, the distribution and abundance of bulrush and submerged plants are expected to increase. In addition, reducing phosphorus loads from agricultural and urban activities to 40 parts per billion in the pelagic zone (open-water area) will result in the following changes: a decrease in algal blooms; an increase in water clarity; an increase in the spatial extent and biomass of native SAV; and a decrease in the rate of nuisance and exotic plant species expansion along the edge of the littoral zone.

Invasive Exotic Species

Significance and background. Florida is noted, along with Hawaii, California, and Louisiana, as one of the states with the greatest number of invasive non-indigenous species. Approximately one-third of the plant species in south Florida are exotic, and south Florida has more introduced animals than any other region in the United States. An estimated 26 percent of all mammals, birds, reptiles, amphibians, and fish are exotic. While invasive exotic plants may result in changes in ecological function and structure, they do not provide a measure that relates to the ecosystem's ecological condition except as it pertains to their level of invasion and adverse impacts on the ecosystem and biota. This is an indicator of the status of the spread, spatial distribution, and dominance of invasive exotic species and an indicator of progress (or lack thereof) in the control and management of invasive exotic species. The indications provided by monitoring and assessments of invasive exotic species are an evaluation of the integrity of the natural system and native vegetation.

Factors affecting success. During the past 400 years, Florida has been inundated with many predominantly tropical non-indigenous plants and animals. These waves of introductions accelerated during the twentieth century principally through importations by the ornamental plant and exotic pet industries. Exotic species compete with indigenous species for limited water, prey, and habitat; too often the exotics species outcompete the native. Since exotic species often drive ecological changes that may be irreversible, prevention, early detection, and removal are key to control and management. Monitoring and regular assessment of the spread of existing exotic species and the detection of new potentially invasive species is critical to effective control and management. Trends in the spread and density of invasive exotic plants, as well as the impacts that control and management activities have on their spread and density, will be important to the assessment of management success to control and eradicate invasive species in the Everglades.

Toward restoration. Broad restoration goals for this indicator are a reduction in spatial extent of invasive exotic plant species and populations of invasive exotic animal species in the South Florida Ecosystem. In addition, development of a comprehensive management program would address prevention, maintenance, and management of this condition.

Restoration Compatibility Indicators

Water Volume

Significance and background. A regional volume of water can be evaluated on how well it meets reasonable and beneficial urban and agricultural demands even in drought years. In 1997 Florida established a water supply planning goal to provide water to all existing users during droughts up to the level of severity of a one-in-ten-year frequency of occurrence. This goal has been interpreted to mean at least a 90 percent probability that during any given year all of the needs of reasonable, beneficial water uses will be met while also not causing harm to the water resources and related natural environment.

The C&SF Project was originally designed to provide flood control and deliver water for municipal, industrial, and agricultural uses. Later this was modified to include prevention of saltwater intrusion and provision of adequate water to ENP. The system put in place was an attempt to meet the estimated water needs for a projected population of approximately two million residents by 2000. This population projection was significantly low as the actual population in 2000 was over six million and continues to grow rapidly.

At the heart of south Florida's interconnected aquatic ecosystem is Lake Okeechobee, a 730 square-mile lake, which provides a number of values and benefits to the state's population, economy, and environment, including environmental, public, and agricultural water supply; flood protection; fisheries; navigation; recreation; and natural habitat for plants and animals.

Factors affecting success. As south Florida's population increased, so did the demand for water and land, and the subsequent conversion of natural lands to urban and agricultural uses. The result of this conversion was:

- A reduction in the extent of the natural system
- A reduction in water available for the natural system
- Reduced water resources and recharge capability for the aquifer
- Loss of water from the natural and human systems
- Increased needs for flood protection in urban and agricultural areas
- Less water available for the human population
- Conflicts for water between the natural system and people

Under current conditions, canals and levees associated with the C&SF Project have altered the timing and distribution of water across the landscape while the regional flood control and water supply constraints create unnatural surface and groundwater stages (altered volumes) in many areas. Construction of the protective levee system, along with drainage and development efforts to the south, reduced the natural expanse of the Everglades wetland area by 50 percent, constraining flow south from Lake Okeechobee. The CERP is expected to improve the timing, volume, and distribution of water throughout the system primarily by increasing regional storage capacity, removing barriers to flow, and through a careful redistribution of water within the system that more closely matches natural cycles. The CERP’s cumulative objective is to significantly reduce the release of millions of acre-feet of water for flood control by increasing storage capacity and thus increasing the amount of freshwater available to all water users—people as well as the environment—and to meet anticipated water supply needs for the 50 year CERP planning horizon. This retained and stored water is referred to as “new” water.

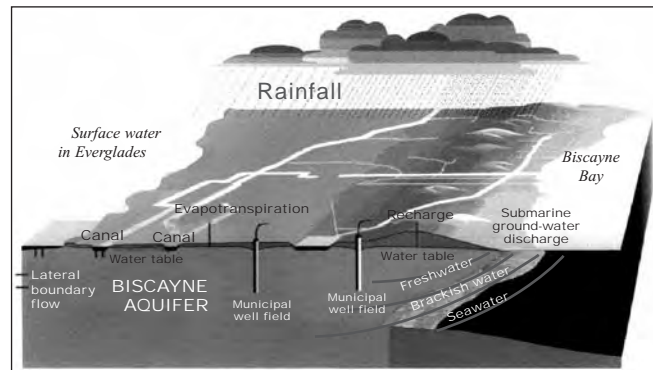
Toward restoration. Broad restoration goals for this indicator are to distribute water across the ecosystem in a manner that reflects natural conditions while providing for the other water-related needs of the region. In addition, the water supply planning goal that will support achieving this condition is to provide water to all existing users during droughts up to the level of severity of a one-in-ten-year frequency of occurrence. Though specific targets are being refined, the general target is to meet predicted “new” water volume targets (in acre-feet) identified through the C&SF Restudy. Current projections for new water are outlined below.

TARGETS FOR NEW WATER VOLUME	
By 2010	931,000 acre-feet of new water
By 2015	1,060,000 acre-feet of new water
Full Restoration	1,620,000 acre-feet of new water

Biscayne Aquifer Saltwater Intrusion

Significance and background. The Biscayne aquifer underlying southeast Florida provides freshwater resources to both the ecosystem and most of south Florida’s human population. Saltwater intrusion poses a continuing threat to the Biscayne aquifer. In order to

restrict the inland migration of the saline interface, a sufficient freshwater head must be consistently maintained within the aquifer. Both the volume and water quality in the aquifer are affected by human activities, including extractions for public and private water services, and pumping and diversion of the freshwater to restoration projects or to sea.



Conceptual diagram of hydrologic system of south Florida (from Langevin, 2000).

Factors affecting success. Harm to the Biscayne aquifer in terms of saltwater intrusion is considered to be movement of the saltwater interface to a greater distance inland than has occurred historically as a consequence of seasonal water level fluctuations up to and including a one-in-ten-year drought event. Groundwater levels within the Biscayne aquifer are controlled by local rainfall and by the canals and structures that are regionally operated by the SFWMD. The SFWMD implements two programs, canal operations and consumptive use permitting, to prevent increases in movement of saltwater within the Biscayne aquifer. The CERP intends to increase the storage capacity of water in the regional system for delivery to the Lower East Coast Service Area. The increase in regional storage capacity provided by the CERP will supplement regional and local sources used to prevent saltwater intrusion. CERP’s water projects that may directly or indirectly affect Biscayne aquifer dynamics include surface and water storage, aquifer storage and recovery (ASR), and modifications to impediments of sheetflow (decompartmentalization).

Toward restoration. The broad restoration goal for this indicator is for the Biscayne aquifer to achieve a level of protection where the movement of the saltwater interface is maintained at no greater distance inland than has occurred historically as a consequence of seasonal water level fluctuations up to and including a one-in-ten-year drought event.

Flood Protection — C-111 Basin

Significance and background. The 1948 C&SF Project was intended to help protect the public living in south Florida from flooding. As population increased the land uses changed, agricultural areas were developed for housing and natural wetlands were developed for agriculture, with increasing pressure to continue this pattern toward the Everglades. As agricultural and residential areas eventually abutted the Everglades a direct conflict related to water levels occurred.

Factors affecting success. The water levels required for the health of Everglades wetlands and aquifer recharge are often not the same as needed for agricultural and developed areas. In south Miami-Dade County, the draining of the developed side of the levy also caused the loss by seepage of water needed for sustenance of natural wetlands and ENP. During dry seasons the C&SF Project moved water into south Miami-Dade County for agriculture and the Everglades, but constant pumping drained even more water from the Everglades, exacerbating the dry

conditions. This scenario particularly describes the evolution of flooding challenges in the C-111 Basin that covers approximately 100 square miles in the southernmost portion of Miami-Dade County adjacent to the ENP. The predominant land use in this basin is agricultural, although portions of Florida City and Homestead lie within the basin.

Toward restoration. A goal of Everglades restoration and the CERP is to enhance economic values and social well being by maintaining or enhancing the current level of flood protection while restoring appropriate water levels and hydroperiods in the natural system. By avoiding increased flood damages or mitigating for flood encroachment, increases to project and societal costs can be minimized.

Broad restoration goals for this indicator are to reduce conflict in the water management operations in the C-111 Basin where agricultural lands abut ENP and to achieve a one-in-ten-year level of flood protection for the C-111 Basin.



STRATEGIC GOALS AND OBJECTIVES

The ultimate result of the Task Force member agencies' efforts should be the restoration of the South Florida Ecosystem. The direct measures of success for achieving this result are addressed in the preceding "Vision" section of this *Strategy*.

Because of the complexity and the long time frame of this initiative, it is also important to measure and track the hundreds of activities (outputs in the language of performance management) that must be performed to achieve the result of a restored ecosystem. By measuring and tracking the contributions of individual and aggregated work efforts, or projects, the Task Force members can identify whether restoration activities are being implemented in a timely and effective manner.

To this end, the Task Force members have identified three strategic goals, related subgoals, and specific objectives for the work that must be done. The three strategic goals recognize that water, habitats and species, and the built environment are inextricably linked in the ecosystem and must be addressed simultaneously if the ecosystem is to be restored and preserved over the long term. The subgoals divide the goals into more definitive areas of concern.

GOAL 1: GET THE WATER RIGHT

- Subgoal 1-A: Get the hydrology right
- Subgoal 1-B: Get the water quality right

GOAL 2: RESTORE, PRESERVE, AND PROTECT NATURAL HABITATS AND SPECIES

- Subgoal 2-A: Restore, preserve, and protect natural habitats
- Subgoal 2-B: Control invasive exotic plants and animals

GOAL 3: FOSTER COMPATIBILITY OF THE BUILT AND NATURAL SYSTEMS

- Subgoal 3-A: Use and manage land in a manner compatible with ecosystem restoration
- Subgoal 3-B: Maintain or improve flood protection in a manner compatible with ecosystem restoration
- Subgoal 3-C: Provide sufficient water resources for built and natural systems

Specific objectives for what must be done in order to achieve these subgoals and goals—and ultimately the intended result of a restored ecosystem—were developed using the best information available and obtained through models, outputs, or research findings.

The objectives included in this *Strategy* do not comprise the exhaustive list of everything that needs to be done to restore the South Florida Ecosystem. Rather they provide an overview of the major restoration accomplishments and whether they are proceeding on schedule, which indicates whether or not the work of the Task Force member agencies is on track. The objectives, like the projects, are subject to adaptive management and may be modified as new information becomes available or when desired outcomes are not achieved. The Task Force agencies periodically provide updated data to the Task Force, which synthesizes the information for its strategy and biennial reports.

The major projects contributing to each objective are listed in this section of the *Strategy*. If more than one project is required to meet a single objective, then each project's partial contribution is identified. Not all the Task Force projects are listed in this section. However, all are listed in Appendix A and all are described in detail in the IFP project sheets provided in Volume 2.

GOAL 1: GET THE WATER RIGHT

Water is the lifeblood of the South Florida Ecosystem, supporting many unique habitats, in particular the Everglades portion of this system. By the year 2000, historic water flows had been reduced to less than one-third of those that had once flowed through the Everglades. The quality of water that entered the ecosystem had been seriously degraded. Water did not flow at the same times or durations as it did historically, nor could it move freely through the system. The whole South Florida Ecosystem suffered. The health of Lake Okeechobee was seriously threatened. Many plants and animals that live in south Florida and the Everglades were in danger of becoming extinct because their habitats had been degraded, reduced, or eliminated. Excessive freshwater discharges in the wet season and inadequate flows in the dry season threatened the estuaries and bays that are critical nurseries and home to many fish and wildlife. Urban and agricultural areas were also adversely affected. Water shortages and water restrictions were occurring more frequently in some parts of south Florida.

Getting the water right must address four interrelated factors: the quantity, quality, timing, and distribution of water. More water is not always better. Alternating periods of flooding and drying were vital to the historical functioning of the Everglades Ecosystem. Getting the water right must also recognize the needs of natural systems, urban and rural communities, and agriculture. Waters need to meet applicable water quality standards, including standards to protect the natural functioning of the Everglades and those that ensure the availability of safe drinking water. The right quantity of water, of the right quality, needs to be delivered to the right places and at the right times.

A consensus-building exercise in 1999 with broad public input identified a list of statements that Task Force participants used as a foundation to develop the Task Force Strategy. Based on that consensus, the water will be right when the following conditions are met: Natural hydrologic functions are restored in wetland, riverine, lacustrine, estuarine, marine, and groundwater systems, while also providing for the water resource needs of urban and agricultural landscapes. Natural variations in water flows and levels are restored without diminishing essential levels of water supply or flood control. Compartmentalization is reduced, and natural patterns of sheet flow are recovered to the maximum extent possible. Water resources accommodate the needs of natural systems, communities, and business. Safe drinking water is available for the people of south Florida. Damage caused to water quality by pollutants and contaminants (such as from agricultural nutrients or urban related pollutants) is eliminated. Water levels and the timing of water deliveries reflect quantities resulting from natural rainfall and are distributed according to natural hydrologic patterns or patterns modified by scientific consensus. Damage to natural and human systems caused by flood and drought is minimized. Groundwater resources are protected from depletion and contamination.

Efforts to achieve goal one must incorporate a process to address concerns of environmental justice and economic equity. The unique cultural and ethnic diversity of south Florida's population, with its strong representation of peoples from all over the world, will require significant efforts on behalf of the restoration partners to ensure that projects are implemented in ways that do not result in disproportionate impacts on any communities. Additional targeted efforts will be required to provide opportunities for socially and

economically disadvantaged individuals and small businesses to participate in the implementation of restoration programs and projects. The Task Force and Working Group see this guiding principle as critical to long-term success.

Subgoal I-A: Get the Hydrology Right (Water Quantity, Timing, and Distribution)

How This Subgoal Will Be Implemented

On average 1.8 billion gallons per day (gpd) of water that once flowed through the South Florida Ecosystem is discharged via canals to the ocean or gulf. The CERP and other projects include the following five programs for recapturing most of this water and redirecting it to sustain natural system functioning and to supplement urban and agricultural water supplies.

Surface water storage reservoirs. Surface water storage impoundments and water control structures will allow manipulation of flows in the system to mimic the natural system. A number of water storage facilities are planned north of Lake Okeechobee, in the Caloosahatchee and St. Lucie basins, in the EAA, and in Palm Beach, Broward, and Miami-Dade Counties. These areas will encompass approximately 181,300 acres and will have the capacity to store 1.8 million acre-feet of water. Two rock mining areas in Miami-Dade County will be converted to in-ground storage areas.

Aquifer storage and recovery (ASR). Subsurface storage will be used to meet remaining water management goals. The limestone platform that underlies Florida is honeycombed with voids and porous layers of sedimentary rock capable of holding water in storage. Water that currently leaves the ecosystem in canals can be captured, treated, and stored in these aquifers, and held until the water is needed to augment surface storage supplies. The CERP envisions that more than 300 wells may be needed to store water underground in the upper Floridan aquifer. Pilot testing of this approach is ongoing in different geologic areas. Although ASR technology has been used successfully in Florida since 1983, concerns have been expressed about the proposed use of ASR in south Florida at the regional

scale proposed in the CERP. Many of these concerns were outlined in a 1999 report prepared by the ASR Issue Team of the Task Force.

To address concerns about ASR, an interagency study team led by the USACE and SFWMD was formed in 2000 and is made up of representatives from the U.S. Geological Survey, U.S. Environmental Protection Agency (USEPA), Task Force, the Florida Department of Environmental Protection (DEP), Florida Geological Survey, Florida Department of Health, and various local governments. The interagency study team was tasked with preparing Project Management Plans (PMPs) and overseeing the implementation of the three ASR pilot projects. In 2001, an independent scientific review panel of the National Academies of Science and the Committee for the Restoration of the Greater Everglades Ecosystem (CROGEE) reviewed the draft PMPs for two ASR pilot projects and subsequently issued a report that recommended additional research. The ASR Regional Study was designed to answer many of the questions concerning the feasibility of full-scale ASR implementation. CROGEE subsequently reviewed the PMP for the ASR Regional Study. The PMP was approved and the ASR Regional Study has initiated the collection of regional hydrogeologic and water quality data, and developed a regional groundwater model as well as other tools required to address regional scale technical uncertainties.

If proven successful, wells may be located around Lake Okeechobee, in the Caloosahatchee Basin, and along the east coast. As much as 1.7 billion gallons a day may be pumped down the wells into underground storage zones for subsequent recovery. ASR has advantages over surface storage because evaporation does not occur when water is stored underground and significantly less land is required than is needed for a surface reservoir. In particular, water stored in the aquifer can be made available through multiple years of severe drought conditions. The stored water will be pumped into the existing surface water delivery system to meet environmental, urban, and agricultural water supply demands. ASR components represented approximately one-fifth of the total CERP costs presented in the 1999 C&SF Restudy.

Removal of barriers to sheetflow. Canals, internal levees, and other impediments will be removed or modified to reestablish the natural sheetflow of water through the system. The Kissimmee River Restoration

Project will restore approximately 40 square miles of free-flowing river floodplain and associated wetlands, which likely will help improve the quality of water flowing into Lake Okeechobee. The Modified Water Deliveries to ENP and Canal-111 projects will restore historic hydrological patterns to the Everglades. In the CERP, many of the internal levees and most of the Miami Canal in WCA-3 will be removed, and 20 miles of the Tamiami Trail (U.S. Route 41) will be rebuilt with bridges and culverts, allowing water to flow more naturally into ENP. In the Big Cypress National Preserve, the levee that separates the preserve from WCA-3A will be removed to restore more natural overland water flow.

Seepage management. Millions of gallons of groundwater are lost each year as it seeps away from the Everglades towards the east coast, where groundwater levels were lowered by the C&SF Project to allow for development and all human uses. Seepage generally occurs either as underground flow or through levees (the artificial boundaries of the natural system). Three kinds of projects will reduce unwanted water loss and redirect this flow westward to the WCAs, ENP, and northeast Shark River Slough: (1) adding impervious barriers to the levees to block loss of water; (2) installing pumps near levees to redirect water back into the Everglades; and (3) holding water levels higher in undeveloped areas east of the protective levee between the Everglades and Palm Beach, Broward, and Miami-Dade Counties.

Operational changes. Changes in water delivery schedules will be made in some areas to alleviate extreme fluctuations. Lake Okeechobee water levels will be modified to improve the health of the lake. In other areas, rainfall-driven operational plans will enhance the timing of water flows. Water will be delivered, as facilities are constructed, according to schedules that match natural hydrological patterns as closely as possible. Continued research will improve understanding of the hydrology and how it can be restored while maintaining urban and agricultural water supply and flood control. All efforts in CERP to restore the ecosystem incorporate reviews required by the assurance language of WRDA 2000 (attached as Appendix D) to ensure that existing legal sources of water are not eliminated or transferred until a new source of water supply of comparable quality and quantity is available.

Population growth. The population of south Florida is expected to double by 2050, greatly increasing demands on water. Urban water supply demands could increase from approximately one to two billion gpd. Anticipating this projected increase in demand the Florida legislature enacted legislation in 2005 requiring Water Management Districts along with local governments to ensure that future water supply demands are adequately planned for. Subsequently, the SFWMD through its rule authority has limited future withdrawals from the regional system.

Long-Term Operations and Maintenance Needs

Effective management of water storage and delivery will require close coordination between the USACE and the SFWMD. Project sponsors will constantly monitor in-place storage and water flows to ensure that the storage and recovery systems are functioning properly. Wells, wellheads, and pumps will require regular maintenance to operate effectively, and long-term operating plans will be developed to ensure continued service.



Factors Affecting Achievement of this Subgoal

Funding. A critical factor is stable and reliable funding for the timely completion of these projects. If the hydrology projects cannot be completed on schedule, the effects can cascade through the restoration effort, blocking successful completion of the water quality subgoal and delaying the habitat restoration and preservation subgoals. Delays can increase costs over the long term and, in some cases, foreclose land acquisition options, thus creating further delays or requiring project design modifications. Increasing demands on the limited natural and financial resources of the Task Force members may affect their ability to achieve their strategic goals. However, the State of Florida has committed to the expedited completion of several projects within this subgoal area through the 2004 initiation of the Acceler8 program.

Land acquisition. Many of the surface storage impoundments will be constructed on lands that have yet to be acquired. In some cases, easements are needed for impoundments and/or canals to connect an impoundment to the system. Willingness of landowners to sell land, funds to exercise land acquisition options, and community acceptance of projects are factors that can affect completion of the objective.

Natural disasters. Severe weather, including el Niño and la Niña cycles, and natural disasters, such as hurricanes and forest fires, could delay completion of the restoration activities. Impoundment dikes are particularly susceptible to severe rainstorm damage during and immediately after construction. Careful construction can minimize but not eliminate project setbacks and delays due to weather events, such as hurricanes and tropical storms. Extreme weather conditions may also affect the ability to manage and maintain aquifer water storage, given the complexity of the limestone geology of Florida.

Technical Uncertainties. Although aquifer storage and recovery technology has been used for many years there are some technical uncertainties of using this technology on such a large scale. These uncertainties are being thoroughly researched through ASR pilot projects and a Regional ASR Study. In addition, an ASR Contingency Plan is being developed to identify storage and water supply options should implementation of ASR at the scale envisioned in CERP not be possible. There is similar uncertainty associated with in-ground storage and seepage management, which the CERP pilot projects will address.

Specific, Measurable Objectives for Achieving this Subgoal

Three objectives for achieving this subgoal have been adopted by the Task Force:

- Provide 1.8 million acre-feet of surface water storage by 2036
- Develop alternative water storage systems capable of storing 1.7 billion gallons per day by 2030
- Modify 361 miles of impediments to flow by 2020

The key projects needed to achieve these objectives and the schedule for their implementation are shown in Strategic Plan Table 3.

Strategic Plan Table 3 – Subgoal 1-A: Get the Hydrology Right

Strategic Goals and Objectives

1-A Milestone Projects (Refer to Appendix A for more information about project schedules, funding, responsible agencies, etc.) <i>* Some projects have been combined or split with/from others since 2007</i>			
Objective 1-A.1: Provide 1.8 million acre-feet of surface water storage by 2036	Project ID	Project Endpoint	Project Name
	1101	2019	C&SF: CERP Indian River Lagoon- South, (C-23/C-24/C-25/Northfork and Southfork Storage Reservoirs, and C-44 Basin Storage Reservoir) (CERP Project WBS #07)
	1102	2015	C&SF: CERP Everglades Agricultural Area (EAA) Storage Reservoir (CERP Projects WBS #08)*
	1104	2015	C&SF: CERP Lake Okeechobee Watershed (CERP Project WBS #01)
	1105	2036	C&SF: CERP North Lake Belt Storage Area (CERP Project WBS #25)
	1106	2017	C&SF: CERP Palm Beach County Agricultural Reserve Reservoir – Part 1 (CERP Projects WBS #20)
	1107	2013	C&SF: CERP Site 1 Impoundment (CERP Project WBS #40)
	1109	2013	C&SF: CERP C-43 Basin Storage Reservoir --Part 1 (Caloosahatchee River (C-43) West Basin Storage Reservoir Caloosahatchee Watershed) (CERP Project WBS #04)
	1110	2036	C&SF: CERP Central Lake Belt Storage Area (CERP Project WBS #26)
	1111	TBD	E& SF: Critical Projects - Ten Mile Creek
	1112	2015	Taylor Creek Reservoir – Expedited Project – The SFWMD is implementing as part of Northern Everglades Project
	1113	2014	C&SF: CERP – Water Preserve Area Conveyance (CERP Project WBS #49)
	1114	2017	C&SF: CERP Everglades National Park Seepage Management (CERP Projects WBS #27 and 43)
	1115	2015	C&SF: CERP North Palm Beach County PIR- Part 1 (CERP Project WBS #17) (Formerly Project ID 1503)
1116	2017	C&SF: CERP Broward County WPAs (Broward County WPA - C-9 Stormwater Treatment Area/Impoundment and Western C-11 Diversion Impoundment and Canal and Water Conservation Areas 3A and 3B Levee Seepage Management) (Formerly Project ID 1501) (CERP Project WBS #45)	
2100	TBD	Allapattah Ranch	
Objective 1-A.2: Develop alternative water storage systems capable of storing 1.7 billion gallons per day by 2030	Project ID	Project Endpoint	Project Name
	1200	2019	C&SF: CERP North Palm Beach County – Part 2 (CERP Project WBS #18)
	1201	2027	C&SF: CERP Lake Okeechobee ASR (CERP Project WBS #03)
	1202	2024	C&SF: CERP Hillsboro ASR Phase 2 (CERP Project WBS #22)
	1203	2017	C&SF: CERP ASR Regional Study
	1204	2020	C&SF: CERP PBC Agriculture Reserve Aquifer Storage & Recovery -- Part 2 (CERP Project WBS #21)
	1205	2019	C&SF: CERP C-43 Basin- Aquifer Storage and Recovery (ASR)-- Part 2 Caloosahatchee River Aquifer Storage and Recharge (C43-ASR) (CERP Project WBS #05)
Objective 1-A.3: Modify 361 miles of impediments to flow by 2020	Project ID	Project Endpoint	Project Name
	1300	2014	C&SF C-111 (South Dade)
	1301	2019	C&SF: CERP WCA-3 Decompartmentalization and Sheetflow Enhancement (CERP Projects WBS # 12, 13, and 47)
	1302	2018	C&SF: CERP Florida Keys Tidal Restoration (CERP Project WBS # 31)
	1303	2015	E&SF Critical Projects- Southern CREW
	1306	2013	Kissimmee River Restoration Project
	1307	2013	Modified Water Deliveries to Everglades National Park
	2003	2011	Critical Projects: Tamiami Trail Culverts (Formerly Project ID 1400)
	Completed Projects		
	1304	2007	East WCA-3A Hydropattern Restoration
1305	1997	Kissimmee Prairie	

Subgoal I-B: Get the Water Quality Right

Runoff from agriculture and stormwater from urban areas has polluted areas of the Everglades and Lake Okeechobee and impaired ecological functions in those critical ecosystems. Excess phosphorus is a major concern, but it is not the only pollution problem. The water quality of the Caloosahatchee River, St. Lucie Estuary, Biscayne Bay, Florida Bay, the Florida Keys, and the nearshore waters off the coasts periodically show signs of significant degradation, including eutrophication, excessive salinity range, and short-term variability and introduction of anthropogenic agricultural or industrial pollutants. In marine systems, exogenous nitrogen appears to be of particular concern. Mercury is also a concern in both freshwater and marine systems in south Florida. Potentially toxic contaminants, such as trace metals, pesticides and other synthetic organic chemicals, and emerging pollutants of concern (EPOCs), which occur in wastewater, certain soils, and sediments, may occur in alternative sources of water or be present in former agriculture sites that are used in connection with restoration.

The Task Force is committed to working with the relevant federal, state, and local agencies to ensure that water quality problems like coastal eutrophication are not exacerbated by the altered water management and delivery achieved through CERP and other projects.

How This Subgoal Will Be Implemented

Everglades Forever Act. In 1994 the Florida Legislature passed the Everglades Forever Act (EFA), which codified measures to improve water quality within the Everglades Protection Area (EPA), defined as the Loxahatchee NWR, WCAs 2 and 3, and ENP. One provision establishes the Everglades Construction Project, a set of six stormwater treatment areas (STAs) between the EAA and the natural areas to the south. The main purpose of these treatment areas is to reduce the phosphorus loads in waters entering the EPA. Additionally, the state uses regulatory programs and landowners implement best management practices to reduce phosphorus from urban and agricultural discharges. These programs and practices have reduced the phosphorus levels discharged from the EAA and neighboring basins into

the Everglades. However, the final standards have not yet been met. A plan of construction projects, source controls, and continuing scientific investigations has been developed by the SFWMD to ensure that discharges from all basins impacting the Everglades meet state water quality standards. This plan is referred to as the Long-Term Plan.

In March 2003 the SFWMD presented a conceptual plan for achieving long-term water quality goals, the district strategy for meeting water quality standards. During the 2003 legislative session, the Everglades Forever Act was amended to include reference to the SFWMD Long-Term Plan as the Best Available Phosphorus Reduction Technology. The amended act required the SFWMD to implement the Long-Term Plan without delay. In July 2003 the DEP proposed a rule establishing a long-term geometric mean of 10 ppb with associated natural variability as the numeric phosphorus criterion for class III waters in the EPA. The rule also establishes moderating provisions for permits authorizing discharges into the EPA in compliance with water quality standards, including the numeric phosphorus criterion and a method for determining achievement of the numeric phosphorus criterion. The rule also establishes moderating provisions authorizing discharges above the criterion, provided measures are taken to implement the best available phosphorus reduction technologies, and a compliance methodology for determining achievement of the criterion. The rule was approved by the USEPA in July 2005.

Tribal water quality standards. In May 1999 the USEPA approved the 10 micrograms per liter (10 µg/l) total phosphorus water column quality standard adopted by the Miccosukee Tribe of Indians of Florida. The tribe, which is treated as a state for purposes of the Clean Water Act, adopted water quality standards to protect the tribal Everglades under their jurisdiction on the Federal Reservation. The phosphorus standard applies to class III-A waters within tribal boundaries, defined by the tribe as tribal water bodies used for "fishing, frogging, recreation (including air boating), and the propagation and maintenance of a healthy, well-balanced population of fish and other aquatic life and wildlife...primarily designated for preservation of native plants and animals of the natural South Florida Ecosystem." While tribal waters on the Federal Reservation are located in the area of the Everglades which has

median background total phosphorus concentrations ranging from 4 to 10 $\mu\text{g/l}$ (often lower than the standard), the USEPA determined that at present no data suggest that phosphorus concentrations less than or equal to 10 $\mu\text{g/l}$ cause changes in flora or fauna. Citing peer reviewed publications and technical reports, the USEPA determined that the 10 $\mu\text{g/l}$ standard was a "scientifically defensible value which is not overly protective" and will protect the class III-A designated use. It also states, however, that additional Everglades data are still being collected, and if further studies show that 10 $\mu\text{g/l}$ is not protective of class III-A waters, then the tribe should revise its standard as necessary.

Best Management Practices. The Natural Resources Conservation Service (NRCS) provides technical assistance on a voluntary basis to private landowners and operators, Indian Tribes, and others for the planning of conservation practices and installation of needed conservation management systems with the goal of achieving natural resource sustainability. Participants associated with animal feeding, livestock grazing operations, and fruit and crop production within the South Florida Ecosystem are helped to implement practices that improve nutrient management, water quality, and water conservation. The Environmental Quality Incentives Program provides farmers and ranchers financial and technical assistance to install or implement structural and management practices on agricultural lands that will improve or maintain the health of natural resources in the area including water quality. In addition, the State of Florida implements numerous urban and agricultural BMP programs including cost-sharing and incentive based programs.

Water management plans. Monitoring and research will be required before outlining additional plans for improving water quality in south Florida's lakes, wetlands, estuaries, and bays. Consequently, not all the projects and outputs needed to achieve this subgoal have been identified.

Section 303(d) of the federal Clean Water Act requires states to submit lists of surface waters that still do not meet applicable water quality standards (impaired waters) after implementation of technology-based effluent limitations, and to establish total maximum daily loads (TMDLs) for these waters on a prioritized schedule. For those waters deemed impaired, the DEP, in conjunction with the SFWMD,

the Florida Department of Agriculture and Consumer Services (DACS), and other appropriate entities, will develop TMDLs. The TMDL will establish the maximum amount of a pollutant that a water body can assimilate without impairing the designated use.



The state's watershed management program is based on a five-phase cycle. During the first phase, the water quality data for each basin are assessed and waters determined to be potentially impaired are identified. In phase two, intensive monitoring is conducted to supply data needed to either verify a suspected impairment or (in cases where the impairment has previously been verified) to model the impaired waters and generate TMDLs. During the third phase, TMDLs for impaired waters are calculated and allocated to individual point sources and the major categories of nonpoint sources. After TMDLs are adopted, a consensus-based basin management action plan, which includes a TMDL implementation plan, is developed during the fourth phase. The fifth and final phase involves the implementation of the proposed management plan, including securing funding, passing local or state legislation, and writing permits that reflect the limits of the TMDLs. Implementation of TMDLs may involve any combination of regulatory, nonregulatory, or incentive-based actions that attain the necessary reduction in pollutant loading. Nonregulatory or incentive-based actions may include development and implementation of best management practices, pollution prevention activities, and habitat preservation or restoration. Regulatory actions may include issuance or revision of wastewater, stormwater, works of the district, or environmental resource permits to include permit conditions consistent with the TMDL. Once these plans have been adopted and implemented, progress is monitored until waters are eventually certified as meeting water quality standards.

The DEP provides annual updates to the 303(d) list. Any new water bodies identified as being impaired by pollutants will be added to the list and given a priority for TMDL development, normally as part of the next five-year cycle. In addition, each existing TMDL will be reevaluated as part of the next five-year cycle to determine progress toward meeting water quality standards and whether the TMDL needs to be revised.

Northern Everglades and Estuaries Protection Program.

In 2007, the Florida legislature enacted the Northern Everglades Initiative (Senate Bill 392). The Act expands the Lake Okeechobee Protection Act to the entire Northern Everglades system, including the Lake Okeechobee watershed as well as the Caloosahatchee and St. Lucie rivers and estuaries. Over the next two years, the law calls for the development of far-reaching plans to protect and improve the quality, quantity, timing and distribution of water north of Lake Okeechobee and in the Caloosahatchee and St. Lucie River watersheds. These plans will augment and enhance restoration currently underway in the Everglades south of the lake and build upon ongoing restoration efforts north of Lake Okeechobee. The revised legislation requires the SFWMD, in collaboration with coordinating agencies (DEP and DACS) to develop and implement Protection Plans for the Lake Okeechobee, St. Lucie, and Caloosahatchee Watersheds. The approach is to develop watershed-based, phased, comprehensive, and innovative protection programs designed to reduce nutrient loads and implement long-term solutions based upon the TMDLs developed by the DEP. Elements of the protection programs include: 1) Watershed Construction Projects, 2) Pollutant Control Programs, and 3) Research and Water Quality Monitoring Program. The SFWMD, in cooperation with DEP and DACS are responsible for development of the Protection Plans.

The Pollutant Control Programs will use a multifaceted approach to reduce nutrient loads through continued implementation and expansion of urban and agricultural BMPs, research and optimization of BMPs, more stringent regulatory programs, improvement and restoration of the hydrologic functions of the natural and managed systems, and use of alternative technologies for nutrient reduction. Projects are being implemented in a cooperative manner by the SFWMD, DEP, and DACS.

The Watershed Construction Projects will identify water quality projects that contribute to achievement of TMDLs. The Lake Okeechobee Protection Plan has identified STAs as a critical feature necessary for water quality improvement and is expediting the Lakeside Ranch STA in order to achieve early benefits. Additional STAs will be incorporated into the Protection Plans for the St. Lucie and Caloosahatchee watersheds as the plans are developed. Other stormwater and wastewater treatment projects (e.g., stormwater retrofits, sewer to septic conversions) will be incorporated into the plans as appropriate.

Florida Keys National Marine Sanctuary Water Quality Protection Program. The USEPA and the DEP conduct a comprehensive water quality monitoring and research program aimed at correcting point and nonpoint sources of water pollution within the Florida Keys National Marine Sanctuary (FKNMS). The Water Quality Protection Program, initiated in 1996, is the first such program developed for a national marine sanctuary. All state waters within the sanctuary boundary were designated a no-discharge zone in 2002.

Comprehensive Integrated Water Quality Feasibility Study. The USACE and the DEP developed a PMP for the Comprehensive Integrated Water Quality Feasibility Study in February 2004 and are currently coordinating a draft design agreement. The study is consistent with the goals and purposes of CERP and will:

- Identify links between water quality and ecosystem functions
- Identify degraded ecosystems and quantify the types and sources of pollution
- Develop targets for ecosystem restoration
- Inventory and evaluate a suite of structural and other measures capable of improving water quality
- Integrate planned and existing water quality restoration and management programs with CERP projects and with other federal, state, tribal, and local programs and projects
- Recommend additional programs and projects needed to achieve ecosystem restoration
- Identify appropriate funding sources

The study area encompasses approximately 17,500 square miles from Orlando to the Florida Reef Tract. The Kissimmee River, Lake Okeechobee, and the Everglades are the dominant watersheds included in the study area connecting a mosaic of wetlands, uplands, coastal systems, and marine areas within all or portions of 19 counties.

In 2006, The Task Force urged the USACE and other agencies to undertake and complete the Comprehensive Water Quality Feasibility Study for the restoration of the Florida Everglades.

Factors Affecting Achievement of the Subgoal

Natural disasters. Severe weather, including el Niño and la Niña cycles, and natural disasters, such as hurricanes and forest fires, will adversely affect water quality.

Land acquisition. Many of the stormwater treatment areas will be constructed on lands that have yet to be acquired. Willing land sellers, funds to exercise land acquisition options, and community acceptance of projects are factors that can affect completion of the objective.

Funding. Funding is always a critical factor. If the water quality projects cannot be completed on schedule, the effects can cascade through the restoration effort, delaying progress toward meeting the habitat restoration and preservation subgoals. Although Acceler8 is primarily focused on water storage, a few water quality projects are also being funded and expedited through this program.

Specific, Measurable Objectives for Achieving this Subgoal

Two objectives for achieving this subgoal have been adopted by the Task Force:

- Construct 96,010 acres of stormwater treatment areas by 2035
- Prepare locally-based plans to reduce pollutants as determined necessary by the TMDL by 2011

The key projects needed to achieve these objectives and the schedule for their implementation is shown in Strategic Plan Table 4.

Strategic Plan Table 4 – Subgoal 1-B: Get the Water Quality Right

Strategic Goals and Objectives

1-B Milestone Projects (Refer to Appendix A for more information about project schedules, funding, responsible agencies, etc.)				
Objective 1-B.1: Construct 96,010 acres of stormwater treatment areas by 2035	Project ID	Project Endpoint	Project Name	
	1500	2019	C&SF: CERP Big Cypress/L-28 Interceptor Modifications (CERP Project WBS #10)	
	1502	2016	C&SF: CERP Miccosukee Tribe Water Management Plan (CERP Project WBS #90)	
	1505	2018	C&SF: CERP Caloosahatchee Backpumping with Stormwater Treatment (CERP Project WBS #06)	
	1506	2009	E&SF: Critical Projects Lake Okeechobee Water Retention/Phosphorus Removal	
	1513	2013	C&SF: West Palm Beach Canal STA-1E / C-51 West	
	1514A	2011	State Expedited project includes Everglades Agricultural Area (EAA) Stormwater Treatment Areas (STAs) Expansion	
	1515	2012	Lakeside Ranch STA - expedited project (project feature of the Lake Okeechobee Watershed Construction Project Phase II Technical Plan	
	1518	2018	C&SF: CERP Henderson Creek/Belle Meade Restoration (CERP Project WBS #93)	
	1519	2012	C-43 Water Quality Treatment Area	
	1101	2023	C&SF: CERP Indian River Lagoon- South, C-23/C-24/C-25/North Fork and South Fork Storage Reservoirs, and C-44 Basin Storage Reservoir (CERP Project WBS #07)	
	1104	2015	C&SF: CERP Lake Okeechobee Watershed (CERP Project WBS #01)	
	1110	2036	C&SF: CERP Central Lake Belt Storage Area (CERP Project WBS #26)	
	1115	2015	C&SF: CERP North Palm Beach County - Part 1 (CERP Project WBS #17) (Formerly Project ID 1503)	
	Completed Projects			
	1508	2000	STA-1 West Works and Outflow Pump Station (G-310)	
	1509	2000	STA-2 Works and Outflow Pump Station (G-335)	
1510	2005	STA-3/4 Works		
1511	2005	STA-5 Works		
1512	2006	STA-6 (includes sections 1 and 2)		
1516	2007	Nubbin Slough STA Expansion – expedited project		
Objective 1-B.2: Prepare locally-based plans to reduce pollutants as determined necessary by the TMDL by 2011	Project ID	Project Endpoint	Project Name	
	1600	2011	Total Maximum Daily Load (TMDL) for south Florida	

GOAL 2: RESTORE, PRESERVE, AND PROTECT NATURAL HABITATS AND SPECIES

Before European settlement the natural habitats of south Florida covered an area of about 18,000 square miles. This enormous space encompassed a rich mosaic of ponds, sloughs, sawgrass marshes, hardwood hammocks, and forested uplands. In and around the estuaries, freshwater mingled with salt to create habitats supporting mangroves and nurseries for wading birds and fish. Beyond, nearshore islands and coral reefs provided shelter for an array of terrestrial and marine life. The vast expanses of habitat were large enough to support far-ranging animals, such as the Florida panther, and super colonies of wading birds, such as herons, egrets, roseate spoonbills, ibis, and wood storks. For thousands of years this resilient ecosystem withstood and repeatedly recovered from the effects of hurricanes, fires, severe droughts, and floods, retaining some of the greatest biodiversity found on earth.

By the year 2000, the Florida panther and sixty-eight other animal or plant species were listed by the U.S. Fish and Wildlife Service (FWS) as threatened or endangered. Many additional species are of special concern to the State of Florida. Super colonies of wading birds no longer nest in the Everglades. The wetland habitats that supported these species have been reduced by half, fragmented by roads, levees, and other structures, dewatered by canals, and degraded by urban and agricultural pollutants. The marine environments of the bays and coral reefs have suffered a similar decline. Altered biological communities are being overrun by invasive exotic plants and animals capable of outcompeting native species and habitats. By the year 2000, exotic plants made up approximately one-third of the total plant species known in Florida. At that time, the Florida Exotic Pest Plant Council identified 125 of these as serious risks to Florida's natural areas and its threatened and endangered native plants and animals.

A combination of connectivity and spatial extent created the range of habitats and supported the levels of productivity needed for the historic diversity and abundance of native plants and animals. The original Everglades and other south Florida environments formed hydrologically integrated systems from boundary to boundary. Restoring natural habitats and

species will require reestablishing the hydrologic and other conditions conducive to native communities and piecing together large enough areas of potential habitat. Exotic species must be managed, and the escape of new exotics must be prevented. Then it will require time for native plants and animals to reestablish populations and communities. The intended result will be self-sustaining populations of diverse native animal and plant species. This must take into account that populations that have adapted to current conditions may be impacted.

A consensus-building exercise in 1999 with broad public input identified a list of statements that Task Force participants used as a foundation to develop the Task Force *Strategy*. Based on that consensus, the habitats will be restored, preserved, and protected when the following conditions are met: The diversity, abundance, and behavior of native south Florida animals and plants and their terrestrial and aquatic habitats are characteristic of pre-drainage conditions. The spatial extent of wetlands and other natural systems is sufficient to support the historic functions of the greater Everglades ecosystem. Important wildlife corridors are identified, enhanced, and preserved. Endangered and other federal and state listed species recover self-sustaining levels, and sufficient habitats for maintaining healthy numbers are restored and protected. Invasive exotic plant and animal species are substantially eliminated or reduced to manageable levels.

Efforts to achieve goal two must incorporate a process to address concerns of environmental justice and economic equity. The unique cultural and ethnic diversity of south Florida's population, with its strong representation of peoples from all over the world, will require significant efforts on behalf of the restoration partners to ensure that projects are implemented in ways that do not result in disproportionate impacts on any communities. Additional targeted efforts will be required to provide opportunities for socially and economically disadvantaged individuals and small businesses to participate in the implementation of restoration programs and projects. The Task Force and Working Group see this guiding principle as critical to long-term success.

Subgoal 2-A: Restore, Preserve, and Protect Natural Habitats

How This Subgoal Will Be Implemented

Land acquisition. Land acquisition is critical to South Florida Ecosystem restoration efforts. Land is needed to preserve habitat for native plants and animals and to act as a buffer to existing natural areas. Land is also needed for water quality treatment areas, water storage reservoirs, and aquifer recharge areas that will help restore natural hydrology. Federal, state, and local governments have all played important roles in land acquisition. The most efficient use of resources may not be fee simple purchase of land, nor is it always desirable. Many alternative tools to meet restoration land use needs are being implemented to maximize the benefits of limited resources. The Task Force supports the use of less than fee acquisitions or the use of other tools. Some examples of the tools being used include:

- Easements
- Temporary lease agreements
- Mitigation banks
- Public private partnerships

Over the past several decades, the federal government has acquired title to lands for conservation and public enjoyment of national parks, preserves, and wildlife refuges. Using existing land use plans and priorities, and based upon the availability of annual appropriations, federal land managers will continue to acquire lands within authorized boundaries of existing national wildlife refuges, parks, and preserves in the South Florida Ecosystem. The completion of these areas will provide additional habitat for threatened, endangered, and other species, as well as recreational opportunities for the people of south Florida and visitors from around the world. The federal government also has provided financial support to state land acquisition programs, such as the \$200 million provided by the 1996 Farm Bill for acquisition in support of ecosystem restoration. Based upon the availability of annual appropriations, federal land managers will continue to look for opportunities to assist the State of Florida in preserving the highest priority areas for implementation of the CERP.

The Florida Forever Program is Florida's primary land

acquisition program. The 10 year program, passed in 1999 as an extension of the successful Florida Preservation 2000 Act, will raise approximately \$3 billion (\$300 million per year) for land acquisition. The program identifies and acquires lands from voluntary sellers through a process described under Chapters 259 and 373 of the Florida Statutes. The Florida Legislature is continuing the Florida Forever Program which is set to expire in 2010. The state also partners with local governments and other entities to identify and jointly acquire conservation lands. All of the state laws governing the acquisition of land with public funds for the purposes of conservation, recreation, or fish and wildlife management ensure that the public will be provided access consistent with the rights acquired and use compatible with the purpose for which the land was purchased.

In recent years local governments have initiated, voted, and approved land acquisition programs for hundreds of millions of dollars that are helping to protect and restore the South Florida Ecosystem. Interest is growing for many counties to undertake similar initiatives. These programs have the potential to complement and support the CERP as well as to foster compatibility of the built and natural systems.

State Florida Forever lands, federal parks and preserves, state water preserve areas, county and private conservation lands, conservation easements and other agreements with private landowners, and other lands acquired for South Florida Ecosystem restoration will help expand and connect a mosaic of upland, wetland, coastal, and marine habitats that will support the recovery of many currently imperiled species. These lands also provide opportunities for water supply enhancement, natural-resource based outdoor recreation, and environmental awareness and education for the state's residents and visitors.

Protection of habitat for threatened and endangered species. As part of the South Florida Ecosystem restoration initiative, in 1995 the FWS was directed to prepare a comprehensive, ecosystem-wide strategy to recover threatened and endangered species and to restore and maintain the extremely high biodiversity of native plants and animals in the upland, wetland, estuarine, and marine communities of the South Florida Ecosystem. This extensive effort is known as the Multi-Species Recovery Plan (MSRP).

The MSRP addresses the recovery needs of south Florida’s federally listed threatened and endangered species. As of 2008, there were sixty-eight federally listed threatened and endangered species within the South Florida Ecosystem. A major section of that plan describes 23 of the natural communities in south Florida and identifies management actions needed to restore the South Florida Ecosystem. Protecting habitat for threatened and endangered species will involve significant cooperation and coordination among the FWS and their many partners, including land acquisition programs by the State, the FWS National Wildlife Refuge System, and the National Park System of lands.



Wetlands enhancement. The CERP calls for removing barriers to sheetflow, restoring more natural hydroperiods to wetlands, and providing natural system water flows to coastal waters. These projects will restore hydrological connections to large portions of the remnant Everglades marsh, improve water quality, and increase the extent of wetlands, thus enhancing fish and wildlife habitat. Habitat heterogeneity will also be improved as upland and transitional areas experience more natural hydroperiods. Modeling of CERP project components shows that almost 2.4 million acres will be restored and enhanced.

Wetlands enhancement is also achieved through the Wetlands Reserve Program, a voluntary conservation program funded by the Farm Bill through which the U.S. Department of Agriculture (USDA) provides incentive payments and cost-sharing to restore, enhance, and protect degraded wetlands on agricultural lands.

Restoration and preservation of coral reefs. Other major efforts to restore and preserve habitat involve the designation of an ecological reserve and a research natural area to protect critical coral reef communities in the western portion of the FKNMS and Dry Tortugas National Park. The Tortugas region

in the Straits of Florida has near-pristine marine resources, including one of the best-developed tropical coral reef systems on the continent. It is the epicenter of marine productivity for the region. Ensuring its long-term protection and appropriate public use will require cooperation among multiple and overlapping jurisdictions, including the U.S. Department of Commerce, the U.S. Department of the Interior (DOI), and the State of Florida.

The FKNMS’s Tortugas Ecological Reserve fully protects 151 square nautical miles of coral reefs and associated communities. The Dry Tortugas National Park’s research natural area protects an additional 46 nautical miles of reefs and marine habitats. Combined, these two areas encompass 197 square nautical miles, protecting more than 10 percent of the coral reefs in the Florida Keys. Reefs in Biscayne National Park are also protected, and reefs in state parks and other portions of the FKNMS are managed for conservation.

Factors Affecting Achievement of this Objective

Progress in acquiring lands needed for habitat protection will depend upon the availability of land from willing sellers, land values, the rate of development, and annual federal and state legislative appropriations. National water resources policy for ecosystem restoration also generally limits land acquisition costs to approximately 25 percent of total project costs; however, Congress may consider exceptions to that policy for an individual project based on an analysis of overall benefits to the ecosystem.

Specific, Measurable Objectives for Achieving this Subgoal

Three objectives for achieving this subgoal have been adopted by the Task Force:

- Complete acquisition of 5.7 million acres of land identified for habitat protection by 2020
- Protect 20 percent of the coral reefs by 2010
- Improve habitat quality for 2.4 million acres of natural areas in south Florida

The key projects needed to achieve these objectives and the schedule for their implementation are shown in Strategic Plan Table 5.

Strategic Plan Table 5 – Subgoal 2-A: Restore, Preserve, and Protect Natural Habitats

2-A Milestone Projects (Refer to Appendix A for more information about project schedules, funding, responsible agencies, etc.)			
Objective 2-A.1: Complete acquisition of 5.7 million acres of land identified for habitat protection by 2020	Project ID	Project Endpoint	Project Name
	STATE/SFWMD PROJECTS		
	2100		Allapattah Flats/Ranch
	2101		Atlantic Ridge Ecosystem
	2104		Belle Meade
	2105		Big Bend Swamp/Holopaw Ranch
	2106		Biscayne Coastal Wetlands
	2107		Bombing Range Ridge
	2108		Caloosahatchee Ecoscape
	2109		Catfish Creek
	2111		Charlotte Harbor Estuary/Flatwoods/Cape Haze
	2112		Corkscrew Regional Ecosystem Watershed (CREW)
	2114		Coupon Bight/Key Deer/Big Pine Key
	2115		Cypress Creek/Trail Ridge
	2172		Cypress Creek/Loxahatchee
	2185		Devils Garden
	2117		East Coast Buffer – Natural Lands
	2118		Estero Bay
	2120		Fakahatchee Strand
	2121		Fisheating Creek
	2122		Florida Keys Ecosystem
	2174		Half Circle L Ranch
	2124		Indian River Lagoon Blueway
	2125		Juno Hills /Dunes
	2176		Jupiter Ridge
	2127		Kissimmee River (Lower Basin)
	2128		Kissimmee River (Upper Basin)
	2126		Kissimmee-St. Johns River Connector
	2129		Lake Wales Ridge Ecosystem
	2132		Loxahatchee Slough
	2134		Miami Dade County Archipelago
	2135		Model Lands Basin
	2138		North Fork of the St. Lucie River
	2139		North Key Largo Hammocks
	2141		Okaloacoochee Slough
	2142		Okeechobee Battlefield
	2143		Osceola Pine Savannas
	2144		Pal-Mar
	2145		Panther Glades
	2146		Paradise Run
	2147		Parker-Poinciana/Lake Hatchineha Watershed

2-A Milestone Projects (Refer to Appendix A for more information about project schedules, funding, responsible agencies, etc.)		
Project ID	Project Endpoint	Project Name
2186		Pine Island Slough Ecosystem
2148		Pineland Site Complex
2178		Ranch Reserve
2149		Rookery Bay
2150		Rotenberger/Holey Land Tract
2151		Shingle Creek
2152		Six Mile Cypress
2154		South Savannas
2155		Southern Glades – Natural Lands
2156		Southern Golden Gate Estates (Save Our Everglades) Picayune Strand
2180		Ten Mile Creek – Natural Lands
2158		Twelve Mile Slough
2159		Lake Marion Creek and Reedy Creek Management Area (Formerly called the Upper Lakes Basin Watershed)
2160		WCAs 2 and 3
STATE COMPLETED PROJECTS		
2102		Babcock Ranch
2110		Cayo Costa Island
2116		Dupuis Reserve
2123		Frog Pond – Natural Lands
1305		Kissimmee Prairie Ecosystem
2130		Lake Walk-In-Water a/k/a Sumica
2131		Loxahatchee River
2137		Nicodemus Slough
2153		South Fork St. Lucie River
2157		Tibet-Butler Preserve
2161		Yamato Scrub
FCT, STATE PARKS, & WMAs		
		State Florida Communities Trust Lands
		State Park Lands
		State Wildlife Management Areas
FEDERAL CONSERVATION LANDS		
2162		A.R.M. Loxahatchee NWR
2163		Big Cypress National Preserve
2164		Big Cypress National Preserve Addition
2165		Biscayne National Park
2166		Crocodile Lake NWR
2167		Everglades National Park Expansion
2169		Florida Panther NWR
2168		Florida Keys NWR
2170		Hobe Sound NWR
2171		J. N. Ding Darling NWR

2-A Milestone Projects (Refer to Appendix A for more information about project schedules, funding, responsible agencies, etc.)			
Objective 2-A.2: Protect 20 percent of the coral reefs by 2010	Project ID	Project Endpoint	Project Name
		TBD	Florida Keys National Marine Sanctuary Zoning Action Plan
Objective 2-A.3: Improve habitat quality for 2.4 million acres of natural areas in south Florida.	Project ID	Project Endpoint	Project Name
	<i>Note – The April 1999 USACE C&SF Project Comprehensive Review Study Final Integrated Feasibility Report and Programmatic Environmental Impact Statement included an extensive environmental evaluation for the likelihood of CERP in meeting, planning objectives for both spatial extent and habitat quality improved through implementation of the CERP projects. Table 7-18 of that publication identifies in detail the anticipated effectiveness of various alternative plans in meeting the CERP planning objectives on a sub-regional basis. However, appropriate measures by project are currently being developed through the establishment of interim goals. There are some projects included in this tracking matrix that exemplify how this objective will be achieved and are listed below.</i>		
	2300	2010	C&SF: CERP Strazzulla Wetlands (CERP Project WBS #39)
	2301	2010	C&SF: CERP Winsberg Farms Wetlands Restoration (CERP Project WBS #91)
	2302	TBD	C&SF: CERP Lakes Park Restoration (CERP Project WBS #94)
	2303	2022	C&SF: CERP Restoration of Pineland and Hardwood Hammocks in C-11 Basin (CERP Project WBS # 92)
	2304	TBD	A.R.M. Loxahatchee NWR Prescribed Fire Program
	2306	2009	C&SF CERP Acme Basin B Discharge (CERP Project WBS #38) (was Project ID #1100)
	2307	2015	C&SF: CERP Picayune Strand Restoration (f/k/a Southern Golden Gate Estates Hydrologic Restoration) (OPE) (CERP Project WBS #30)
	2309	2015	C&SF: CERP Biscayne Bay Coastal Wetlands (FFF) (OPE) (CERP Project WBS #28) (Formerly project ID 1410)
	2310	2011	C&SF: CERP C-111 Spreader Canal (Formerly Project ID 1517)(CERP Project WBS #29)
	1101	2023	C&SF: CERP Indian River Lagoon- South (C-23/C-24/C-25/North Fork and South Fork Storage Reservoirs, and C-44 Basin Storage Reservoir) (CERP Project WBS #07)
	1104	2015	C&SF: CERP Lake Okeechobee Watershed (CERP Project WBS #01)
	1107	2013	C&SF: CERP Site 1 Impoundment and ASR (CERP Projects WBS #22 and 40)
	1111	TBD	E&SF: Critical Projects - Ten Mile Creek
	1116	2017	C&SF: CERP Broward County Water Preserve Areas Broward County WPA (C-9 Stormwater Treatment Area/Impoundment and Western C-11 Diversion Impoundment and Canal and Water Conservation Areas 3A and 3B Levee Seepage Management) (Formerly Project ID 1501)
	1303	2015	E&SF: Critical Projects : Southern CREW
	1306	2013	Kissimmee River Restoration Project
1307	2013	Modified Water Deliveries to Everglades National Park	
3902	2016	C&SF: CERP Wastewater Reuse Technology Pilot Project (CERP Project WBS #37) (Formerly Project ID 3802)	

Subgoal 2-B: Control Invasive Exotic Plants and Animals

The MSRP identifies the control of invasive exotic species as integral to the restoration of the ecosystem and to the recovery of threatened and endangered and other imperiled species. Some invasive exotic plants and animals have spread in natural areas to the extent

that the native plant and animal communities are being threatened or replaced. The most widespread and serious exotic species are detailed in the South Florida Environmental Report (SFER). This report is developed through a cooperative multi-agency effort

including the Task Force’s Noxious Exotic Weed Task Team (NEWTT) and Florida Invasive Animal Task Team (FIATT). This report includes a comprehensive annually updated compilation and report card for invasive exotic plants and animals in south Florida and is being used by several agencies, organizations, and task teams who develop the SFER with the SFWMD.

Control of invasive non-native species is an important issue for the overall ecological health of south Florida’s public conservation lands. The importance of this issue in the Everglades Protection Area (EPA) is demonstrated by the great number of plans, reports, statements, and papers written by numerous committees, state and federal agencies, public and private universities, state and federal task forces, and various other organizations. Most of these documents support an “all-taxa” approach. The consensus of these parties is that control and management of invasive nonindigenous species is a critical component of ecosystem restoration in south Florida. More information is available in the 2008 SFER.

Sixteen different federal and state agencies, numerous local agencies, and two Indian tribes are involved in Everglades restoration and thus in one or more activities related to the management, regulation, control, interdiction, and prevention of invasive exotic species in Florida. Collectively, these agencies have management authority for more than 13.7 million acres (about 21,500 square miles) of Florida’s natural lands. Individual agencies have identified 32 of the 66 priority plant species named in NEWTT’s 2001 Weeds Won’t Wait strategy document as particularly serious and specifically targeted for control. Nevertheless, the process of documenting problems associated with exotic animal species in South Florida began only recently.

How This Subgoal Will Be Implemented

Invasive exotic plant management strategies. In 1993 the Florida Legislature charged the DEP with establishing a plan to control invasive exotic plants on public conservation lands (§369.252, Florida Statutes). The DEP Bureau of Invasive Plant Management (BIPM) in 1996 developed a comprehensive interagency strategy for elimination or control of the highest priority species and management to control and minimize the spread of other pest plant species.

BIPM has operated its Upland Invasive Exotic Plant Management (Upland Weeds) Program since 1997 as a state-wide strategy to coordinate the efforts of federal, state, and local agencies and nongovernmental organizations in prioritizing needs and developing the methods, research, public education, technology transfer, oversight, and funding needed to conduct an efficient and cost-effective state-wide maintenance control program for the control of upland weeds. From 1997 through 2007, the Uplands Program has spent nearly \$53 million dollars to control approximately 560,000 acres of invasive plants within the South Florida Ecosystem. This effort was assisted by \$23 million in cash and in-kind services from federal, state, and local cooperators.

Planning and Coordination. In addition to providing a comprehensive look at exotic species across taxa, the SFER takes an important step toward coordinating the information generated by the many different agencies involved in the control and management of invasive exotic species and in trying to determine what control and management efforts have been initiated for targeted species. This progress assessment technique (stoplight report card for invasive exotic species—currently the report card only covers plants) has been established along with the development of the SCG’s system wide ecological indicators through coordination among the SCG, the NEWTT, and the FIATT of the Task Force. Numerous other agencies and multi-agency groups are involved in the implementation of the management and control of invasive exotic species in south Florida, and in their monitoring and research. Continued collaboration is expected to put in place a coherent and integrated method for evaluating progress on controlling invasive exotic species. It is anticipated that a parallel report card system for exotic animals will be developed within the next two to three years.

The topic of invasive species has been identified as an issue since the beginning of the Everglades restoration initiative. Several organized efforts and mandates have highlighted the problems associated with exotic species in the Everglades region. Control and management of invasive exotic species are in the priorities established by the Task Force in 1993. One of the tasks in the 1993 charter for the former Management Subgroup (December 16, 1993) was to develop a restoration strategy that addressed the

spread of invasive exotic plants and animals. USFWS was designated as the lead agency for this strategy and submitted a brief report.

The Working Group's first Annual Report in 1994 addressed all invasive exotic plant and animal species. The overall objectives stated were to (1) halt or reverse the spread of invasive species already widespread in the environment; (2) eradicate invasive species that are still locally contained; (3) prevent the introduction of new invasive species to the South Florida environment; and (4) educate the public and policy makers about the issues. The 1994 EFA requires the SFWMD to establish a program to monitor invasive species populations and to coordinate with other federal, state, and local governmental agencies to manage exotic pest plants, with an emphasis in the EPA. This work is ongoing through various interagency working groups.



A recently organized group called the Everglades Cooperative Invasive Species Management Area (CISMA) is working to improve coordination, control, and management of invasive species among the key land management agencies through the designation of an Everglades invasive species management area which specifically targets the EPA for monitoring, management, and control. The group is modeled after very successful partnerships in western states known as Cooperative Weed Management Areas. Representatives from the NPS, FWS, SFWMD, FWC, FDEP, Florida Department of Transportation, Florida Power & Light, USACE, and the Miccosukee and Seminole Tribes are included in the CISMA.

Reinforcing all efforts is the Task Force's 1996 Scientific Information Needs Report, which contains a region-wide chapter on harmful invasive non-native species. An overall regional objective for restoration is to develop control methods for exotic species at entry, distribution, and landscape levels.

The USFWS Coordination Act Report for the CERP also considers control and management of non-native species as a critical aspect of ecosystem restoration in south Florida. The report discusses the effects of the present canal and levee system and of the preferred alternative of this system on the distribution of exotic animals.

The MSRP identifies non-native animal control as a restoration need for two-thirds of the ecological communities and the individual species covered in the plan. In addition, the South Florida Regional Planning Council's 1991, 1995, and 2004 regional plans for South Florida list the removal of exotic plants and animals and discouragement of introductions as regional policies.

The control and management of invasive exotic species is conducted through these and other efforts of the many individual agencies involved in south Florida restoration. The individual programs funded and supported by the agencies are coordinated through the efforts of the various groups, such as ISWG, FIATT, NEWTT, TAME Melaleuca, Biocontrol task team, FWC and NPS/FWS "SWATT" Teams, etc. that focus on various aspects of invasive species control and management among the agencies.

Education. State and federal agencies involved in natural resource protection also have a variety of programs to educate the public and industries. These agencies regularly produce and distribute at outreach events printed media such as weed identification cards and flyers. For instance, the FWC collaborated with other agencies to publish an eight-page insert on invasive species in a 2006 Sunday edition of the Orlando Sentinel. The insert reached approximately 600,000 readers.

Likewise, other state and federal agencies have continually expanded invasive species educational content on their websites and improved cross-agency website linking to further facilitate access to invasive species information. In addition, the agencies represented on the CISMA have agreed to utilize the WEEDAR website for inputting invasive species control data, and the www.ecostems.org website for inputting project level information. Additional information sharing and database sites are being coordinated, linked, and interlinked to improve coordination and transfer of information.

Management Plans. Comprehensive management plans, when adequately funded and implemented, have provided successful control of invasive exotic plants. These plans offer the advantage of replacing piecemeal efforts to manage exotic plants—typically by controlling them on individual sites or by controlling only one or a few species in broader regions—with coordinated multi-agency programs that integrate invasive plant management activities, organizations, priorities, and resources statewide.

Eight species in Florida (Melaleuca, Brazilian pepper, Old World climbing fern, latherleaf, Chinese tallow, hydrilla, water lettuce, and water hyacinth) already have state-wide species-based management plans. Another 20 exotic plants need urgent attention, and developing plans for just the top 20 will take several years. Plans must be developed for each species because each has species-specific characteristics (biology, method of reproduction, life form, etc.) that need to be addressed.

Invasive exotic plant maintenance control.

Maintenance control is defined in the Florida Statutes as “a method for the control of exotic plants in which control techniques are utilized in a coordinated manner on a continuous basis in order to maintain the plant population at the lowest feasible level” (§369.22, Florida Statutes). Many techniques are used in an integrated approach and they include mechanical removal, chemical treatment, and biological controls. The three major aquatic species (hydrilla, water hyacinth, and water lettuce) are currently under a maintenance control program for Florida’s 1.25 million acres of public water bodies. Achieving maintenance control for Melaleuca is well underway through mechanical and chemical treatment. In 1993 the SFWMD estimated more than 252,008 acres of melaleuca within its boundaries (melaleuca also occurs outside the district). Of these total acres 52 percent were public lands and 48 percent were private lands. In 2002 the estimated acreage was 154,423 acres, of which 22 percent were public lands. The decrease of 97,071 acres has been made possible by funding from many agencies, especially the DEP and the SFWMD. As of 2007, there remained 5,000 acres of melaleuca to be treated in Everglades National Park for the entire park to be under maintenance control for this species.

The state is funding research to determine the best approaches for chemical treatment and biological

control of Brazilian pepper and Old World climbing fern. The Old World climbing fern has been recognized as the most serious ecological threat to the South Florida Ecosystem. Between 1998 and 2007 the BIPM Uplands Program expended over \$15 million to control 55,000 infested acres. Both Old World climbing fern and Brazilian pepper are subjects of biological control research. Plans for other priority species need to be developed and incorporated into the state’s multi-agency management framework and invasive exotic plant implementation plan and strategy.



The DEP and the National Park Service (NPS) have jointly implemented Exotic Plant Management Teams for Florida’s natural areas. An additional team for national wildlife refuges is being planned and funded by the FWS. These teams are trained to identify and remove invasive exotic plants and to help the land-managing agencies bring the species under maintenance control. Some local governments, such as Miami-Dade County, develop management plans and remove exotic vegetation in natural areas within parks and conservation lands. Miami-Dade County also has a voluntary program offering owners of environmentally sensitive lands a reduction in taxes in exchange for managing the natural areas to remove invasive exotic vegetation. Additionally, removal of exotics and perpetual maintenance of wetlands and other natural areas is generally achieved or required in mitigation banks and other mitigation lands, such as the Hole-in-the-Donut in ENP.

Biological control of invasive exotic plants. Plants are often prevented from becoming serious weeds in their native range by a complex assortment of insects and other herbivorous organisms. When a plant is brought into the United States, the associated pests are thoroughly screened by government regulations on

plant pest importation. Favorable growing conditions and the absence of these associated pest species have allowed some plants to become serious weeds outside their native range. “Classical” biological control seeks to locate such insects and import host-specific species to attack and control the plant in regions where it has become a weed. The classical approach has a proven safety record (none of the approximately 300 insect species imported specifically for this purpose have ever become pests themselves) and has been effective in controlling almost 50 species of weeds.

In Florida, classical biological control of invasive nonnative plants in nonagricultural areas has historically focused on aquatic weeds. The first such biocontrol agent introduced was the alligatorweed flea beetle (*Agasicles hygrophila*) in 1964 for control of alligatorweed (*Alternanthera philoxeroides*). In 2002, the USACE authorized the Melaleuca Eradication and Other Exotic Plants project that provides additional support for the propagation and distribution of new biological control organisms that have been approved for release. Current biological control research is focused on hydrilla, water hyacinth, melaleuca, Brazilian pepper, and Old World climbing fern. Two biological controls for melaleuca have been released. The first Old World climbing fern insect (a moth) was released in 2005, and a second insect has been approved for release. The first Brazilian pepper insect and additional melaleuca-damaging insects may be approved for release in Florida soon. Overseas surveys and host-specificity screening for additional agents are ongoing.

Controlling invasive exotic animals. The effort to address the issue of exotic animals in the Everglades is not as advanced as that of invasive plants. As a result, the Working Group asked FIATT to develop a strategy and build a priority list. While it is relatively easy to determine the extent to which exotic plants invade natural areas, the impact of exotic animals on native communities and on those species with which they compete directly is often less obvious (SFER 2008). Several existing reports have highlighted this difficulty.

One example invasive exotic animal species and its detrimental effect on the South Florida Ecosystem is the Gambian pouch rat (*Cricetomys gambianus*). Native to Africa, Gambian pouch rats were bred in captivity on Grassy Key. It is believed eight rats

escaped between 1999 and 2002 and established a reproducing population. Gambian rats weigh an average of 3 pounds and measure 20–35 inches from head to tail, which is much larger than native species, including the Key Largo wood rat, cotton rat, and silver rice rat. Its large size makes this species popular in the exotic pet trade, although the U.S. Food and Drug Administration has banned their transport and sale because they are a carrier of monkey pox. Scientists are concerned this species is poised to move from Grassy Key onto adjacent keys, and then to Florida’s mainland. Eradication efforts through bait stations and trapping have begun.

Monitoring. Monitoring programs are important in establishing the extent of a problematic species and can offer valuable spatial information for ecological studies and control purposes and benchmarks once operational control programs begin. Similarly, long-term, repeatable monitoring is key to answering questions related to the impacts of invasive species over time. The general occurrences of most invasive exotic plants in south Florida are fairly well understood, although detailed information on distributions and expansion rates are lacking. Agency-sponsored programs are in place that track the regional distribution of certain target exotic plant species, yet spatial data for most other invasive taxa in natural areas is lacking or not readily accessible. The FWC maintains a county-level database for reptiles, amphibians, birds, and terrestrial mammals (www.myfwc.com/critters/exotics/exotics.asp). FWC biologists compiled these data from both published and unpublished sources. The U.S. Geological Survey (USGS) maintains an extensive database for exotic aquatic species by watershed.

The SFWMD conducts surveys of the EPA biannually as required by the EFA, but has expanded the scope of the survey in recent years to include the entire District (2005) and the entire range of several key species (2006).

Prevention. The reasons some species become invasive and some ecosystems seem more readily invaded are not well understood. However, if a species becomes widely invasive it is difficult and expensive to manage. Preventing the introduction of invasive species is the only absolute means to control them, but absolute prohibitions and exclusions are impractical. An early warning program for potentially

invasive species, a risk assessment for evaluating possible invasiveness prior to introduction, methods for early detection of incipient populations of new species, predictive tools to assist in determining where plants may invade, and the ability to eradicate incipient populations are needed. The Federal Interagency Committee for the Management of Noxious Exotic Weeds is planning a national early-warning information system for invasive exotic plants.

Long-Term Operations and Maintenance Needs

Weed management is like any other long-term program in that sufficient funds must be available on a continuous basis to achieve and then sustain maintenance control. If resources necessary to support management drop below the maintenance level requirement, the species will expand and reinvade to pre-control levels, and the program must start from zero again. The only exception is when adequate maintenance control is being achieved exclusively through biological control organisms and even in those instances, minimal monitoring is needed to ensure that the biocontrol organisms are continuing to work. Discontinuing funding once maintenance control has been achieved is a problem that has continually plagued invasive species management programs nationally.

Factors Affecting Achievement of this Subgoal

To ensure success in bringing high priority plants and animal species under control, agencies will need to build upon the foundation of coordination and cooperation that has been established as part of their collective planning and control efforts to date. Collective efforts sufficient to manage invasive species throughout Florida will require formal agreements supporting the multi-agency approach and the formal designation of a lead agency to direct cooperative planning, project integration, and integrated budgets and resource requests. The development of the CISMA is directed at formalizing an agreement(s) among the many agencies working on invasive species within the EPA boundary. The strategies outlined in Weeds Won't Wait and other plans (e.g. ISWG) need to be integrated to expand policy setting, planning, prioritization, funding, and management to the ecosystem level.

Interface with infested landscapes. Continuing degradation of the natural environment may enhance the spread or rate of spread of exotic species. Adjacent landowners will impact the success of controlling exotics if these lands remain infested or if the landowners are not interested in land acquisition.

Importation of new exotics. The unregulated importation of new plant and animal species continues to increase the potential for infestations of exotic species.

Risk Assessment. There is an important need to be able to determine which species, both plant and animal, have the highest probability of becoming invasive in south Florida. There are a number of "risk assessments" that have been done that can serve to assist in determining "invasiveness" including species that are already naturalized but not yet invasive, and species that may be either poised to arrive in the near future or are new arrivals. Such a risk assessment tool will enable managers and scientists to prioritize species for monitoring and control.

Specific, Measurable Objectives for Achieving this Subgoal

Three objectives for achieving this subgoal have been adopted by the Task Force:

- Achieve maintenance control of Brazilian pepper, Melaleuca, Australian pine, and Old World climbing fern on south Florida's public conservation lands by 2020
- Release 2 biological control insects per year for the control of invasive exotic plants
- Achieve eradication of the Gambian pouch rat by 2012

The key projects that are currently funded and being implemented toward helping to achieve these objectives and the schedule for their implementation are shown in Strategic Plan Table 6.

Strategic Plan Table 6 – Subgoal 2-B: Control Invasive Exotic Plants and Animals

2-B Milestone Projects (Refer to Appendix A for more information about project schedules, funding, responsible agencies, etc.)			
Objective 2-B.1: Achieve maintenance control of Brazilian pepper, melaleuca, Australian Pine, and Old World climbing fern on south Florida's public conservation lands by 2020	Project ID	Project Endpoint	Project Name
	2501	2009	Monitoring the Effects of Repeated Aerial Herbicide Application on Lygodium microphyllum and Native Vegetation.
	2502	TBD	Invasive exotic plants control in terrestrial and aquatic natural systems
	2503	TBD	Invasive Species Research and Information Exchange
	2504	TBD	Develop and implement a FWS Florida Invasive Species Strike Team
	2505	2026	C&SF: CERP- Melaleuca Eradication and other Exotic Plants (Formerly Project ID 2602) (CERP Project WBS #95)
	2506	TBD	Everglades National Park Exotic Control Program (Formerly Project ID 2604)
	2507	TBD	Hole-in-the-Donut (Formerly Project ID 2606)
	2508	TBD	Aquatic and Upland Invasive Plant Management
Objective 2-B.2: Release 2 biological control insects per year for the control of invasive exotic plants	Project ID	Project Endpoint	Project Name
	2601	TBD	Casuarina Biological Control Agents
	2602	TBD	Melaleuca Biological Control Agents
	2603	TBD	Lygodium Biological Control Agents
Objective 2-B.3: Achieve eradication of Gambian pouch rat by 2012	Project ID	Project Endpoint	Project Name
	2700		Eradication of Gambian Pouch Rat
COMPLETED PROJECTS			
	2604	2004	Estero Bay Aquatic Preserve and Buffer Reserve Enhancement and Exotic Removal Project
	2701	2004	Melaleuca Quarantine Facility

GOAL 3: FOSTER COMPATIBILITY OF THE BUILT AND NATURAL SYSTEMS

Balmy weather, vibrant communities, beautiful scenery, and abundant natural habitats at the land/sea interface offer south Florida residents a unique choice of lifestyles and visitors a variety of destinations. The diversity of landscapes, including some of the most intensively developed and densely populated areas in the state, has contributed to the economic success and high quality of life enjoyed by Floridians and experienced by visitors from around the world.

This lifestyle has not come without a price. Tremendous population growth and the subsequent need for developable land and related infrastructure and public services has resulted in adverse impacts on

natural ecological systems. These impacts include loss of marine, wetland, and upland habitat, severe drawdown of freshwater resources, intrusion of saltwater into freshwater aquifers, loss of open space, and degradation of water quality. The rapid rate and volume of growth and the accompanying sprawl development patterns have reduced the spatial extent and vitality of the natural system. Its declining health has become more apparent as symptoms of stress have developed in the South Florida Ecosystem. This imbalance, further complicated by hurricanes and drought, has caused state, local, regional, and national decision-makers and citizens to focus on addressing the unintended consequences of growth.

A consensus-building exercise in 1999 with broad public input identified a list of statements that Task Force participants used as a foundation to develop the Task Force *Strategy*. Based on that consensus, the compatibility of the built and natural systems will be achieved when the following conditions are met: The people of south Florida understand the connections between a healthy environment and a healthy community. Development patterns—development, redevelopment, and infrastructure—are complementary to ecosystem restoration and compatible with a restored natural system. Development practices support conservation of significant and special natural areas and reduce habitat fragmentation. Flood-protection level of service and water resources are maintained at existing levels, or augmented where appropriate. The quality of life of people in south Florida is enhanced through the ability to reside in areas with fishable, drinkable, and swimmable water and clean air. Parks, open space, recreation lands, blueways, greenways, and roadways are compatible with and complementary to getting the water right and enhancing and preserving the natural system. Land, water, wastewater, and transportation planning are coordinated and supportive of ecosystem restoration. Agriculture is an environmentally and economically sound component of the landscape, consistent with ecosystem restoration. In agricultural and urban areas, stormwater and wastewater are reclaimed when possible. The ecosystem is not damaged by improper disposal of wastes.

The same issues that are critical to the natural system—getting the water right and restoring, preserving, and protecting diverse habitats and species—are equally critical to maintaining a high quality of life for south Florida’s residents. Like the future of south Florida’s natural systems, the future of its human communities is dependent on getting the water right. The appropriate quantity, quality, timing, and distribution of water is essential to meeting the future water supply needs generated by projected population growth and by continuing economic productivity, most notably in tourism and agriculture (the two largest sectors of the economy). The overriding issue is not who gets the water, the natural system or the built system, but how to fulfill all water needs by ensuring that what is built can be adequately supported within the parameters of a healthy natural

system. Failure to achieve this compatibility would likely be detrimental for both future residents and the environment. Recognizing this relationship, the State of Florida’s guiding water resources statute, Chapter 373.016, in the Declaration of Policy, promotes the availability of sufficient water for all existing and future reasonable-beneficial uses and natural systems.

Similarly, to maintain a high quality of life for south Florida’s residents, the built environment must be planned and managed in a manner that both supports the social and economic needs of communities and is compatible with the restoration, preservation, and protection of natural habitats and species. This will require development patterns, policies, and practices that serve both built and natural systems. Chapter 163, Part II, F.S., the Local Government Comprehensive Planning and Land Development Act, further recognizes this relationship. Urban, suburban, and rural development utilizes lands that would otherwise be available, whether through protection, conservation, or acquisition, to support natural system functioning. To the extent that development patterns in these areas are sensitive to the critical needs of both community residents and the natural system, south Florida’s communities can be a sustainable part of a healthy ecosystem.



Land suitable for development and human habitation will continue to require considerable flood protection, since without such protection most of south Florida would be unsuitable for existing urban and agricultural uses. Given the population growth projections for south Florida, there will be an ongoing need for monitoring and balancing the flood-protection needs of urban, natural, and agricultural lands as part of restoration.

Providing sufficient water resources, using and managing land, and maintaining and improving flood

protection—all in a manner compatible with restoration of the South Florida Ecosystem—are important subgoals for fostering compatibility of the built and natural systems. Land use planning, flood control, environmental regulation, and similar activities needed to accomplish these subgoals are primarily the responsibility of the tribal, state, regional, and local governments in Florida. These government agencies must function within the authorities and appropriations for programs and activities established by the Florida Legislature and the local elected governing bodies. Constitutionally protected private property rights and the freedom of movement of the American people are also factors that affect growth and development patterns in Florida.

The Task Force members recognize that these factors affect implementation of the restoration *Strategy* and achievement of the strategic goals. Efforts to achieve goal three must incorporate a process to address concerns of environmental justice and economic equity. The unique cultural and ethnic diversity of south Florida's population, with its strong representation of peoples from all over the world, will require significant efforts on behalf of the restoration partners to ensure that projects are implemented in ways that do not result in disproportionate impacts on any communities. Additional targeted efforts will be required to provide opportunities for socially and economically disadvantaged individuals and small businesses to participate in the implementation of restoration programs and projects. The Task Force and Working Group see this guiding principle as critical to long-term success.

Subgoal 3-A: Use and Manage Land in a Manner Compatible with Ecosystem Restoration

How This Subgoal Will Be Implemented

Compatible land use policies and practices. State, regional, and local agencies are using a variety of planning tools to foster increased compatibility of the built and natural systems. Over the past several decades Florida has enacted several pieces of legislation regarding comprehensive planning and growth management, including the Local Government

Comprehensive Planning and Land Development Regulation Act (Chapter 163, Part II, F.S.), which provide an integrated framework of planning at the state, regional, and local levels. Nevertheless, growth continues to stress both public infrastructure and the natural environment.

Recognizing the critical importance of water to both the built and natural systems, in 2002 the Florida Legislature passed a law that addresses growth management and alternative water supply. The law requires that the comprehensive land use plans of counties and cities be coordinated with the regional water supply plans of the state's five water management districts to ensure the availability of adequate water supplies. Therefore, the SFWMD was required to evaluate whether adequate water supplies existed to meet the needs of its region. Where water supply was not adequate, the SFWMD prepared regional water supply plans, identifying how water supply needs can be met for the next 20 years. The local governments that fall within the area of a regional water supply plan are required to ensure that adequate water supplies will be available to meet future demand by developing 10-year water supply facilities work plans. These work plans must include alternative water supplies, water reuse and conservation programs, and must be incorporated into the local government's comprehensive plans. Many of the region's local governments subject to this law are late in adopting their 10-year water supply facilities work plans. The Florida Department of Community Affairs (DCA) in conjunction with the SFWMD has launched an initiative to identify the delinquent local governments and provide them with support and assistance in complying with this law.

In addition, the DCA is undertaking a land use compatibility analysis for selected restoration projects. This involves a review and analysis of existing and future land use designations, including related densities and intensities, adjacent to and surrounding selected ecosystem restoration project footprints. The analysis will also address how current and potential future land uses impact, are compatible with, and/or further restoration efforts.

Chapter 163, Part II, F.S., does not specifically address Everglades protection or restoration. While attempts to amend Florida Statutes in this regard during the 2008 Legislative Session did not succeed,

the DCA is taking the initiative to identify within the boundaries of the SFWMD, the number of local governments that adopted into their local government comprehensive plans, goals, objectives, and policies to protect the Everglades and further South Florida Ecosystem restoration. It is the DCA's intent, with the assistance of the SFWMD, to encourage these local governments to address South Florida Ecosystem restoration through the comprehensive planning process as well as through any community or regional visioning initiatives.

Redevelopment of brownfields. Federal (EPA), state, regional, and local programs are contributing to the cleanup and redevelopment of contaminated and abandoned or underused sites in urban and rural areas of south Florida through the Brownfields Redevelopment Program. Actual or perceived environmental contamination in urban infill sites—along with the risks and costs associated with cleanup—is a significant barrier to redevelopment. This is an important component of Goal 3. Productive reuse of urban land helps prevent the premature development of farmland, open space, and natural areas, which furthers in restoration efforts.

The Eastward Ho! Brownfields Partnership, which includes Miami-Dade, Broward, and Palm Beach Counties, is a good example of how local, regional, state, and federal agencies are working with private nonprofit and community organizations to facilitate the redevelopment of brownfields. The partnership received a National Brownfields Showcase Community designation from the USEPA in 1998. The USEPA also has granted \$2.2 million to capitalize a brownfields cleanup revolving loan fund, which is being used to assist in the cleanup and reuse of brownfields in southeast Florida.

Since 1998, this Brownfields Partnership has been able to leverage approximately \$75 million dollars in federal, state, local, and private funding for brownfields cleanup and redevelopment activities. The redevelopment activities have created and/or retained approximately 2,000 jobs and 600 low-to-moderate income housing units.

The Brownfields Partnership has also been active in the Florida Brownfields Program, administered and implemented by the DEP. The DEP has delegated the

administration and implementation of the Florida Brownfields Program in their respective jurisdictions to Miami-Dade and Broward Counties. This streamlines the review and implementation of assessment and cleanup activities. Miami-Dade and Broward Counties are the only counties in the state of Florida to receive this delegation.

Protection of land for parks, open space, and compatible recreational uses. People's enjoyment of nature is arguably the strongest impetus for the broad public support of ecosystem restoration. Many of the cultural traditions of the residents of south Florida have been shaped by people's access to expansive wetland, upland, and marine habitats harboring abundant populations of fish, birds, and other wildlife, and to exceptionally beautiful landscapes where they could lose themselves for days or a few moments. As citizens and their governments work to restore and protect the unique South Florida Ecosystem, they must not lose sight of the importance of public access to natural areas. At the same time the public must respect the sensitivities of the natural system and ensure that their activities do not unduly stress the wildlife and the landscapes that are such an important part of their heritage.

The Task Force members are working to protect opportunities for a wide range of compatible outdoor recreational activities for all residents of south Florida and their visitors. The acquisition of rural and urban park, recreation, and other open space lands, and efforts to link these natural areas through a system of greenways, blueways, and trails, are essential to the implementation of Goal 3. So are the efforts to help ensure that agricultural lands, which provide valuable open space and wildlife habitat, remain undeveloped. Other efforts include the improvement of recreational areas with appropriate facilities (including boat ramps, off road vehicles/airboat ramps, hiking trails, and horse trails) and the management of canals to enhance fishery habitat. The work to improve the health and productivity of habitats, addressed directly by goal two and indirectly by goal one, is expected to restore a sustainable natural system that south Floridians may continue to enjoy for generations to come. Local, state, and federal efforts to ensure a variety of opportunities for people's access to this natural system are a critically important complement to this work.

Park, recreation, and other open space lands protect natural systems and/or serve as buffers between natural and built environments. They often improve water quality and help attenuate flood waters after significant storm events. Public access to these areas fosters an appreciation for the natural system. When residents of urban areas have access to natural areas and a variety of resource-based recreational opportunities, it increases the potential that they will appreciate the importance of protecting a healthy natural system.

For instance, DCA's Florida Communities Trust program provides grants to local governments to help implement the natural resource, conservation, coastal, and recreation elements of their statutorily mandated Local Government Comprehensive Plans. These grant funds are primarily used for the acquisition of community-based parks, open space, and greenways that further outdoor recreation and natural resource protection needs. In addition, many localities use grant funds appropriated by the Florida Legislature to acquire and develop land for public outdoor recreation under the DEP's Florida Recreational Development and Assistance Program.

Greenways, blueways, and trails multiply the benefits of open spaces and natural systems by linking those spaces together, and they enrich the quality of life of community residents and visitors by facilitating access to the state's natural and cultural heritage sites and by enhancing people's sense of place. In some cases, the greenway system also offers opportunities to improve the water quality of stormwater runoff by providing natural areas that help filter or uptake contaminants and diminish silt.

The DEP's Office of Greenways and Trails is working to establish a state-wide system of greenways and trails connecting communities and conservation areas. When completed, the system will connect one end of the state to the other, from Key West to Pensacola. One goal of the program is to work with land managers to add an additional 10 percent per year to the total lands designated. The criteria for a designated land or waterway are that it must (1) protect and/or enhance natural, recreational, cultural, or historic resources and (2) either provide linear open space or a hub or site, or promote connectivity between or among conservation lands, communities,

parks, other recreational facilities, cultural sites, or historic sites. The designation program encourages voluntary partnerships in conservation, development, and management of greenways and trails, provides recognition for individual components of the system and the partners involved, and raises public awareness of the conservation and recreation benefits of greenways and trails.



Protecting and preserving sustainable agriculture.

Agriculture is Florida's second leading industry, and according to the Florida Agricultural Statistical Directory 2007, Florida's agricultural industry has a total economic impact of \$97.8 billion. A large portion of agricultural land can be viewed as open space that benefits the natural system through buffering, augmentation of natural habitats, water storage and filtration, and aquifer recharge. It is of great concern that Florida is losing its farms and ranches because of declining profitability, land valuation, import/export, trade issues, immigration laws, and urban sprawl. State-wide almost 150,000 acres of productive agricultural lands are converted to other land uses each year. In the past some agricultural practices have impaired the functioning of natural systems, sometimes with adverse effects on native plants and animals, and sometimes to the detriment of the ability of the land to sustain agricultural uses over the long term. Several regulatory and voluntary programs are underway in the South Florida Ecosystem and other areas in Florida to enhance environmental quality and the natural resource base upon which the agricultural economy depends.

The Everglades Best Management Practices Program, required by the 1994 Everglades Forever Act, specifically addresses the EAA and the C-139 Basin. The program goal of achieving a 25 percent reduction

in the phosphorus load from the EAA has been met for each water year since the first full year of implementing BMPs (water years 1996 – 2003). EAA farmers have implemented a variety of practices to reduce the levels of phosphorus coming from their farms, including efficient fertilizer application, control of erosion and sediment loss, and effective stormwater management. Similar BMPs are implemented in the C-139 Basin, which is located adjacent to the EAA. The goal in this basin is to maintain phosphorus loads at or below historic levels.



The federal Farm Bill of 2002 provides several voluntary conservation programs through the USDA to assist landowners in protecting and preserving their natural resources. The USDA provides incentive payments and cost-sharing to restore, enhance, and protect degraded wetlands on agricultural lands, including the purchase of easements through the Wetland Reserve Program. The Farm and Ranch Land Protection Program (FRPP) helps farmers and ranchers keep their land in agriculture through the purchase of conservation easements in partnership with local and state governments and nonprofit entities. The Environmental Quality Incentive Program promotes agricultural production and environmental quality as compatible goals. Financial and technical assistance is provided to landowners to implement BMPs to improve water quality or enhance natural resource values. The Wildlife Habitat Incentives Program encourages the creation of high-quality wildlife habitats that support wildlife populations important to the ecosystem. Financial

assistance is provided to develop upland, wetland, riparian, and aquatic habitats on private lands. The Grassland Reserve Program helps landowners and operators restore and protect grassland, including rangeland and pastureland, while maintaining the areas as grazing lands. Implementation of these programs will contribute significantly to the strategic goals for South Florida Ecosystem restoration.

Strategies for implementing the 2001 Rural and Family Lands Protection Act. The conversion of rural lands to higher density and more intense uses is having a profound effect on Florida's ability to maintain a balance between population growth and the natural resources necessary to support that growth. The development of previously isolated rural landscapes is fragmenting and degrading the quality and character of Florida's natural and agricultural lands. The prevailing development patterns threaten the state's ability to meet the needs of its citizens through adequate delivery of services and the maintenance of an agricultural economy. Additionally, these growth patterns interrupt the natural hydrological and biological functions that support not only sustainable agriculture and healthy ecosystems, but also the quality of life enjoyed by south Floridians.

The Florida Legislature recognized the importance of maintaining a healthy agriculture industry when it passed the Rural and Family Lands Protection Act of 2001. This act authorizes the responsible agencies to develop strategies to protect rural, agricultural, and timber lands. Implementation strategies and appropriations for this effort are currently being developed, and appropriations continue to be sought for the program.

One such strategy is to secure conservation easements or protection agreements to compensate property owners for restrictions on the future use of their land. One of the biggest challenges in administering these programs is identifying economic resources to fund the program each year in a growing state struggling with many fiscal challenges. Recognizing these challenges in Florida and elsewhere, the NRCS FRPP provides matching funds to state, tribal, and local governments and nongovernmental organizations with existing farm and ranch land protection programs to purchase conservation easements that help keep land in agriculture.

Concerned with the rapid rate at which agricultural lands are being converted into an urban environment in south Florida, federal and state agriculture agencies are implementing a number of incentive programs to decrease that rate. An effort is underway to assess how much land is in productive agriculture and what kind of development pressure it is under. The DEP, DACS, and the University of Florida Institute of Food and Agricultural Sciences have been working together to implement incentive programs and to collect comprehensive data that will support efforts to retain viable and sustainable agriculture as part of the South Florida Ecosystem.

Community Understanding of Restoration Projects.

The USACE and the SFWMD coordinated an intensive public involvement process during the development of CERP, which culminated in more than 1,500 people attending 12 public meetings in the fall of 1998. The agencies remain committed to involving the public in all aspects of CERP implementation. Their *Public Outreach Program Management Plan*, completed in 2001, defines the general scope, schedules, costs, products, and funding requirements necessary for the first five years of outreach activities.

The major elements of the outreach plan are summarized below:

- *General public awareness:* Information about the CERP will be provided to the general population through media stories, participation by CERP outreach staff at community events, and distribution of informative print, electronic, and other materials.
- *Minority community outreach:* Special efforts will be made to inform and involve African-American, Haitian, and Hispanic residents of south Florida about the CERP – groups that historically have been underrepresented in environmental programs.
- *Environmental education:* Appreciation of the Everglades and other natural resources by the youth of today is extremely important because they will benefit from, and perhaps even participate in, the CERP and other related restoration efforts as adults. Curricula and teachers' guides will be developed and distributed in K-12 schools throughout the 16-county south Florida region, often in partnership with the Newspapers in Education program.
- *Small business outreach:* Many CERP components will be handled by the private sector through contracts. Outreach activities will seek to empower and enable south Florida's small businesses to do business with the USACE and its partners. Staff will proactively engage and assist small businesses through business forums, workshops, and training sessions, development of web sites, distribution of printed materials, and other means.
- *Project-level involvement:* Public workshops and public meetings will involve local residents in the development of CERP projects. This form of project specific communication is essential to the success of the CERP.

The Working Group also participates in a public-private partnership between the Task Force and the Museum of Discovery and Science. The success of this collaborative effort will result in environmental education programs, enhanced outdoor exhibitry, and an informative kiosk about the South Florida Ecosystem restoration effort, which will provide information to the half million people who visit the museum annually.

Factors Affecting Achievement of this Subgoal

Unanticipated growth. The Kissimmee Watershed is the largest and relatively least developed area that influences Lake Okeechobee and its discharges. However, in the Upper Kissimmee Basin alone, there are 32 Developments of Regional Impact (DRI) at some point in the approval process, not including developments that fall below the DRI threshold. Furthermore, urban and suburban development is now expanding onto agricultural lands in the heart of the Kissimmee Chain of Lakes Watershed. Growth patterns in that area are expected to double by the year 2025 and new transportation corridor proposals in the Upper Kissimmee Basin have the potential to make the area more favorable for future development.

In south Florida, growth is exceeding state and local government predictions. Government agencies are preparing long-term plans and setting priorities based on assumptions about levels of growth and demand for services. If the assumed rate of growth is exceeded, the ability of local governments and state agencies to protect the natural system may be reduced and South Florida Ecosystem Restoration initiatives may be compromised.

Management complexity. Fostering development patterns that are compatible with natural systems requires close coordination of multiple jurisdictions with authority over the built environment. Without such coordination, gains in compatibility on lands within one jurisdiction (in habitat connectivity, for example) might be negated by incompatible development in a neighboring jurisdiction. Because many development issues involve corridors such as roads, transit routes, or greenways that cross multiple jurisdictions, unilateral actions by individual communities are often impossible.

Coordination is also required between jurisdictions with authority over the built environment and jurisdictions with authority over natural systems. The strategic goal is compatibility, and any efforts that undermine the sustainability of either the built or the natural system could further harm the ecosystem, as described above in the Upper Kissimmee Basin discussion. Potential regulations on agriculture also pose a good example. On the one hand, any federal, state, or local agricultural policy intended to protect natural systems but that does not sufficiently provide for economic stability of the industry may result in such unintended consequences as a long-term reduction in open space and wildlife habitat as agricultural land is converted to other land uses. On the other hand, agricultural practices that degrade the natural environment may also ultimately prove catastrophic to agriculture. If awareness of and respect for these interrelationships lags behind other considerations, the success of ecosystem restoration may be delayed.

Funding. Local and regional jurisdictions will need adequate revenues and possibly supplemental funding to develop plans for a better pattern of protection by acquiring land, or less-than-fee interests in land, to link park, recreation, open space, and other significant land and water areas, and to enforce environmental regulations for the protection of those areas. Florida's current economic climate, including state budget shortfalls, reduced funding for Everglades restoration and the passage of a 2008 property tax amendment to the Florida Constitution, further amplify the need for partnerships, efficiencies, and coordination among multiple jurisdictions.

Environmental Justice. Early and sustained participation in the affairs of a community by all segments of its population is critical to the implementation of this subgoal. This may not occur unless policies and activities designed to involve all segments of the community are institutionalized so that they may continue beyond the timeline of the Task Force. Environmental ombudsmen located in restoration partner agencies would aid in getting community issues to the appropriate person and responsible agency. In addition, trained volunteers who continually improve the knowledge base of restoration in the community will be important coupled with on-going educational programs.

Specific, Measurable Objectives for Achieving this Subgoal

Five objectives for achieving this subgoal have been adopted by the Task Force:

- Prepare a land use analysis for selected restoration projects
- Designate or acquire an additional 10,000 acres of lands needed for parks, recreation, and open space to complement South Florida Ecosystem restoration through local, state, and federal programs by 2015
- Increase participation by 350,000 acres in the Grassland Reserve Program, Wetland Reserve Program, Farm and Ranch Land Protection Program, and the Environmental Quality Incentive Program to promote compatibility between agricultural production and South Florida Ecosystem restoration by 2014
- Increase the number of local governments that adopt into their comprehensive plans (goals, objectives, policies, and related strategies) - concepts compatible with South Florida Ecosystem restoration
- Increase the use of educational programs and initiatives to further the publics' and local governments' understanding of the benefits of South Florida Ecosystem restoration

The key projects needed to achieve these objectives and the schedule for their implementation are shown in Strategic Plan Table 7.

Strategic Plan Table 7 – Subgoal 3-A: Use and Manage Land in a Manner Compatible with Ecosystem Restoration

3-A Milestone Projects (Refer to Appendix A for more information about project schedules, funding, responsible agencies, etc.)			
Objective 3-A.1: Prepare a land use analysis for selected restoration projects	Project ID	Project Endpoint	Project Name
	3100	2010	Analysis of Land Use Patterns Surrounding CERP Projects
Objective 3-A.2: Designate or acquire an additional 10,000 acres of lands needed for parks, recreation, and open space to complement South Florida Ecosystem restoration through local, state, and federal programs by 2015	Project ID	Project Endpoint	Project Name
	3200	Ongoing	Florida Keys Overseas Heritage Trail (Formerly Project ID 3301)
	3201	Ongoing	Lake Okeechobee Scenic Trail (Formerly Project ID 3102)
	3202	2009	Florida Greenways and Trails Program (Formerly Project ID 3100)
Objective 3-A.3: Increase participation by 350,000 acres in the Grassland Reserve Program, Wetland Reserve Program, Farm and Ranch Land Protection Program, and the Environmental Quality Incentive Program to promote compatibility between agricultural production and South Florida Ecosystem restoration by 2014	Project ID	Project Endpoint	Project Name
	3300	2007	2002 Farm Bill (Formerly Project ID 3202)
	3301	2011	Technical Assistance to Seminole and Miccosukee Indian Reservations (Formerly Project ID 3201)
Objective 3-A.4: Increase the number of local governments that adopt into their comprehensive plans (goals, objectives, policies, and related strategies) - concepts compatible with South Florida Ecosystem restoration	Project ID	Project Endpoint	Project Name
	3400	2010	Consideration of Land Use Policies and Planning by Local Governments with the CERP
Objective 3-A.5: Increase the use of educational programs and initiatives to further the publics' and local governments' understanding of the benefits of South Florida Ecosystem restoration	Project ID	Project Endpoint	Project Name
	3502	Ongoing	USACE Outreach Program
	3503	Ongoing	SFWMD Outreach Program

Subgoal 3-B: Maintain or Improve Flood Protection in a Manner Compatible with Ecosystem Restoration

WRDA 2000 clearly states that implementation of the CERP shall not reduce levels of service for flood protection that were in existence on the date that the law was enacted and in accordance with applicable law. The Savings Clause states that CERP

environmental protection projects, including increased canal and groundwater levels, need to be accomplished in a way that does not harm flood protection.

The SFWMD operates and maintains the primary flood control and water supply system within its 16-county jurisdiction. The major portion of that system is comprised of the federally designed and constructed C&SF Project. The SFWMD operates and maintains the multi-purpose C&SF Project and projects within the Big Cypress Basin pursuant to regulation schedules and operational guidelines established by the USACE.

The C&SF Project, which was first authorized by Congress with the Flood Control Act of 1948, is multi-purposed; providing flood control, water supply for municipal, industrial, and agricultural uses, prevention of saltwater intrusion, water supply for ENP, and protection of fish and wildlife resources. Most of the originally authorized project facilities were constructed during the period from 1950 to 1972. Some modifications to the primary system have occurred since the original authorization. The primary system includes 1,969 miles of canals and levees, 160 major drainage basins, 501 major structures, and 50 pump stations.

This primary regional system is complemented by secondary and tertiary systems that are operated and managed by local governments, drainage districts established by Chapter 298 of the Florida Statutes, and private interests to ensure that the drainage and surface waters are routed to the primary drainage system.

Larger than predicted population growth and different development patterns from those projected in 1948 have, over time, challenged the ability of the primary, secondary, and tertiary drainage systems to meet the original goals of maintaining flood protection for urban and agricultural lands.

Maintaining efficiencies in a combination of primary and secondary drainage systems is needed to achieve and maintain original design flood protection planning goals for south Florida. Further modifications, updates, and upgrades are needed in many of the existing water control facilities in order to support the current restoration endpoint levels of flood protection. The CERP, as authorized by Congress in WRDA 2000, is the consensus plan that is to be used to modify and improve the C&SF Project to benefit the South Florida Ecosystem and to help provide for the water needs of the south Florida region, including water supply and flood protection.

Severe flooding occurred within areas of Miami-Dade County as a result of Hurricane Irene in October 1999 and intense rainfall in October 2000. In response to the October 2000 flood, the Executive Director of the SFWMD appointed a Recovery Task Force under the auspices of the Emergency Operations Center to develop a list of proposed flood mitigation projects for the impacted areas of Miami-Dade County. This

Task Force has recommended that mitigation projects be considered on a basin-wide basis and include improvements to both the primary and secondary stormwater conveyance systems. A Miami-Dade County Flooding Task Force, which also was created in response to these events, made recommendations that included the expeditious completion of the Modified Water Deliveries and C-111 Projects to help alleviate the flooding risk. Although none of the recommendations are designed to "flood-proof" the basins in which they are constructed, the projects should provide for increased primary system conveyance, which will then allow flood mitigation benefits from secondary system improvements provided by local communities.

In order to prevent this redistribution of water from adversely affecting existing development in the overall Modified Water Deliveries to ENP project area, several mitigation features are included in the plan. The East Everglades residential area also referred to as the 8.5 square mile area (8.5 SMA) was provided with perimeter levees and a seepage collector canal. A new pump station S-357 was constructed and will remove water from the seepage collector canal to prevent increased water levels inside the 8.5 SMA after project implementation (i.e. flood mitigation). Construction was completed in 2008 relative to flood mitigation for the 8.5 SMA (interior canal, western perimeter levee and the S-357 pump station) and all lands have been acquired in the project area. Work continues on land preparations necessary for operations.

Efforts to maintain flood protection can also impact water supply. The C&SF Project provides flood protection by discharging water into the coastal waters through canals. That water therefore is made unavailable for water supply. As flood protection is provided for the agricultural and urban areas bordering the Everglades, there is the potential for increasing the loss of freshwater supplies. Some components of the CERP are designed to decrease this loss.

Herbert Hoover Dike Rehabilitation

The Herbert Hoover Dike (HHD) system consists of approximately 143 miles of levee surrounding Lake Okeechobee, with 19 culverts, hurricane gates, and other water control structures. The first embankments around Lake Okeechobee were constructed by local

interests from sand and muck, circa 1915. Hurricane tides overtopped the original embankments in 1926 and 1928 causing over 3,000 deaths. The River and Harbor Act of 1930 authorized the construction of 67.8 miles of levee along the south shore of the lake and 15.7 miles of levee along the north shore. The USACE constructed the levees between 1932 and 1938 with crest heights ranging from +32 to +35 feet, National Geodetic Vertical Datum (NGVD).

A major hurricane in 1947 prompted the need for additional flood protection work. As a result, Congress passed the Flood Control Act of 1948 authorizing the first phase of the C&SF Project. By the late 1960's the new dike system was completed, raising the elevation of the levees to +41 feet, NGVD. That provided protection to the Standard Project Flood level, an event occurring approximately once in 935 years.

However, investigations conducted in the 1980's and early 1990's of the dike system's potential seepage and stability problems resulted in the identification of two major areas of concern: the seepage and embankment stability at the culvert locations, and the problematic foundation conditions of the dike. During high water events piping is experienced through the levee. In 1999, the USACE developed a plan to rehabilitate the HHD and the plan was approved in 2000. This rehabilitation work covers the entire dike.

How This Subgoal Will Be Implemented

Public works construction. Capital improvements, modifications, and repairs to water control and conveyance facilities will help maintain and improve flood protection. The CERP consists of numerous projects that may provide incidental improvements to flood protection while decreasing the loss of freshwater supplies. Other large-scale projects, such as the C-111 Project, consist of structural and nonstructural modifications to existing works intended in part to maintain flood protection. Opportunities to provide greater levels of flood protection or to provide flood protection in areas where there is currently no flood protection may be considered during implementation of the CERP, provided that the greater level of protection or the provision of new flood protection is consistent with the goals and purposes of the CERP and is economically justified.

Additional flood protection is provided by projects partially funded by the Federal Emergency

Management Agency (FEMA), including the C-4 Basin Flood Mitigation Project. This project, which was completed in 2007 and is administered by the SFWMD, will improve canals in the C-4 basin and provide storage in an emergency water impoundment to hold excess canal water when canals reach critical capacity.

Nonstructural flood protection. Numerous nonstructural options for flood protection exist for the built environment. These include, but are not limited to, ensuring that new construction meets FEMA guidelines, land use planning to guide development away from flood-prone areas, and acquiring undeveloped lands from willing sellers.

Long-Term Operations and Maintenance Needs

The SFWMD implements an ongoing Canal Conveyance Capacity Program to evaluate the maintenance, dredging, and bank stabilization requirements of the C&SF Project. This program is intended to restore the original design capacity of the canals as constructed. The SFWMD's Capital Maintenance Program evaluates and implements refurbishment and/or replacement of existing water control structures and pumping stations that have reached the end of their design life. Exotic and aquatic plant control, through herbicidal, mechanical, and biological control methods, is another means of ensuring that conveyance capacity within canals and water bodies is maintained to their original capacity.

Factors Affecting Achievement of this Subgoal

Unanticipated growth. Population growth and changes in land use, especially if different from what is projected, will continue to affect the capability of state and federal agencies to provide flood protection for natural, urban, and agricultural lands. Land conversions to different uses are particularly stressful to the flood protection system, since the flood protection requirements may vary greatly among different uses.

The increase in developed areas to accommodate population growth within the drainage basin of the C&SF Project may increase surface runoff, lowering the level of service for flood protection and increasing the intensity and duration of floods.

Funding. Continued financial support from Congress and the Florida Legislature will be necessary to complete projects for timely achievement of flood protection goals.

Specific, Measurable Objectives for Achieving this Subgoal

Two objectives for achieving this subgoal have been adopted by the Task Force:

- Maintain or improve existing levels of flood protection for the urban, agricultural, and natural environments
- Rehabilitate the Herbert Hoover Dike to provide adequate levels of flood protection to the communities and lands surrounding Lake Okeechobee

The key projects needed to achieve this objective and the schedule for their implementation are shown in Strategic Plan Table 8.

Strategic Plan Table 8 – Subgoal 3-B: Maintain or Improve Flood Protection in a Manner Compatible with Ecosystem Restoration

3-B Milestone Projects (Refer to Appendix A for more information about project schedules, funding, responsible agencies, etc.)			
Objective 3-B.1: Maintain or improve existing levels of flood protection for the urban, agricultural, and natural environments	Project ID	Project Endpoint	Project Name
	3600	2013	C-4 Basin Flood Mitigation Projects
	1300	2014	Canal 111
Objective 3-B.2: Rehabilitate the Herbert Hoover Dike to provide adequate levels of flood protection to the communities and lands surrounding Lake Okeechobee	Project ID	Project Endpoint	Project Name
	3700	2025	Herbert Hoover Dike Rehabilitation

Subgoal 3-C: Provide Sufficient Water Resources for Built and Natural Systems

The State of Florida has statutory goals and responsibilities to ensure an adequate supply of water for protection of the natural system and for existing and future “reasonable-beneficial” potable, industrial, and agricultural uses. For protection of the natural system, Florida law directs the SFWMD to set minimum flows and levels (MFLs) to prevent significant harm to water resources. MFLs have been established for ENP, the WCAs, Lake Okeechobee, and the northern Biscayne aquifer (except that portion of the aquifer located in southern Miami-Dade County). MFLs also have been established for the Caloosahatchee River and Estuary, Lake Istokpoga, the Lower West Coast Aquifer System, the St. Lucie River and Estuary, and the Northwest Fork of the Loxahatchee River.

WRDA 2000 (attached as Appendix D) requires water reservations for the protection of fish and wildlife in

natural systems pursuant to state and federal laws associated with implementation of the CERP. Additionally, WRDA 2000, through the Savings Clause, prohibits the elimination or transfer of existing legal sources of water until a new source of water supply of comparable quantity and quality as that available on December 11, 2000 is available to replace the water that will be lost as a result of CERP implementation.

How This Subgoal Will Be Implemented

As water storage and other water supply related projects and programs are implemented, reliable sources of water identified for human supplies will become available to meet projected demands on a regular basis. The potential for water shortages will be reduced as projects are completed.

Restoration partners support the state’s strong commitment to achieving its water supply goals through a variety of additional state and local efforts. Some of these efforts are reflected under other strategic goals and subgoals. Efforts unique to this subgoal are described below.

Implement a process of reserving water through time that will meet the needs of the natural system. WRDA 2000 requires the State of Florida to reserve the water generated by the CERP and needed for Everglades restoration. The SFWMD, consistent with its water management responsibilities, is working to fulfill that commitment.

The SFWMD will also identify existing water supplies for the protection of fish and wildlife for key natural systems (e.g. Everglades, WCAs, and estuaries). This will provide information needed to make future decisions about consumptive use permits. The SFWMD Governing Board has developed guiding principles for reviewing permit applications dependent upon C&SF Project deliveries and recharge to ensure consistency with the CERP. These will complement the “B” list consumptive use permitting rules that limit permit durations for increased withdrawals that affect the regional system water supplies. This document was accepted by the SFWMD Governing Board in June 2003. Guidance Memoranda, required by the Federal Programmatic Regulations, are being developed which further detail the process and methodology for identifying water to be managed and reserved for the natural system.

Implement the recommendations of the 2002 Water Conservation Initiative Report. The SFWMD is updating the 1993 Water Conservation Rule for Public Water Supplies to bring Rule 40E-2, F.A.C. Basis of Review for Water Conservation in line with Chapter 62-40, F.A.C. at the request of the DEP. The rule will establish a goal-based water conservation approach for water utilities. An analytical web-based tool has been developed by the DEP and the water management districts to assist utilities in creating water conservation plans, which through the new rule will become part of the utility's consumptive use permit. These plans will be designed to be both cost effective and tailored to the use characteristics of the individual utility's service area. The rule will enhance the SFWMD's ability to achieve efficient levels of water use and enhance other ongoing conservation efforts focused on public outreach, cooperative grant funding, and technical assistance.

Implement and update regional water supply plans. Regional water supply plans with twenty-year planning horizons, which reassess base assumptions and current technologies every five years, have been

completed for each of the four SFWMD regional water supply planning areas: Lower East Coast, Upper East Coast, Kissimmee Basin, and Lower West Coast. The goal of each plan is to meet the water supply needs of the region during a one-in-ten-year drought while not causing harm to the environment. The water supply plans include strategies for (1) increasing supply for natural systems and the human population through water resource development projects, (2) promoting the use of alternative water supply sources and conservation, (3) protecting water quality at the source of supply, (4) accurately reflecting limitations of the available groundwater or other available water supplies in plans for future growth and development, (5) increasing the available water supply, and (6) protecting natural systems from harm through the consumptive use permitting process, from significant harm through establishment of minimum flows and levels, and from serious harm through proper implementation of water shortage plans.

Improve water conservation and reuse. The SFWMD regional water supply plans outline the planning and permitting efforts needed to encourage water conservation and lower consumptive use rates over time. Strategies to improve conservation and reuse incorporate different approaches for public, commercial, landscape, and agricultural consumers. These strategies include limits on the time of day irrigation is allowed, inverted rate structures, xeriscape landscaping using native plants, establishment of mobile irrigation labs, grants to implement conservation projects, and feasibility analyses for using reclaimed water. A strong public education program supports these strategies.

Increase water resources through alternative water supply development and water resource development projects. The SFWMD has implemented programs with goals to increase the amount of available water. These programs have been in place for some time and are often in addition to the projects in the CERP. The Alternative Water Supply Development Program awards grants to local water providers to develop additional water supply through alternative technologies. Through its Water Resource Development Projects, the SFWMD attempts to increase the regional water resources available for natural and built environment needs.

Establish minimum flows and levels for priority water bodies. The SFWMD is working to establish minimum flows and levels for priority water bodies according to the annual DEP approved schedule. This will improve the efficiencies of delivering water and maximizing available resources.

Factors Affecting Achievement of this Subgoal
Unanticipated growth. If population growth and/or water used for irrigation exceed projections, variations in growth projections will be incorporated into the five-year updates of the regional water supply plans.

Funding. Adequate funding will be required to accomplish water storage and other water supply related projects. Likewise, adequate funding of public outreach and education will be critical to achieving water conservation strategies and reduced consumption rates. Efforts to encourage partnerships

that promote and enhance local government programs to develop and implement alternative water supply resources will be important to achieving water supply goals.

Specific, Measurable Objectives for Achieving this Subgoal

Three objectives for achieving this subgoal have been adopted by the Task Force:

- Plan for regional water supply needs
- Increase volumes of reuse on a regional basis
- Increase water made available through the state’s Water Protection and Sustainability Program and the SFWMD Alternative Water Supply Development Program

The key projects needed to achieve these objectives and the schedule for their implementation are shown in Strategic Plan Table 9.

Strategic Plan Table 9 – Subgoal 3-C: Provide Sufficient Water Resources for Built and Natural Systems

3-C Milestone Projects (Refer to Appendix A for more information about project schedules, funding, responsible agencies, etc.)			
3-C.1: Plan for regional water supply needs	Project ID	Restoration Endpoint	Project
	3800	2008	Regional Water Supply Plans (Formerly Project ID 3704)
3-C.2: Increase volumes of reuse on a regional basis	Project ID	Restoration Endpoint	Project
	3900	2025	C&SF: CERP – South Miami-Dade County Reuse (CERP Project WBS #98) (Formerly Project ID 3800)
	3901	2025	C&SF:CERP – West Miami-Dade County Reuse (CERP Project WBS #97) (Formerly Project ID 3801)
	3902	2020	C&SF: CERP Wastewater Reuse Technology Pilot (CERP Project WBS #37) (Formerly Project ID 3802)
3-C.3: Increase water made available through the State’s Water Protection and Sustainability Program and the SFWMD Alternative Water Supply Development Program	Project ID	Restoration Endpoint	Project
	4000	Ongoing	Alternative Water Supply Grant (Formerly Project ID 3900)

Linkages between Strategic Work Efforts and Ecosystem Restoration

The Task Force members measure progress on two complementary scales: (1) scales that measure the satisfactory completion of work and (2) scales that measure ecosystem health (in terms of either stressors, ecological conditions, or other water-related needs). Using these two metrics the Task Force distinguishes between factors that are within people's capability to manipulate and control (the strategic goals, subgoals, and objectives) and those that result from the responses of natural systems (indicators and restoration endpoints) to the Task Force agencies' efforts.

No exclusive linkage exists between any one strategic goal or objective (let alone, any one specific project) and any one indicator of ecological conditions. Efforts on many fronts will be necessary to restore and sustain a healthy ecosystem, which will then be manifested through a myriad of species and processes. However, positive correlations are expected between individual indicators of ecological conditions and groups of projects designed to eliminate or mitigate stressors that are detrimental to those indicators. Some of these relationships were charted in a table in the 2004 Strategy. This table will be reviewed following the 2008 update of the System-wide Indicators.

The Task Force believes that the ecosystem will respond with improved health and vigor to efforts to reverse disruptive human influences. Due to the complexity and large scope of this effort, the agencies

involved in restoration continue to improve their understanding of how restoration will occur. This understanding is critical to the ability to accurately assess the major stressors on the various components of the ecosystem and consider how the physical improvements expected to result from projects designed to eliminate or mitigate stressors will affect ecological conditions and other water-related needs. Relationships between projects and the elimination or mitigation of stressors will be more direct than relationships between projects and resulting ecological conditions; however, even these relationships cannot yet be accurately predicted with current ecological models.

The monitoring and assessment complexities cited above pose challenges, but the monitoring conducted to date has provided good information that has been useful in assessing the success of early restoration efforts. For example, in response to the reestablishment of more natural flow characteristics in the Kissimmee River, accomplished through the implementation of the Kissimmee River Restoration Project, wetland vegetation, particularly broadleaf marsh species and buttonbush, is rapidly expanding within the re-flooded floodplain. Recent observations indicate that the reconstructed section of river channel has received increased use by wading bird species, particularly snowy egrets, white ibis, tricolored herons, wood storks, and black crowned night herons. Other notable bird observations in this region include roseate spoonbills and whooping cranes. This is one localized and general example of how the ecosystem is responding to work efforts that eliminate or mitigate disruptive human influences.

South Florida Ecosystem Restoration Timeline

by project completion date

1985 through 2010



- Babcock Ranch
- Dupuis Reserve
- Nicodemus Slough
- South Fork of the St. Lucie River
- Yamato Scrub
- Kissimmee Prairie
- Lake Walk in Water
- Corkscrew Regional Mitigation Bank
- Tibet Butler Reserve
- Loxahatchee River Land Acquisition
- Modified Water Deliveries to ENP

- Frog Pond - natural lands
- Cayo Costa
- Hobe Sound National Wildlife Refuge
- East Everglades Addition to ENP
- Kissimmee River - lower basin
- Kissimmee River - upper basin
- Big Cypress National Preserve Addition
- Crocodile Lake National Refuge
- Florida Keys National Wildlife Refuge Complex
- J.N. "Ding" Darling National Wildlife Refuge
- A.R.M. Loxahatchee National Wildlife Refuge



- Seminole Tribe Comprehensive Surface Water Management System for Brighton Reservoir
- Ten Mile Creek

Legend



Surface Water Storage



Sheet Flow



Water Quality



Wildlife Habitat



Exotic Species Control



Aquifer Storage



Coral Reef Protection

2010 through 2015



- Lake Okeechobee Watershed
- Everglades Agricultural Storage Reservoir Phase I and II
- STA-1E/C-51 West
- C-43 Basin Storage Reservoir
- Site 1 Impoundment



- Broward County WPA, C-9 STA/Impoundment & Western C-11 Impoundment & Canal & WCA 3A/3B Levee Seepage Management
- Loxahatchee Impoundment Landscape Assessment
- Southern Golden Gates Estates
- Kissimmee River Restoration

2015 through 2020



- Florida Keys Tidal Restoration
- WCA-3 Decomp & Sheetflow Enhancement



- Wastewater Reuse Pilot Project
- Everglades National Park Seepage Management
- Palm Beach County Agricultural Reservoir & ASR

2020 through 2040



- Indian River Lagoon South, C-23/C-24/C-25/Northfork & Southfork Storage Reservoirs & C-44 Basin Storage Reservoir
- Central Lake Belt Storage Area
- North Lake Belt Storage Area



- Central Lake Belt Storage Area



- Melaleuca Eradication Project & Other Exotic Plants



- STA-1 West Works
- STA-2 Works
- STA-5 Works
- STA-3/4
- Lake Okeechobee Water Retention/Phosphorous Removal



- Estero Bay Aquatic Preserve



- Dry Tortugas National Park General Management Plan
- Planning & Implementation of the Tortugas Ecological Reserve



- Modified Water Deliveries to ENP
- Canal 111
- Southern CREW



- Modified Water Deliveries to ENP
- Canal 111



- Site 1 Impoundment



- Total Maximum Daily Load (TMDL) Program
- Lake Okeechobee Watershed
- Broward County WPA, C-9 STA/Impoundment & Western C-11 Impoundment & Canal & WCA 3A/3B Levee Seepage Management



- North PBC PIR Part 1
- Caloosahatchee Backpumping
- Big Cypress/L-28 Interceptor
- Henderson Creek/Belle Meade



- Florida Keys Tidal Restoration
- WCA-3 Decomp & Sheetflow Enhancement



- Palm Beach County Agricultural Reservoir ASR
- North Palm Beach County Part 2



- Pineland & hardwood hammock restoration in C-111 Basin



- Lake Okeechobee Aquifer Storage & Recovery

Wildlife Habitat Projects
(completion date to be determined)

- Allapattah Flats/Ranch
- Atlantic Ridge Ecosystem
- Belle Meade
- Big Cypress National Preserve Private Inholdings
- Big Bend Swamp/Holopaw Ranch
- Biscayne Coastal Wetlands
- Biscayne National Park
- Bombing Range Ridge
- Caloosahatchee Ecoscape
- Catfish Creek
- Charlotte Harbor Estuary/Flatwoods/Cape Haze
- Corkscrew Regional Watershed
- Coupon Bight/Key Deer Big Pine Key
- Cypress Creek/Loxahatchee
- Cypress Creek/Trail Ridge
- Devils Garden
- Estero Bay
- East Coast Buffer/Water Preserve Areas
- Fakahatchee Strand
- Fisheating Creek
- Florida Keys Ecosystem
- Half Circle L Ranch
- Indian River Lagoon Blueway
- Juno Hills/Dunes
- Jupiter Ridge
- Kissimmee - St. John Connector
- Kissimmee River (lower basin)
- Kissimmee River (upper basin)
- Lake Marion Creek and Reedy Creek Management Area
- Lake Wales Ridge Ecosystem
- Loxahatchee Slough
- Miami-Dade County Archipelago
- North Key Laro Hammocks
- Model Lands
- North Fork St. Lucie River
- Okaloacoochee Slough
- Okeechobee Battlefield
- Osceola Pine Savannas
- Pal-Mar
- Panther Glades
- Paradise Run
- Lake Hatchineha Watershed/Parker Poinciana
- Pineland Site Complex
- Ranch Reserve
- Rookery Bay
- Rotenberger/Holey Land Tract
- Shingle Creek
- Six Mile Cypress
- South Savannas
- Southern Glades
- Southern Golden Gate Estates - Picayune Strand
- Ten Mile Creek
- Twelve Mile Slough
- Water Conservation Areas 2 and 3





Tracking Success

July 2006 - June 2008 Biennial Report of the South Florida
Ecosystem Restoration Task Force

Biennial Report Background and Purpose

Activities, Priorities, Policies, Strategies, Plans,
Programs, and Projects: July 2006 Through June 2008

Measuring Progress Toward Restoration

BIENNIAL REPORT BACKGROUND AND PURPOSE

Background

The Water Resources Development Act (WRDA) of 1996 established the intergovernmental South Florida Ecosystem Restoration Task Force (Task Force). The Task Force consists of fourteen members from four sovereign entities: seven federal agency representatives at the assistant secretary or equivalent level, five state representatives, and two Native American Indian representatives. Among other duties, WRDA 1996 requires the Task Force to:

- Coordinate the development of consistent strategies, policies, projects, and programs to address the restoration, preservation, and protection of the South Florida Ecosystem
- Exchange information on Everglades restoration efforts
- Coordinate scientific research
- Facilitate the resolution of interagency and intergovernmental disputes
- Facilitate participation by the public

The Task Force facilitates the coordination of conservation and restoration efforts implemented through a combination of federal, state, local, and tribal initiatives in south Florida. The Comprehensive Everglades Restoration Plan (CERP) is the single largest initiative. The Programmatic Regulations for the CERP require consultation with the Task Force on specific program and project activities. The Task Force also provides opportunities to improve cohesion among public interest groups on the disparate elements and programs of the South Florida Ecosystem restoration (land acquisition and conservation, water quality improvement, water infrastructure development, and habitat protection). The intergovernmental Task Force is the only forum that provides strategic coordination and a system-wide perspective to guide the separate restoration efforts being planned and implemented in south Florida.

A Working Group and Science Coordination Group (SCG) have been established to assist the Task Force in accomplishing its duties. The SCG supports the Task Force in its efforts to coordinate the scientific aspects of restoration of the South Florida ecosystem. The SCG's primary task is continually documenting and supporting the programmatic-level science and other research through updates and implementation of the Task Force's Plan for Coordinating Science. To

enhance the integration of science and management, the SCG includes both senior managers and scientists.

The Working Group assists the Task Force in its efforts to coordinate the development of consistent policies, strategies, plans, programs, projects, activities, and priorities addressing the restoration, preservation, and protection of the South Florida Ecosystem. It also prepares draft coordination documents for Task Force review. The Working Group establishes issue based teams and regional coordination teams as necessary to address specific issues and to facilitate regional coordination in specific areas. The current active teams are listed in the following paragraphs. Advisory groups, such as the Water Resources Advisory Commission (WRAC), provide the Task Force with recommendations on specific issues.

Issue Based Teams

The Noxious Exotic Weed Task Team (NEWTT) coordinates the implementation of the Working Group Assessment and Strategic Plan for managing invasive exotic plants in south Florida.

The Florida Invasive Animal Task Team (FIATT) helps organize, coordinate, and plan for invasive exotic animal issues of interest to the restoration initiative and serves in an advisory capacity to member organizations and institutions.

The Land Acquisition Task Team develops the annual updates to the land acquisition strategy. It describes the lands identified jointly by federal and state agencies for ecosystem restoration, and with its appendices, provides a broad picture of all land acquisition initiatives that contribute to the restoration.

Regional Restoration Coordination Teams

The Biscayne Bay Regional Restoration Coordination Team provides a forum for public involvement and outreach for activities, programs, and projects affecting Biscayne Bay. The team consists of members representing public interests and agencies. The team has developed an Action Plan for improving the health of Biscayne Bay through coordination and cooperation of the members of the team. The team serves as the principle advisory body to the Working Group on Biscayne Bay.

The Southwest Florida Regional Restoration Coordination Team integrates, coordinates, and evaluates the southwest region's environmental restoration activities, and makes recommendations to the Working Group as appropriate. Additionally, the team promotes public outreach and involvement. The team serves as the principle advisory body to the Working Group on southwest Florida.

Advisory Groups

The South Florida Water Management District (SFWMD) Governing Board appointed the 48-member WRAC in March 2001 to provide a forum for discussion of Everglades restoration and critical water resource issues in south Florida and to provide consensus recommendations to the Governing Board. The Task Force designated the WRAC as a public interest advisory body in 2002. The WRAC has met every month, except for the month of August, since its creation and has met annually with the Task Force to discuss issues of mutual interest. In addition, the Governing Board has appointed a WRAC Lake Okeechobee Committee, which meets monthly, and the WRAC also hosts "Issues Workshops" each month on a wide variety of water resource, water supply, and South Florida Ecosystem restoration topics. Recommendations from the issues workshops are made to the full WRAC.

Purpose

This report summarizes the activities, priorities, policies, strategies, plans, programs, and projects of the Task Force for the reporting years July 2006 – June 2008.¹ WRDA 1996 directs the Task Force to report to the Congress biennially on:

- The activities of the Task Force for the reporting years
- Activities, priorities, policies, strategies, plans, programs, and projects planned, developed, or implemented for South Florida Ecosystem restoration
- Progress made toward restoration

The *Biennial Report of the South Florida Ecosystem Restoration Task Force (Biennial Report)* documents activities and progress and describes how funds are targeted for restoration. It satisfies the WRDA 2000 requirements by providing the following information: First, it summarizes the activities and major accomplishments of the reporting period in terms of the activities, priorities, policies, strategies, plans, programs, and projects that were developed or conducted to carry out the specific strategic goals and objectives adopted by the Task Force members and the Task Force. Second, it tracks the progress made toward restoration during the reporting period in terms of selected measurable indicators of ecosystem health.

The indicators of success tracked in previous biennial reports have been revised and are outlined in this document.

This *Biennial Report* is intended for four principal audiences:

- United States Congress
- Florida Legislature
- Seminole Tribe of Florida
- Miccosukee Tribe of Indians of Florida

This information and other reports are broadly shared with state and federal agencies, local governments, regional agencies, industries, private interest groups, and private citizens interested in South Florida Ecosystem restoration and will be made available on its website: http://www.sfrestore.org/documents/work_products.html.

¹ The Task Force member agencies operate within various fiscal year periods. All the federal agencies and the South Florida Water Management District operate within a fiscal year that begins on October 1 and ends on September 30 of each year. The State of Florida agencies operate within a fiscal year that starts on July 1 and ends on June 30 of each year. Any annual dollar amounts included in this report apply to each agency's fiscal year. Pertinent footnotes are provided for these data.

ACTIVITIES, PRIORITIES, POLICIES, STRATEGIES, PLANS, PROGRAMS, AND PROJECTS: JULY 2006 THROUGH JUNE 2008

Intergovernmental Coordination

The Task Force documents the major aspects of its intergovernmental coordination efforts through a number of reports that are described below. Additional coordination efforts include regular meetings of the Task Force, Working Group, and advisory teams, and field trips that provide an experiential view of ecosystem restoration.

Coordination Reports

Strategy - Coordinating Success. Strategy for Restoration of the South Florida Ecosystem provides a comprehensive discussion of the principles and strategies adopted by the Task Force, along with the major plans, programs, and projects of the various Task Force member agencies. Prepared every two years the *Strategy* identifies strategic goals, subgoals, and measurable objectives that have been adopted by the Task Force member agencies, along with schedules for their accomplishment. It also outlines how progress will be measured through a suite of System-wide Indicators.

Biennial Report - Tracking Success. The Biennial Report summarizes the major activities of the Task Force and its members during the past two years. It describes progress made toward each strategic goal and objective during the two-year reporting period and assesses the status of the System-wide Indicators.

Integrated Financial Plan. Each year the Task Force publishes an *Integrated Financial Plan (IFP)* which provides individual project sheets for each of the federal, state, tribal, and local restoration projects that contribute to the accomplishment of the vision, goals, subgoals, and objectives of the Task Force.

Land Acquisition Strategy. The Task Force publishes an annual Land Acquisition Strategy that describes the strategy for land acquisition needed for ecosystem restoration projects that are funded in part or wholly by the federal government. Along with the appendices it provides a broad picture of all land acquisition initiatives that contribute to the restoration.

Plan for Coordinating Science. The Task Force prepares a biennial *Plan for Coordinating Science*

(PCS). This plan documents the framework for coordinating science at a strategic meta-agency level, pulling science activities together to enhance agency coordination and cooperation, and communicates strategic level science priorities and system-wide assessments for restoration success.

Coordination Meetings

The Task Force and its subgroups conducted 54 meetings for the purpose of intergovernmental coordination during the reporting period. To promote dynamic interaction at Task Force meetings, agendas and read ahead materials are distributed to the members and posted on the Task Force website (www.sfrestore.org) two weeks in advance of each meeting. Access to agendas and handouts from previous meetings as well as current and historic documents are available on the website. Task Force agendas include a short synopsis of the purpose, objectives, and key issues for each agenda item. Written evaluation forms for each Task Force meeting are used to improve the next meeting.

During the reporting period the Task Force undertook a comprehensive review of the strategic subgoals and objectives. The review was conducted by the Working Group to update areas of the strategic goals that have evolved due to advances in restoration science or technology and to better capture programs and policies within the goal three areas. The review was conducted in an open and transparent process with broad input from the public and the WRAC. The Task Force adopted the revised subgoals and objectives in December 2007.

In accordance with the Programmatic Regulations the U.S. Army Corps of Engineers (USACE) consults with the Task Force on CERP projects and programmatic requirements. Project consultation with the Task Force generally takes place at three stages in the development of a Project Implementation Report (PIR): the scoping phase, the development of alternatives phase, and during the final draft PIR. The Task Force has delegated the scoping and alternative formulation consultations to the Working Group. The following consultations took place during the reporting period: Interim Goals and Targets, Lake Okeechobee Watershed PIR (Alternative Formulation Briefing

[AFB]), Melaleuca Eradication and Other Exotic Plants PIR (Scoping), C-43 PIR, ENP Seepage Management PIR (Scoping), L-31/L-30 Seepage Management Draft Pilot Project Design Report, Winsberg Farms Wetlands Restoration Draft PIR, and C-111 Spreader Canal PIR (AFB). In addition to these project specific consultations, programmatic guidance consultations occurred regarding the development of the Integrated Delivery Schedule and Guidance Memoranda.

Field Trips

During the reporting period the Task Force began organizing field trips before each meeting. These trips are designed to provide the members and the public with first hand observations of key elements of the ecosystem, projects, and their role in accomplishing restoration goals and objectives. The field trips cover a diverse array of locations, issues, and conditions to inform future decision-making on Task Force issues. Six field trips took place during the reporting period.



The Task Force field trip in March 2007 highlighted the Kissimmee River Restoration Project. The pontoon boat tour of a restored portion of the river illustrated how the project will help accomplish Goal 1 by removing impediments to flow and benefit Goal 2 by restoring floodplain wetlands. In May 2007, the Task Force visited the Everglades Agricultural Area which covers portions of Palm Beach, Martin, Hendry, and Glades Counties. Several projects are underway or planned that focus on water storage and water quality (Goal 1). The September 2007 field trip discussed several restoration projects in western Miami-Dade County that focus on the distribution of water (Goal 1), including Modified Water Deliveries to Everglades National Park (ENP) and the Tamiami Trail. An up close encounter with a large, recently captured Burmese python highlighted the challenge of removing invasive exotic species from the ecosystem (Goal 2). The December 2007 field trip highlighted Biscayne Bay and provided an overview of the

natural systems and management challenges (Goals 1, 2, and 3) faced by Biscayne National Park and the Biscayne Bay Aquatic Preserve. The March 2008 Lake Okeechobee and Herbert Hoover Dike field trip reiterated how the lake's health and management are key to restoration of the entire South Florida Ecosystem. Its 730 square miles provide fresh water (Goal 1), habitat (Goal 2), and recreational opportunities (Goal 3). The field trip in May 2008 focused on the water quality benefits of stormwater treatment areas including the roles and applications of scientific research and periphyton (Goal 1).

Coordination of Strategic Science Issues

The restoration of the South Florida Ecosystem involves a large and complex combination of initiatives intended to return the degraded ecosystem to a more natural and sustainable condition. This large interwoven complex of restoration programs and projects requires a long-term process that involves the resolution of innumerable scientific, engineering, management, and policy issues. Continual improvements are needed in plans and designs that incorporate new information, science, and lessons learned as restoration progresses.

Congress established the Task Force to coordinate this complex mix of programs and projects being planned and implemented by the various federal, state, and tribal organizations. Most Task Force member organizations have science programs that may operate both individually and collectively to provide technical information to support restoration decisions aligned with Task Force goals.

The Task Force established the SCG to help it coordinate science and research at a meta-agency level. Good management decisions require a sound scientific understanding of the ecosystem. To enhance the integration of science and management the SCG includes both senior managers and scientists. Based on direction from the Task Force and input from Congress and GAO, the SCG has concentrated on two significant science coordination tasks to date: the development and refinement of a *Plan for Coordinating Science* and the creation and assessment of a suite of system-wide wide indicators. Additionally, NEWTT and FIATT have focused on the issue of invasive exotic species.

Plan for Coordinating Science

The initial *Plan for Coordinating Science* was approved by the Task Force in 2004. The latest draft *Plan for Coordinating Science* includes advances in our collective understanding since 2004 and incorporates a highly sophisticated framework for integrating strategic science issues, for pulling science activities together to enhance agency coordination and cooperation, and to communicate strategic level science priorities and system-wide assessments for restoration success.

Four fundamental premises helped frame development of the Plan:

1. Because of the complex nature of the subtropical systems in south Florida, and because they have been substantially altered by human stresses, the responses of these systems to restoration plans are difficult to predict with high levels of certainty and ecological indicators are a key element to reduce uncertainty and assess restoration success;
2. Because these natural systems are continuing to deteriorate due to on-going human stresses, active and aggressive restoration initiatives should proceed even though there is some scientific uncertainty, as long as there is sufficient science to assess the performance of the proposed project;
3. A highly prioritized and focused science program with carefully defined system-wide ecological indicators will over time substantially reduce current levels of scientific uncertainty, and improve our confidence in the correctness of restoration plans; and
4. The combination of a program of adaptive management with a program of focused science that includes research, monitoring, predictive tools, and system-wide ecological indicators will provide the most effective long-term strategy for actively moving forward with restoration initiatives.

System-wide Indicators

A suite of 14 system-wide indicators was developed in an open and transparent process, and independently reviewed and then approved by the Task Force in 2006. The indicators are organized into ecological and compatibility categories. The compatibility indicators are used to assess the impact of restoration activities on the adjacent built systems (agriculture and development).

Since 2006 the SCG has coordinated a common format for assessing and communicating the scientific and management aspects of the suite of indicators. In 2008 this approach was approved by the Task Force and adopted by the REstoration COordination and VERification (RECOVER) team for future CERP reports. The approach provides a direct and transparent link from the underlying data and hypothesis to a set of easy to understand stop light assessments.

Invasive Exotic Species

Another science issue that is being addressed in a coordinated and strategic manner is invasive exotic species. Invasive species were identified by the Task Force as an important restoration concern at the beginning of the Everglades restoration initiative. The Task Force has two exotic species organizations, the Noxious Exotic Weed Task Team (NEWTT) and the Florida Invasive Animal Task Team (FIATT). FIATT is developing a non-native animal report to provide a broad picture of the status of exotic animal species in south Florida. It will focus on the agencies, along with their respective departments, that are represented on the Working Group. FIATT has established draft invasive animal lists by taxonomic groups developed from previous reports (e.g., Carole Goodyear's 2000 Exotic Animal Report), peer review, input from FIATT members, survey results, and interviews with member agencies and natural area managers throughout south Florida. FIATT is also completing a list of priority animal species.

Exchange of Information

The information provided at meetings, during the field trips, and posted on the Task Force website collectively provides a broad overview of the key restoration issues in the South Florida Ecosystem. This information keeps the members and the public informed of key and timely issues and provides the implementing agencies with member and public feedback on their plans and projects. Key items presented during the reporting period include: algal blooms in Florida Bay, land conservation tools in Florida, the status of land acquisitions, the status of projects, Lake Okeechobee Regulation Schedule, adaptive management, measuring success, issues affecting threatened and endangered species, drought, invasive exotic plants and animals, system-wide and basin by basin challenges, and water quality reports (REMAP).

In addition to the reports, Task Force staff coordinates the preparation or prepares handouts, fact sheets, and brochures. As an example the entire suite of updated subgoals and objectives that were adopted by the Task Force in 2007 has been summarized in a one-page strategy brochure. This approach provides a broad variety of readers with an easy to read summary of the current restoration goals and objectives.

In May 2007, the Task Force initiated a quarterly *E-Update* to provide the members and the public with quick updates and reminders. The lead article highlights the most recent Task Force field trip and highlights its relationship to the strategic goals and objectives. Brief articles, updates on members, and a schedule of upcoming meetings are included. The Task Force website has a link to the most current *E-Update* as well as archived issues for reference.

Facilitation and Conflict Resolution

One of the Task Force's responsibilities according to WRDA 1996 is to facilitate the resolution of interagency and intergovernmental conflicts associated with the restoration of the South Florida Ecosystem. The Task Force has established consensus voting protocols to outline the procedures used to decide final actions, reports, and recommendations. The Task Force always seeks consensus before taking a final action. When unanimous consensus is not possible a two thirds majority vote of the members present is sufficient for a final action. When this occurs the dissenting members shall have the opportunity to submit a concise minority report to accompany the majority document.

Where possible the Task Force seeks to minimize conflict by identifying and addressing critical issues before they become highly contentious. In instances where a contentious issue began before the establishment of the Task Force or arises otherwise, the Task Force will often use an advisory group with facilitated support or an independent group of experts.

Avian Ecology

In August 2007, the Sustainable Ecosystems Institute (SEI) convened an Avian Ecology Workshop that included an avian ecosystem review panel to address the ecology and management of the federally listed endangered Cape Sable seaside sparrow, Everglades snail kite, and wood stork, and state listed roseate spoonbill, in relation to Everglades restoration. The

effort was sanctioned by the Task Force and built on a previous Avian Ecology Workshop, held in March 2003 (SEI 2003).

The review and workshop format was based on the SEI process. This is an open and transparent science review method to help managers use the best science available when making critical decisions for species, their habitats, and entire ecosystems. The process has been used to resolve critical and controversial science based issues regarding endangered species, and the restoration and management of ecosystems.

Panel Charge. The goal of the workshop was to review new information gathered on the four species of concern and to provide scientific clarity to help allow managers to move forward with restoration. The overall charge to SEI and the panel was to review the scientific information on the four species in a multi-species framework with respect to restoration. Thus, the science is viewed in light of natural processes, the current state of the ecosystem (resulting from natural events and human actions), and in the context of the steps that will be taken to restore a more natural system.

Science Forum. On August 13-15th, 2007, at Florida International University, SEI assembled the panel of experts, scientists whose work has contributed to our knowledge of the species and system, decision-makers, and other interested stakeholders. Reflecting the breadth of issues, the panel consisted of avian ecologists with expertise in the relevant species and issues, vegetation experts, hydrologists, and an expert in ecosystem change/climate change.

Prior to the workshop, SEI contacted stakeholders to identify key information gaps and to gain insight on relevant issues involving these species and restoration. The panel was provided with relevant written reports and scientific peer-reviewed publications for background information. Copies of the scientific presentations, digital voice recordings, and forum summary are available from SEI. A DVD copy of the webcast is available through the Task Force.

Final Report. SEI presented its report to the Task Force at its December 2007 meeting. Based upon discussion with the Task Force members, comments from the public, and subsequent input from the members a final report was prepared. A copy of the final report is available on the SEI website at <http://www.sei.org/everglades/reports.htm>.

Public Participation and Access _____

The Task Force took a number of steps to improve public participation and access during the reporting period. All of the 54 meetings and 5 conference calls conducted by the Task Force and its subgroups were publicly noticed and included opportunities for the public to share their views on current issues.

Continuous improvements are being made to the Task Force website. Interested members of the public can sign up for automatic e-mail updates via the website to provide the latest Task Force information. Agendas and read ahead materials are posted on the website in advance of the meetings. Current and historic meeting information as well as important documents and reports are also available to anyone with internet access.

During this reporting period the Task Force began a new dynamic public participation process as a part of each meeting. Public comment is taken during each substantive agenda item as well as during the general public comment period. This allows for public comment to be heard in connection with Task Force discussion on each agenda item and for discourse between Task Force members and the public to occur.

The addition of field trips, more interactive public involvement during the meetings, and improvements to information available to the public on the website has improved public participation in the restoration process and provides for an enriched experience for the public in attendance at Task Force meetings.

Water Resources Advisory Commission (WRAC)

In 2006, the WRAC recommended that the SFWMD Strategic Plan emphasize restoring Biscayne and Florida Bays, and adding more water storage to protect Lake Okeechobee and the Caloosahatchee and St. Lucie Estuaries. In 2006, the WRAC also made recommendations to the SFWMD Governing Board on topics including: moving forward with the design and implementation of five expedited restoration projects; changes to the federal “Draft Interim Goals and Targets Agreement” adjustments to the Lake Okeechobee Regulation Schedule to protect the downstream estuaries; and recommended that the USACE work with the SFWMD staff and DCA on studies and emergency planning for the Herbert Hoover Dike. The WRAC also recommended

approval of the Upper East Coast, Lower West Coast, and Kissimmee Basin Water Supply Plans, and endorsed the Fiscal Year (FY) 2006 Alternative Water Supply Program (80 projects funded for \$43.1 million). The WRAC reviewed and recommended moving forward with revisions to the “Long Term Plan to Improve Water Quality” and enhancements to the Stormwater Treatment Areas. The WRAC recommended several improvements to programs regarding public access and recreational use of SFWMD lands.

In 2007, the WRAC recommended a draft Regional Water Availability Rule, a draft Lower East Coast Water Supply Plan, and in addition to improvements to public access and recreational use of SFWMD lands, the WRAC reviewed and made recommendations about the ENP Draft General Management Plan. The WRAC recommended moving forward with the C-111 Spreader Canal and Compartment C designs; recommended the Governing Board approve a document entitled “Clarifying State Assurances for Acceler8 Projects”; supported state legislation to improve Lake Okeechobee and Caloosahatchee and St. Lucie Estuary protection; and made recommendations about the Lake Okeechobee Regulation Schedule and Lake Okeechobee Service Area Water Availability. The WRAC also hosted a “Water Summit” to explore short-term water management challenges. This public forum focused on the constraints and limits regarding Lake Okeechobee Operations and water levels. The WRAC also convened a public “Water Conservation Summit” and stakeholder input process to develop a comprehensive and enduring water conservation program for the region.

In 2008, the WRAC provided comments and recommended the Governing Board approve and forward to the Florida Legislature the Lake Okeechobee Watershed Construction Project, Phase II Technical Plan; recommended that a statewide Technical Advisory Committee on revising Environmental Resources Permit rules include non-agency representatives; and advised the SFWMD Governing Board that the Statewide Urban Fertilizer rule is a step in the right direction to help reduce nutrient runoff in urban areas, but that more research and public education is needed. The WRAC also recommended that the Governing Board authorize the Florida Fish and Wildlife Conservation Commission to add the 3,700 acre Chandler Slough to the Kissimmee Public Use Area.

Legislative Updates

Water Resources Development Act of 2007. WRDA 2007 (Public Law 110-114) was enacted November 8, 2007. WRDA 2007 contained several key provisions relevant to the South Florida Everglades Ecosystem Restoration (SFEER) program. Sections 1001(14-16) authorized three CERP projects for implementation: Indian River Lagoon-South at a total cost of \$1,365,000,000 (2007 dollars); Picayune Strand Restoration (formerly known as Southern Golden Gate Estates Hydrologic Restoration) at a total cost of \$375,330,000 (2007 dollars); and Site 1 Impoundment at a total cost of \$80,840,000 (2007 dollars).

Section 2003 of WRDA 2007 amended Section 221 of the Flood Control Act of 1970 by establishing requirements for project "Partnership Agreements" clarified in-kind contributions eligible for credit toward non-Federal sponsor cost-shares, and created pre-Project Agreement credit agreements identifying work to be performed by non-Federal interests that are eligible for credit.

Section 2034 of WRDA 2007 established a requirement for independent peer review of project studies. In general, independent peer review is mandatory for projects with a total cost of \$45,000,000; however, independent peer review may also be requested for any project by the Governor of an affected state or the Chief of Engineers. This provision of WRDA 2007 also provides for exceptions to the independent peer review requirement, contains requirements for timing and peer review panel membership, contains direction to the Chief of Engineers with respect to panel recommendations, cost, and cost allocation.

Section 2039 of WRDA 2007 established a requirement for ecosystem restoration studies to include a monitoring plan for monitoring success, and established a 10-year maximum duration of the Federal cost-share.

Title VI ("Florida Everglades") of WRDA 2007 contains several provisions related to the CERP and SFEER programs. Section 6001 modifies a previous WRDA 1999 authorization for the Hillsboro and Okeechobee aquifer storage and recovery projects; Section 6002 increases the authorized cost amount for pilot projects authorized in WRDA 2000; Section 6003 adds a Section 902 (WRDA 1986) adjustment to the

"Additional Program Authority" provisions of Section 601(c)(3) of WRDA 2000; Section 6004 modifies the crediting requirements for in-kind credit performed by the non-Federal sponsor; Section 6005 includes an authorized amount for maximum expenditures for outreach and assistance; Section 6006 increases the overall authorized program cost for Critical Restoration Projects authorized in accordance with Section 528 of WRDA 1996 and modifies the federal share amount for individual projects; and Section 6007 provides for the development of a regional engineering model for environmental restoration, including projects to be developed pursuant to Section 601 of WRDA 2000.

While the WRDA authorizes projects, it does not provide Federal funding. Congress provides funding, separately, through the Energy and Water Development Appropriations Act. For a detailed breakout for Federal and State Appropriations see the Cross Cut Budget Working Document at www.sfstore.org.

CERP Programs and Projects

CERP Programmatic Regulations

The USACE, with the concurrence of the Governor of Florida and the DOI, and in consultation with the Seminole Tribe of Florida, the Miccosukee Tribe of Indians of Florida, the USEPA, the U.S. Department of Commerce, and other federal, state, and local agencies, published the final rule for the "Programmatic Regulations for the Comprehensive Everglades Restoration Plan" in the *Federal Register* on November 12, 2003. As required by WRDA 2000, the Programmatic Regulations (33CFR Part 385) establish processes for:

- CERP implementation processes, including the development of PIRs, project coordination agreements, and operating manuals that ensure the CERP goals and objective are achieved
- To ensure that new information, resulting from new or unforeseen circumstances, new scientific or technical information, or from adaptive management, is integrated into CERP implementation
- To ensure the protection of the natural system consistent with CERP goals and purposes, including the establishment of interim goals needed to evaluate success throughout the implementation process

These Programmatic Regulations direct the USACE and the SFWMD, in consultation with DOI, the Miccosukee Tribe of Indians of Florida, the Seminole Tribe of Florida, the USEPA, the Department of Commerce, the Florida Department of Environmental Protection (DEP), other federal, state, and local agencies, and the Task Force, to develop:

- A pre-CERP baseline
- Six program-wide guidance memoranda
- A master implementation sequencing plan
- Periodic CERP updates

In accordance with Section 385.6 of the Programmatic Regulations, the USACE initiated a formal review in 2008 (five years after initial approval) to determine whether revisions are necessary to attain the goals and purposes of the CERP. The first step of the review entails scoping of issues and concerns. Notice was placed in the Federal Register on May 20, 2008 and an initial 90-day public comment period ends on August 18, 2008. Public comments were specifically requested on issues concerning the programmatic regulations, items in the regulations that should be reviewed, or suggestions to improve the regulations.

Programmatic Regulations also require the establishment of interim goals and endpoints for the development of the documents noted above. The progress made toward these requirements during the reporting period is summarized below:

Pre-CERP Baseline. The final draft of the pre-CERP Baseline was completed in April 2005. This baseline is defined in the Programmatic Regulations as the existing hydrologic and water quality conditions in the South Florida Ecosystem on the date of enactment of WRDA 2000. Guidance Memo 3 notes that the "Savings Clause" provisions of the CERP stated that water users would not be made worse off through implementation of CERP as of the baseline date December 11, 2000; and that water users would not be put in competition with one another. A key assumption under the "Savings Clause" was "no harm". The pre-CERP baseline is determined by using a multi-year period of record based on assumptions such as land use, population, water demand, water quality, and assumed operations of the C&SF Project. The baseline is used, along with other

analyses, to identify changes from CERP, such as if an existing legal source of water has been eliminated or transferred or if a new source of water is of comparable quality to that which has been transferred.

Each PIR continues to include analyses and considers the operational conditions included in the pre-CERP baseline to demonstrate that the project will not reduce levels of service for flood protection that (1) were in existence on the date of enactment of WRDA 2000 and (2) are in accordance with applicable law. The RECOVER and project teams are continuing to add to the baseline data, filling monitoring and assessment gaps and to provide parameters for comparison during and after CERP modifications to identify changes.

Six Program-Wide Guidance Memoranda. These memoranda, currently in draft form, provide guidance on the general format and content of PIRs; formulation and evaluation of alternatives developed for PIRs; general content of operating manuals; general direction for the assessment activities of RECOVER; instructions for identifying in PIRs the appropriate quantity, timing, and distribution of water to be dedicated and managed for the natural system; and instructions for identifying in PIRs if an elimination or transfer of existing legal source of water will occur as a result of implementation of the CERP. The process to develop the Guidance Memoranda, which are required by the Programmatic Regulations, has been a cooperative effort between the federal and state partners.

During the reporting period, many updates and revisions were suggested for incorporation into the Guidance Memoranda, primarily as a result of lessons learned from project-specific applications of the requirements of the Guidance Memoranda. A "Revised Final Draft Guidance Memoranda" document dated July 2007 was made available for public review and comment beginning in August 2007. The formal public comment period ended December 17, 2007. Comments were received from government agencies and private interests. As required by the CERP Programmatic Regulations, after consideration of comments, the Guidance Memoranda are to be submitted for formal concurrence by the Governor of Florida and the Secretary of the Interior, and subsequent approval by the Secretary of the Army.

There have been some challenges in getting agreement from all parties. Due to the upcoming review and possible revision of the Programmatic Regulations, the USACE temporarily suspended work on the Guidance Memoranda until it is determined whether any revisions to the Programmatic Regulations will necessitate revisions to the Guidance Memoranda.

Master Implementation Sequencing Plan. The initial Master Implementation Sequencing Plan (MISP) was finalized in 2005. This preliminary draft organized CERP project schedules into five-year time bands and was incorporated into the Task Force *Strategy* and the IFP. The MISP includes the sequencing and scheduling of all the CERP projects, including pilot projects and operational elements, based on the best scientific, technical, funding, contracting, and other information available. The MISP identifies a framework for restoration of the South Florida Ecosystem by defining the order in which the many projects within the South Florida Ecosystem restoration program will be planned, designed, and constructed. The MISP is to be reviewed again in 2010 (at least every five years). Interim (work in progress) MISP updates may be utilized during the planning process to examine potential impacts resulting from various project alternatives or scenarios as they are developed and impacts from fiscal year funding limitations.

Integrated Delivery Schedule. Though not required by the Programmatic Regulations, the USACE, in coordination with DOI, SFWMD, and DEP, are developing a new project sequencing plan for the south Florida restoration program called the Integrated Delivery Schedule (IDS). The ultimate goal of the Integrated Delivery Schedule is to develop a realistic schedule for achieving restoration benefits as soon as possible consistent with existing state and federal authorizations and funding. It will include CERP projects and "Foundation Projects," such as Kissimmee River Restoration and Modified Water Deliveries to ENP.

Since Congress approved the CERP, the south Florida restoration program has received valuable feedback from the National Academy of Sciences (NAS) and the U.S. Government Accountability Office (GAO). Recommendations made by the NAS in 2006 in its first biennial review of progress toward restoring the Everglades will be incorporated into the IDS and will address expedited implementation of projects that

can provide significant, timely, and measurable benefits. Also, a report by the GAO recommended a review of the sequencing criteria, modifying the schedule for consistency, and applying interim goals as needed for restoration success. These recommendations will also be addressed in the Integrated Delivery Schedule.

The schedule will consider the progress made to date, the federal funding that has been made available, and the federal funding required to achieve milestones set when the CERP was approved in 2000. The Integrated Delivery Schedule is likely to influence future updates of the MISP.

Periodic CERP Updates and CERP Refinements. Section 385.31(c) of the Programmatic Regulations requires periodic evaluations of the CERP using new or updated modeling including the latest scientific, technical, and planning information. An "Initial CERP Update" (ICU) Report was approved by the RECOVER Leadership Group (RLG) in November 2005 and presented to CERP managers at the USACE and the SFWMD. It was determined that additional model and operational refinements should be undertaken to optimize the updated "CERP A" model run performed for the ICU Report. Those refinements (sometimes referred to as "CERP A refinements") are presently underway, but have not yet been finalized.

When completed, the updated model will be utilized to perform an updated evaluation of the CERP (i.e., how well the CERP as modeled with the updated model and planning assumptions would achieve planning goals and objectives). As part of the evaluation, the total quantity of water that is expected to be generated by the plan will be identified, including the quantity expected to be generated for the natural system and the quantity expected to be generated for other water-related needs in the human environment.

CERP, An Annual Update. In 2007, the USACE and the SFWMD completed the first CERP Report to the Public for 2006 fulfilling a requirement of the Programmatic Regulations. This document, which will be prepared annually for dissemination to the public, describes the components of the Plan, approved changes to the Plan, the estimated cost of the Plan, a water budget for the Plan, and the water that has been reserved or allocated for the natural system under state law for the Plan. The Report to the Public for 2007 is currently in progress.

CERP Interim Goals and Targets. The Programmatic Regulations require that the Governor of Florida, the Secretary of the Army, and the Secretary of the Interior establish interim goals to provide a means for evaluating restoration success of the CERP at specific time intervals during implementation. Additionally, the Governor of Florida and the Secretary of the Army are responsible for establishing interim targets to evaluate progress in providing for other water-related needs of the region.

In 2005, RECOVER developed initial recommendations for the Interim Goals and Interim Targets, which were vetted through independent peer review and then reported to the SFWMD, USACE, and DOI in *“Recommendations for Interim Goals and Targets for the Comprehensive Everglades Restoration Plan.”* The RECOVER recommendations included twenty-two hydrologic, water quality, and biological indicators and five additional indicators for water-related needs (including water supply and flood protection) to support CERP implementation and adaptive management. The Governor of Florida, Secretary of the Army, and the Secretary of the Interior subsequently drafted separate Interim Goal and Interim Target Agreements based on the recommendations from RECOVER.

A draft Interim Targets Agreement was drafted and published in the federal register for public review November 3, 2006 and comments were accepted through December 4, 2006. The final agreement establishing the interim targets was signed by the USACE and the State of Florida on April 27, 2007. Similarly, the draft Interim Goals Agreement was developed, posted in the Federal Register, and available for review until December 4, 2006. The final agreement establishing the Interim Goals was signed and executed by the State of Florida, the USACE, and DOI on May 5, 2007.

Due to changes in CERP planning and implementation, including the construction scheduling and project sequencing, and the recommendation that the interim goals and interim targets include a system-wide viewpoint, RECOVER is currently revising their 2005 recommendations. Revisions will ensure integration of the Interim Goals and Interim Targets with the CERP Monitoring and Assessment Plan (MAP) to ensure the MAP is monitoring the progress of the interim goals and targets. Revisions are expected to be completed in 2009.

CERP Adaptive Management Program

Adaptive Management (AM) has been an integral component of the CERP since the C&SF Restudy was concluded in 1998. Congress recognized there were many uncertainties (unanswered questions) about how to achieve the many challenging CERP ecosystem restoration goals and objectives, and authorized the development of an AM program for the CERP in the WRDA 2000 to ensure these questions were addressed and restoration goals were achieved. Major components of the AM program have been initiated during the eight years since initial authorization of the CERP, the development of conceptual ecological models, system-wide and regional hypotheses, and predictive models, including the Initial CERP Update (ICU), implementation of the system-wide MAP, and development of the Interim Goals and Targets.

The AM program for the CERP was developed by the USACE and the SFWMD, in consultation with the Seminole Tribe of Florida, the Miccosukee Tribe of Indians of Florida, the USEPA, the DOI, and other federal, state, and local agencies, will assess responses of the South Florida Ecosystem to implementation of the CERP. Periodic CERP updates will ensure that the goals and purposes of the plan are being achieved. A *CERP Adaptive Management Strategy* was submitted by RECOVER to the sponsoring agencies in April 2006. A final draft of the *CERP Adaptive Management Implementation Guidance Manual*, focused on specific guidance to implement an AM approach for the CERP at the program and project levels, is anticipated to be completed in August 2008 to fully integrate AM principles into the CERP.

Independent Scientific Review

On June 14, 2004, the DOI, the USACE, and the SFWMD signed an intergovernmental agreement to engage the NAS review of Everglades restoration. This agreement addresses requirements contained in WRDA 2000 (PL 106-541, Sec. 601(j)) and the Programmatic Regulations (33CFR Part 385.22) for ongoing independent scientific review and a biennial report to Congress and others “that includes an assessment of ecological indicators and other measures of progress in restoring the ecology of the natural system, based on the Plan.”

The NAS subsequently convened the National Research Council (NRC) Committee on Independent

Scientific Review of Everglades Restoration Progress (CISRERP), which is composed of a diverse team of internationally recognized experts in ecosystem restoration science. In their report, *Progress Toward Restoring the Everglades: The First Biennial Review, 2006*, the committee concluded that good science has been developed in support of the restoration efforts and that progress has been made in CERP program support, specifically, significant progress has been made in the implementation of the MAP and development of the CERP AM program (AM Strategy), which represents the pathway by which science is used in support of decision making. The committee expressed concern that progress in CERP project implementation has been uneven, and many projects have been significantly delayed.

The committee also found that the CERP AM strategy provides a sound organizational model for the execution of a passive AM program and encouraged the implementation of the strategy soon in order to test and refine the approach. AM principles have been incorporated into several projects including Ten Mile Creek and the WCA 3 Decompartmentalization and Sheetflow project (DECOMP).

An Incremental Adaptive Restoration (IAR) framework was proposed to help overcome scheduling constraints and facilitate delivery of incremental restoration and learning benefits through implementation of carefully targeted portions of larger projects and greater use of AM principles and processes.

Information on this NAS task and the complete 2006 report is available at: <http://www8.nationalacademies.org/cp/projectview.aspx?key=WSTB-U-03-04-A>.

The CISRERP team has held five meetings during this reporting period of 2006-2008. Their second report is anticipated in the fall of 2008.

CERP Monitoring and Assessment Plan

The CERP MAP is the primary tool by which the RECOVER program will assess CERP performance. The MAP, Part 1 (*CERP Monitoring and Supporting Research, February 2004*) describes the system-wide monitoring and research components and supporting research of the MAP and summarizes the assessment process. MAP, Part 2, the *Assessment Strategy for the MAP* (April 2006), fully describes the assessment process for interpreting the monitoring and research

data collected by the MAP and ultimately reported biennially in the CERP System Status Report. A further refinement of the MAP is underway with an anticipated completion date in late 2008 or early 2009.



The overarching goal for implementation of the MAP is to have a single, integrated, system-wide monitoring and assessment plan that will be used and supported by all participating agencies and tribal governments as the means of tracking and measuring the performance of the CERP. NAS found this method of tracking the ecosystem response from CERP implementation to be well-designed and statistically defensible.

The four broad objectives for the MAP are:

- Establish a pre-CERP reference state (“baseline”), including variability for each of the performance measures;
- Assess system-wide responses of the ecosystem to CERP implementation;
- Detect unexpected responses of the ecosystem to changes in stressors resulting from CERP activities; and
- Support scientific investigations designed to increase ecosystem understanding, establish cause-and-effect relationships, and interpret unanticipated results.

The first full assessment of MAP data, termed a System Status Report (SSR), was completed in November 2007. The document provides development of a partial pre-CERP reference state using data collected since the MAP’s implementation in 2003. For most indicators, additional data is required to develop a complete “picture” of pre-CERP conditions. The next system status report will be released in 2009.

CERP System Status Report

This report is designed to assess and document progress towards meeting performance measure targets and interim and long-term goals. On an annual basis, reports generated by the principal investigators in each of the MAP modules (i.e., Southern Estuaries [SE], Northern Estuaries [NE], Greater Everglades [GE], and Lake Okeechobee [LO]) will be compiled by the RECOVER Assessment Team (AT) and used to generate a biennial SSR that will address the overall status of the ecosystem relative to system level hypotheses, performance measures, and restoration goals. Every five years, this SSR will provide the scientific information on the status of the ecosystem's response to CERP implementation and will be integrated into the Report to Congress planned as of 2010. The SSR provides:

1. A synthesis of findings across MAP modules and across years to provide a holistic description of the status of the Everglades and South Florida Ecosystem;
2. An evaluation of the results in relationship to supporting system-level hypotheses and achieving system-wide Interim Goals;
3. A summary of those changes that are consistent with goals and hypotheses and those that are not;
4. A discussion of why the goals and hypotheses are not being achieved;
5. The identification of major unanticipated findings that may need attention and correction; and
6. Information about issues relevant to the CERP Adaptive Management (AM) Program.

The SSR functions as the interface between the science and communication aspect of CERP implementation providing information not only for use in the AM process, but also for reports to the NRC, Interim Goals and Targets Report, and the CERP Report Card, and constitutes a major component of the RECOVER Technical Report mandated by the Programmatic Regulations.

The first SSR (*2006 SSR-Pilot Assessment*, February 2007) provided a proof-of-concept for applying the assessment strategy outlined in the MAP, Part 2 (*Assessment Strategy for the MAP*). However, this pilot assessment was not intended to provide a comprehensive assessment of the ecological condition nor the status of either the MAP modules (NE, SE, GE, or LO) or the South Florida Ecosystem as a whole. The 2007 SSR (*2007 System Status Report*, November

2007) is the first comprehensive technical assessment of monitoring data developed by the Assessment Team. Because few CERP projects have been implemented at this time, the 2007 SSR provides estimates of pre-CERP conditions for ecosystem indicators monitored by the MAP, in conjunction with data from other sources. The role of the MAP and the SSR in the CERP AM program is essential. Results of this and future SSRs as well as monitoring are necessary for assessing positive responses to CERP actions and essential for identifying management actions that may be necessary to adjust the CERP to achieve its goal of restoring the Everglades and the South Florida Ecosystem.

Peer Review

Consistent with the Office of Management and Budget's (OMB's) "*Final Information Quality Bulletin for Peer Review*" (December 15, 2004), the USACE implemented new requirements beginning in 2005 for conducting Independent Technical Review (ITR) and External Peer Review (EPR) to ensure the quality and credibility of USACE decision documents, including CERP PIRs. These new requirements apply to most efforts the USACE may undertake as part of the overall South Florida Ecosystem restoration program, and are contained in the Engineering Circular (EC) 1105-2-408 entitled "*Peer Review of Decision Documents*" (31 May 2005). Review plans address the magnitude and risk of individual projects, detail how ITR will be accomplished, and address the need for additional external EPR by subject matter experts outside of the Corps. Section 2034 ("Independent Peer Review") in WRDA 2007 contains additional peer review requirements for USACE project studies, mandating peer review by a panel of experts for all projects with a total cost more than \$45,000,000. For the reporting period, the following peer reviews were completed:

Limited Re-Evaluation Report

- Modified Water Deliveries to ENP/ Tamiami Trail (January 2008)

CERP PIRs

- Broward County Water Preserve Areas (BCWPA) (March 2007)
- Caloosahatchee River (C-43) West Basin Storage Reservoir (June 2007)
- Melaleuca Eradication and OEP (December 2007)
- Winsberg Farm Wetlands Restoration (February 2008)
- L-31 Seepage Management Pilot (February 2008)

Model Certification

The USACE adopted new requirements to certify planning models utilized in planning studies. These new requirements are contained in Engineering Circular (EC) 1105-2-407 (“Planning Models Improvement Program: Model Certification”), dated 31 May 2005. Planning models are defined by the USACE to be “models and analytical tools that planners use to formulate potential alternatives . . . evaluate potential effects of alternatives and to support decision-making.” This definition has been interpreted to include performance measures developed by RECOVER and other scientists working in the South Florida Ecosystem, and any project-specific evaluation methodologies developed to compare the impacts and benefits of restoration plans included in USACE planning studies, including CERP PIRs, feasibility studies, and other decision documents. Costs for model certification actions are considered a project cost and are cost-shared with non-federal partner agencies.

During this reporting period 2006-2008, USACE Jacksonville District initiated several project model review actions with the U.S. Army Corps of Engineers' Ecosystem Restoration Center of Expertise, including project-specific evaluation methodologies utilized for the Modified Water Deliveries Tamiami Trail Limited Re-evaluation Report, Biscayne Bay Coastal Wetlands PIR, and the Lake Okeechobee Watershed PIR. In addition, a programmatic review of approved RECOVER performance measures and conceptual ecological models was initiated.

Program Management — Information and Data Management

The CERP Master Program Management Plan (MPMP) called for the creation of a shared data network. The MPMP directed implementation of these activities under the guidance of the Program Controls Management Plan. Data Management was separated out in the Data Management Program Management Plan dated February 26, 2002. The scope of this program plan was to provide for a program-wide phased approach to management and acquisition of data. Included in that scope were activities to identify, standardize, organize, document, serve, and preserve program data. The Information & Data Management PMP was rewritten and approved in April 2007, superseding the Data Management PMP dated February 2002 and assuming responsibility for engineering and GIS data management. The document

also assumes responsibility for the current management of the functional areas of infrastructure, World Wide Web services, and electronic document management previously described under the Program Controls Program Management Plan dated December 2000. The PMP for Quality Assurance and Oversight, which is responsible for the quality of scientific data collected for the program, was also incorporated into the Information & Data Management PMP. The financial management functional area is not included in the new PMP.

Program Management - Interagency Modeling Center (IMC)

While the authority for the Interagency Modeling Center (IMC) Program Management Plan was not specifically mentioned in WRDA 2000, it is implicit in the Design Agreement between the Department of the Army and SFWMD and in the MPMP that the modeling needs of CERP implementation must be met in a sufficient and adequate manner. A collaborative state and federal interagency effort, the IMC was established in 2003 to provide a centralized pool of resources and expertise to promote greater efficiency and consistency in the hydrologic and ecologic modeling that supports CERP planning. It provides, coordinates, and oversees the modeling needs and efforts for the CERP both at the program coordination level, such as modeling that will be needed for the MISP updates, and at the project level for individual project analyses. The PMP is currently being revised.

Global Climate Change

The United Nations' Intergovernmental Panel on Climate Change (IPCC) issued their fourth report in 2007, providing new evidence indicating that global warming and related climate change are occurring. But, there continues to be considerable uncertainty about the rate of change, how much it may accelerate in the next 50 to 100 years, and the total magnitude of these changes. Forecasted climate change impacts which are of particular interest to Florida and Everglades restoration efforts include sea level rise, increases in evapo-transpiration rates, changes in hydrologic patterns, increased tropical storm frequency and/or intensity, increased stresses on plants and animals due to increasing temperatures and levels of carbon monoxide, and water quality impacts also due to increasing temperatures, as well as salinity changes.

All of these are expected to gradually drive changes in marine and land ecosystems and human activities. Some of these impacts are described in greater detail in the fall 2007 testimony to Congress by the Superintendent of ENP regarding the potential impacts on natural resources in ENP and other nearby areas.

Most of the partner agencies engaged in Everglades restoration have scientific research in progress or planned that can also be used to help better quantify the potential impacts of climate change on the natural and human environments in south Florida. Of particular interest is an accurate understanding of the sensitivity of the south Florida area to sea level rise since much of this area is only a few feet above current sea level. During preparation of the CERP April 1999 report, a sensitivity analysis was done for a potential 0.5 foot rise in sea level and it was determined that the CERP could accommodate this potential change without major negative impacts. The

CERP Guidance Memorandum 016.01, using more up to date information, recommended using 0.8 foot rise in sea-level for all system-wide planning evaluations. However, recent climate change forecasts indicate a need to look at an even broader range of sea level rise scenarios. This effort will be initiated in FY2009 under the leadership of the CERP RECOVER system-wide planning team through a sea-level rise sensitivity analysis of CERP performance. RECOVER will use the most up to date information from several workshops on climate change and its effects that were held nationally by the USACE, FWC, the State of Florida, and during the Greater Everglades Ecosystem Restoration Conference.

Climate change is also a topic of special interest to CISRERP. Their fall 2008 report is expected to include guidance on sea level rise sensitivity and other climate change related studies which are needed to help guide and adapt ongoing Everglades restoration efforts.

GOAL I ACCOMPLISHMENTS: GETTING THE WATER RIGHT

The first strategic goal of the Task Force focuses on the lifeblood of the Everglades: water. The Task Force has adopted the following for this goal:

GOAL I: GET THE WATER RIGHT

Subgoal I-A: Get the hydrology right

Objective 1-A.1: Provide 1.8 million acre-feet of surface water storage by 2036

Objective 1-A.2: Develop alternative water storage systems capable of storing 1.7 billion gallons per day by 2030

Objective 1-A.3: Modify 361 miles of impediments to flow by 2020

Subgoal I-B: Get the water quality right

Objective 1-B.1: Construct 96,101 acres of stormwater treatment areas by 2035

Objective 1-B.2: Prepare locally-based plans to reduce pollutants as determined necessary by the total maximum daily loads by 2011

The major projects planned to meet these objectives are listed in the Task Force *Strategy* in part one of this volume (*Coordinating Success*), along with a schedule for their implementation. The projects or activities that were ongoing or completed during the July 2006 – June 2008 reporting period are described below in the context of progress toward meeting each of the Task Force objectives. The Critical Restoration Projects and state expedited projects contribute to various objectives but are grouped together in this *Biennial Report* to provide an overview of the progress associated with these early efforts.

State of Florida's Expedited Restoration Projects

To help achieve ecosystem-wide benefits as soon as possible, Florida is fast-tracking various Everglades water storage, water quality and environmental restoration projects. As part of that overall initiative, the SFWMD began in October 2004 an effort to accelerate several Everglades restoration projects identified in the CERP, most of which were initially authorized by Congress. The projects range in construction value from \$14 million to \$720 million. Several of the projects include multiple components or sub-projects for a total of 18 independent projects. In order to achieve earlier restoration benefits and cost efficiencies, it is expected that over \$1.5 billion

will be expended in these earlier years in additional state funds above the \$200 million per year already planned for the CERP. The goal of expediting these projects is to complete the design and construction of the identified projects by 2011. It is anticipated that through close coordination with federal agencies the state will design and construct projects that are consistent with all or part(s) of the recommended plan for the corresponding CERP components. It is also anticipated that these projects will be consistent with the CERP recommended plans and proposed to Congress for crediting authorization.

The design phase is complete for 7 of the 18 independent projects of which one project is currently under construction and one has been completed.

The Everglades Agricultural Area (EAA) A-1 Reservoir construction contract was awarded in June 2006 with a five year construction schedule. Construction continues today and is approximately 20 percent complete.

To guide final design, minimize risk, minimize cost, and maximize efficiency for the reservoir and future impoundment projects, three sets of full-scale test cells were constructed and tested; one each at the EAA A-1 Reservoir, C-43 Reservoir, and C-44 Reservoir sites.

Construction of the initial phases of EAA Compartment B STA (STA 2 Cell 4), EAA Compartment C STA (STA 5 Flowway 3 and STA 6 Section 2), and Compartment C USSC C-139 Annex Pump Station is complete. Design of the build-out phases of EAA Compartment B STA and EAA Compartment C STA is nearing completion. Procurement of pump equipment (engineers-gear boxes-pumps) for the large inflow and outflow pump stations is currently underway.

In May 2007, the USACE requested SFWMD concurrence for USACE to assume the lead (design and construction) on the Site 1 Impoundment, Picayune Strand Restoration, and Broward County Water Preserve Area (3A/3B Seepage Management Area, C-11 Impoundment, and C-9 Impoundment) Project. This has transitioned the original accelerated initiative into the wider Everglades restoration program.

Critical Restoration Projects

The progress made on the nine Critical Restoration Projects authorized under WRDA 1996 to produce immediate, substantial, and independent benefits prior to the existence of the CERP is summarized below. WRDA-1996 authorized \$75 million dollars in federal funds to be appropriated with a requirement that federal dollars be equally matched by local sponsors.

The maximum federal expenditure on any one project was capped at \$25 million in WRDA 1996. Due to cost increases resulting from inflation, as well as design refinements made since 1996, the Corps was compelled in 2004 to terminate Federal involvement in several projects to refrain from exceeding the cumulative \$75 million for the critical projects program. Congress subsequently increased the federal allocation cap for the critical project program in WRDA 2007 from \$75 to \$95 million enabling the USACE to proceed with several projects where the per-project cap for Federal spending (\$25 million) had not been yet been met. One project did receive Congressional approval of an increase on the Federal cost share - the Seminole Big Cypress Water Conservation Plan was authorized at \$30 million in Federal funds. Unfortunately, because of significant increases in the cost of fuel and construction materials, the \$95 million will not allow the USACE to participate in all nine of the Critical Restoration Projects.

Seminole Tribe Big Cypress

Construction of the conveyance canal system on the east side of the reservation (Phase I) was completed in May 2004. Canal pump stations will connect this conveyance canal system to the North Feeder Canal system. Phase II of this project has been divided into four basins. The USACE awarded a contract for construction of the largest basin, basin 1, in November 2006. Construction of this feature will be completed in July 2008. The construction feature, basin 4, is scheduled to be awarded in September 2008 with an anticipated completion date of March 2009. The last 2 construction features, basins 2 and 3, are scheduled for construction award in spring of 2009 and completion in the spring of 2010. This project will enhance the Big Cypress Reservation's water storage capacity, improve wetland hydrology, enhance flood protection, and reduce the concentration of phosphorus from water flowing off reservation lands. Outflows from the project will be routed southward and to the current West Feeder Canal system on the reservation to

rehydrate the undeveloped native area and the Big Cypress National Preserve.

Lake Okeechobee Water Retention/Phosphorus Removal

Construction on the Taylor Creek portion was physically complete effective April 2006. The interim construction and testing phase is in progress from October 2006 through October 2008.

Construction on the Nubbin Slough portion was physically complete effective September 2006. The interim construction and testing phase is in progress from September 2007 through September 2009. This project reestablished wetlands that were previously drained for agriculture and constructed STAs to reduce phosphorus loading to Lake Okeechobee. It is now in the interim operations phase.

Ten Mile Creek Water Preserve Area

Construction was initially completed on the Ten Mile Creek Water Preserve Area Project in January 2006. Since that time, interim operations, testing, and monitoring have been under way by the SFWMD and the USACE in accordance with the water quality permit and Project Cooperation Agreement. In preparation for transfer of the project to the SFWMD for maintenance and operations, concerns were raised about some aspects of the project. In September 2007, the USACE and the SFWMD immediately began identifying causes for all concerns and developing a course of action for remediating those aspects to complete project delivery. The additional project needs that have been identified have significant associated costs. Due to limitations on funding, additional Congressional authorization will likely be required to proceed.

Lake Trafford Restoration

The Lake Trafford Restoration Project was initiated in 2004. The in-lake portion of dredging was completed in the spring of 2006. This phase of the project removed approximately 3 million cubic yards of organic sediments that blanketed the bottom of the lake. The second phase of the project to remove approximately 800,000 cubic yards of sediment from the littoral zone was commenced in the fall of 2006. However, the prevailing historic drought of south Florida rendered the lake levels critically low for operation of the dredging machinery, and the construction contract had to be terminated. The total construction cost of Phase I was \$10.3 million.

The contracted amount for Phase II was \$5.1 million. The USACE participated in design of the project and may be able to contribute to the construction costs based on WRDA 2007 authorization, which has increased the Federal funding cap from \$75 million to \$95 million.



The USACE completed plans and specifications, but at that time there was insufficient funding to award a contract. The SFWMD assumed 100% of the cost of revamping the detailed design and the construction with the intent of receiving credit and/or reimbursement upon project completion and approval by the USACE. The containment facility and much of the dredging have been completed. The FWC and Collier County Tourist Development Council provided some financial assistance to SFWMD for the project. Once completed, the project will improve water quality and enhance fish and wildlife habitat in Lake Trafford.

Tamiami Trail Culverts

Construction of the western portion of the project (Phase I), located west of State Road 29, started in June 2004 and was completed in March 2006. Implementation was accomplished with SFWMD (culvert construction) and Florida Department of Transportation (road resurfacing) funds. Construction of the eastern portion of the project (Phase II) is dependent upon additional funding. The project will help restore more natural hydropatterns and improve sheetflow of surface water within the Ten Thousand Islands National Wildlife Refuge, Rookery Bay Estuarine Research Reserve and Aquatic Preserve, Big Cypress National Preserve, and ENP. The cost estimates for completion of this project in combination with the other eight Critical Projects previously exceeded the USACE appropriation cap of \$75 million set by WRDA 1996. Phase I of the project has now been included as a component of the Picayune Strand Restoration Project, authorized for construction by Congress as part of WRDA 2007, which will make Phase I of the culvert project eligible for federal cost-

share. USACE may be able to contribute to the construction costs based on the recent WRDA 2007 authorization, which increased the Federal funding cap up to \$95 million.

Southern CREW Addition/Imperial River Flowway

This project will restore historical sheetflow in the project area, reduce excessive freshwater discharges to Estero Bay during the rainy season, improve habitat for listed species and other wildlife, reduce loading of nutrients and pollutants to the Imperial River and Estero Bay, and reduce flooding of homes and private lands west of the project area. It includes the removal of canal and road berms, house pads, and ditches to allow historic sheetflow to be re-established in the Southern Corkscrew Regional Ecosystem Watershed (CREW). Land acquisition, restoration construction, and exotics control for the project is ongoing. Land acquisition has been accomplished with state and federal cost sharing. Several hundred acres of exotic species, primarily melaleuca, have been treated. In addition, a number of canals have been plugged and berms breached to restore sheet flow in areas of the project footprint. Because of escalating land costs in the region, particularly in proximity to Bonita Beach Road, and the difficulty in restoring the hydrology in the areas south of Kehl Canal, the project team is considering changes in the project footprint.

The SFWMD is proposing to reduce the footprint by excluding the southern half of sections 32 and 33, south of the Kehl Canal, and also those areas impacted by the proposed alignment of County Road 951. Even with the change in footprint due to removal of these lands, the SFWMD will be able to maintain a flow way and corridor along the Kehl Canal and Imperial River connecting and restoring lands within Southern CREW and CREW Trust lands. Approximately 45 acres in the northwestern corner of Section 32 and 15 acres in the southwestern corner of Section 34 would also be removed from the project.

The District may be able to partner with Lee County Conservation 20/20 to advance acquisition of remaining project lands. Lee County Conservation 20/20 is considering the acquisition of lands already purchased by the SFWMD south of the Kehl Canal in Section 34. These lands would be preserved and the funds paid to the SFWMD could be used to acquire other lands within the project footprint. The SFWMD continues to acquire land and construct the project.

Objective 1-A.1: Provide 1.8 million acre-feet of surface water storage by 2036

At the end of the reporting period, nine of the projects contributing to objective 1-A.1 were underway, along with a technology pilot to determine the feasibility of the two Lake Belt storage projects. See *Biennial Report* Table 1.

Everglades Agricultural Area Storage Reservoir

The preliminary survey and geotechnical work on the state expedited reservoir feature was completed in May 2004. Preparation of the thirty percent design commenced in June 2004. In late April 2004, the U.S. Sugar Corporation agreed to vacate leased, state-owned land (former Talisman Sugar Company property) just south of Lake Okeechobee, allowing the SFWMD to expedite work on this large reservoir and stormwater treatment area. The Tentatively Selected Plan (TSP) was identified in February 2006. In November 2006, CISRERP recommended IAR principles for implementation on five CERP projects, including this one.

There will be two separate PIRs for two phases of the EAA project. In December 2006, program managers recommended that the Phase 1 PIR should be modified to focus on implementation of Cell 1. Upon completion of a Final PIR for Phase 1, a second PIR will be prepared to address remaining storage (160,000 acre-feet) and water quality treatment needs for Phase 2 of the EAA reservoir to achieve system-wide goals and objectives. The SFWMD is advancing the design and construction of Phase 1 as a state-expedited project. The overall construction contract was awarded in June 2006 and a start on site in August 2006. Three Guaranteed Maximum price construction phases have been executed valued at \$265 million with two completed to provide a 12 mile seepage canal. The third phase involves ongoing rock crushing operations to provide material for the embankment, with the construction due to start the summer of 2008. Phase 2 would be constructed by the USACE.

Lake Okeechobee Watershed (LOW)

This project goal is to increase aquatic and wildlife habitat, regulate extreme highs and lows in lake

staging, reduce phosphorus loading, and reduce damaging releases to the surrounding estuaries. It will also focus on rehydrating wetlands in and around the areas north of Lake Okeechobee and improve the ecological health of Lake Istokpoga. The final LOW Project TSP consists of the following six structural water storage and treatment features and a recommended Lake Istokpoga Regulation Schedule (LIRS):

- Reservoir in the Taylor Creek/Nubbin Slough basin – A 1,984 acre reservoir, located in the S-191 sub-basin, will provide a maximum capacity of 32,000 acre-feet situated on the Grassy Island Ranch and will receive inflows from and discharge back to Taylor Creek.
- STA in the Taylor Creek/Nubbin Slough basin – A 3,975 acre treatment area, be located in the S-135 sub-basin, will receive inflow from the L-64 canal, discharge back to the L-47 canal, and is projected to provide 15.8 metric tons of average annual phosphorus load reduction.
- Reservoir in the Kissimmee River basin – A 10,281 acre above ground reservoir will provide a maximum storage capacity of 161,263 acre-feet located in the C-41A sub-basin will receive flow from and discharge back to the C-38 canal (Kissimmee River).
- Reservoir in the Lake Istokpoga basin – A 5,416 acre reservoir is proposed to be located in the C-40A and C-41A sub-basins and provide a maximum storage capacity of 79,560 acre-feet and will receive inflow from and discharge back to the C-41A canal.
- STA in the Lake Istokpoga basin – An 8,044 acre treatment area will be located in the L-49 sub-basin (at an average operating depth of 1.5 feet). It will receive flow from the C-41 canal and discharge treated water to Lake Okeechobee and is expected to provide approximately 29.1 metric tons of average annual phosphorus load reduction.
- Restoring a wetland in Paradise Run – A 3,730 acre wetland restoration site is located at the ecologically significant confluence (under pre-development conditions) of Paradise Run, oxbows of the Kissimmee River, and Lake Okeechobee. Under restored conditions, it would have a rain-driven hydrology unless future efforts to further enhance watershed conditions could link the site to the surface flows from the C-38 (Kissimmee River) or C-41A (Istokpoga) Canals.

Biennial Report Table 1 – Surface Water Storage

1-A.1 Table reflects June 2008 Status of the Projects to Provide 1.8 million Acre-Feet of Surface Water Storage by 2036				
Project ID	Project Endpoint	Project Name	Output (acre-feet)*	Status
1101	2019	C&SF: CERP Indian River Lagoon - South (C-23/C-24/C-25/North Fork and South Fork Storage Reservoirs, and C-44 Basin Storage Reservoir) (CERP Project WBS #07)	135,000	In Progress
1102	2015	C&SF: CERP Everglades Agricultural Storage (CERP Project WBS #08)	360,000	In Progress (Planning); Complete (Acceler8 Design)
1104	2015	C&SF: CERP Lake Okeechobee Watershed (CERP Project WBS # 01)	272,823	In Progress
1105	2036	C&SF: CERP North Lake Belt Storage Area (CERP Project WBS # 25)	90,000	
1106	2017	C&SF: CERP PBC Agriculture Reserve Reservoir - Part 1 (CERP Project WBS #20)	20,000	
1107	2013	C&SF: CERP Site 1 Impoundment (CERP Project WBS #40)	13,280	In Progress
1109	2013	C&SF: CERP C-43 Basin Storage Reservoir --Part 1 (Caloosahatchee River (C-43) West Basin Storage Reservoir and Caloosahatchee Watershed) (CERP Project WBS # 04)	170,000	In Progress
1110	2036	C&SF: CERP Central Lake Belt Storage Area (CERP Project WBS #26)	190,000	
1111	TBD	E&SF: Critical Projects – Ten Mile Creek	6,000	
1112	2015	Taylor Creek Reservoir – Expedited Project – The SFWMD is implementing as part of Northern Everglades Project	32,000	
1113	2014	C&SF: CERP WPA Conveyance (CERP Project WBS #49)	90,000	
1114	2017	C&SF: CERP Everglades National Park Seepage Management (CERP Project WBS #27 and 43)	11,500	In Progress
1115	2015	C&SF: CERP North Palm Beach County - Part 1 (CERP Project WBS #17) (Formerly Project ID 1503)	48,000	In Progress
1116	2017	C&SF: CERP Broward County WPAs (C-9 Stormwater Treatment Area/Impoundment and Western C-11 Diversion Impoundment and Canal and Water Conservation Areas 3A and 3B Levee Seepage Management) (Formerly Project ID 1501)	11,648	In Progress
2100	TBD	Allapattah Flats/Ranch	32,000	In Progress
* The outputs listed in Biennial Report Table 1 and the measures and restoration endpoints in Appendix A (the Integrated Financial Plan Summary Table) reflect the strategic goals and are not intended to function as an allocation or reservation of water, which must be implemented through applicable law.				

Caloosahatchee (C-43) Basin Storage Reservoir

The Caloosahatchee (C-43) Basin Storage Reservoir and ASR project (originally component D in the CERP) was divided into two parts: an ASR and an examination of other problems and opportunities. The latter has been further subdivided into two separate PIRs now referred to as: (a) the Caloosahatchee River (C-43) West Basin Storage Reservoir (WBSR) project and (b) the Caloosahatchee Watershed project.

The purpose of the WBSR is to restore the Caloosahatchee estuarine and riverine ecosystems by improving hydrologic conditions. To achieve this goal, the WBSR team identified two key objectives: (1) provide additional water to the estuary to augment low or no flows over S-79 during the dry season/dry periods, and (2) reduce damaging peak flows to the estuary by capturing and storing excess basin run-off and Lake Okeechobee releases during high flow conditions. Based on the current conditions, the project still achieves the benefits in a cost-effective manner. The Final PIR was completed in September 2007 and is anticipated to be submitted to Congress in 2008.

As a state-expedited project, the SFWMD initiated the 30 percent design of the reservoir at Berry Groves during the prior reporting period. Final design of the reservoir was completed in January 2008. The C-43 West Reservoir CERP Regulation Act (CERPRA) permit, U.S. Coast guard permit for Manatee Barrier Lights A and B, the Florida Department of Transportation driveway connection permit, Hendry County permit for the C-43 West Reservoir Project citrus tree removal and grubbing, USACE 404 Permit, and DEP 1502 Permit for construction have been received. Construction of this project is on hold until further notice. The construction permit has been issued and the operations permit is in process. Subsequent technical uncertainties with associated potentially high rates of seepage are currently being investigated with the construction of two test cells on-site employing a variety of seepage barrier technologies. The results of this pilot project, along with the ASR Regional Study, will form the basis for future feasibility studies or PIRs concerning high-capacity ASR.

The Caloosahatchee (C-43) Watershed Project will address water quality, water management, and ecological restoration challenges, while also ensuring

that agricultural water supply requirements and flood attenuation are not negatively impacted. The goals are to identify, evaluate, and implement methods and/or means to: (1) enhance water quality in the basin, (2) further decrease dependency upon water releases from Lake Okeechobee without disrupting water supply needs in the basin, and (3) promote ecosystem restoration by removing exotic flora and redirecting water flows at specific locations in the basin. A PDT is being assembled and work on a PMP is commencing.

Indian River Lagoon - South

The *Indian River Lagoon Feasibility Study* was completed in October 2002 and the final PIR for the Indian River Lagoon (IRL-S) Project was published in the *Federal Register* on May 7, 2004. The Chief's Report was approved August 6, 2004 and the Record of Decision (ROD) was signed November 2005. The project will restore approximately 90,000 acres of wetland/upland mosaic and improve approximately 4,000 acres of benthic, oyster and submerged aquatic vegetation habitat within the St. Lucie River and Southern IRL. IRL-S has recently been authorized for construction in WRDA 2007. The design for the C-23/24 STA component is at the intermediate level and is scheduled to be completed in July of 2008. The SFWMD is advancing the design and construction of the C-44 Storage Reservoir component. The design was functionally complete April 2008. The project is currently awaiting appropriations for construction.

North Palm Beach County — Part I

The PIR will evaluate whether the L-8 Reservoir is a necessary part of the North Palm Beach County – Part 1 project to capture, store, and treat excess water discharged to the Lake Worth Lagoon and to use these waters for environmental enhancement of the Loxahatchee River and Slough and provide for water supplies to the West Palm Beach Water Catchment Area. Early information suggests its inclusion may be beneficial. Initially constructed elements of Flow Way 1 (G-160, G-161, M-canal widening) and alternatives associated with other flow ways and components providing beneficial flows to the Loxahatchee River, achieving hydropattern restoration, and reducing flows to the Lake Worth Lagoon are being examined. Excess canal water will be backpumped through existing and proposed water control structures and canals to the stormwater treatment areas, which will provide water quality treatment prior to discharge into the West Palm Beach Water Catchment Area.

The C-51 and L-8 Basin Reservoir Phase 1 (Palm Beach Aggregates) portions of the project are being designed and constructed through a state-expedited initiative. The construction of the reservoir storage and associated temporary inflow and pumping infrastructure is scheduled to be complete in 2008, resulting in time savings of approximately six years over the conceptual schedule outlined in CERP. Criteria for the final pump station and inflow facility design will be determined through the alternatives analysis and development of the TSP. By utilizing a phased approach to the construction, approximately 9,000 acre feet of storage and discharge capacity have been made available for interim water management benefits in the L-8 Basin area. The full capacity of the reservoir will become available with the construction of the final pump station and inflow structure.

The Loxahatchee Impoundment Landscape Assessment

The FWS has a cooperative agreement with the SFWMD to conduct long-term research on two impoundments in the Arthur R. Marshall Loxahatchee National Wildlife Refuge (NWR). This research is needed to inform the development of several CERP performance measures of a healthy South Florida Ecosystem. The Loxahatchee Impoundment Landscape Assessment (LILA) facility was constructed to include the key Everglades landscape features: tree islands, saw grass ridges, and open-water sloughs. Since June 1, 2004, LILA has served as a research facility used to explore the response of those landscapes as well as wading birds to differing hydrologic regimes. The Biennial Report Table 2

outlines the projects and investigators that have conducted research in LILA during the time covered in this report.

Northern Everglades and Estuaries Protection Program

The Northern Everglades and Estuaries Protection Program is developing protection plans for the Lake Okeechobee, St. Lucie, and Caloosahatchee watersheds. One element of the protection plans is to identify the storage needs of each watershed and projects that can help achieve the identified storage goal. The planning process for the Lake Okeechobee watershed has determined that between 900,000 and 1.3 million acre-feet of water storage north of the lake is needed and could be achieved through a combination of above-ground reservoirs, underground storage, and alternative water storage projects on public and private lands. The water quantity storage goal of 900,000 and 1.3 million acre-feet is not in addition to existing or planned projects. It is an overall goal that may be met through a combination of existing or future projects and through a combination of storage methods such as alternative water storage on public and private lands, large above-ground reservoirs, or aquifer storage and recovery facilities. Information from the Lake Okeechobee aquifer storage and recovery pilot projects and other regional pilot projects will help determine the best mix of surface and underground storage needed to achieve the overall goal. Similarly the Caloosahatchee and St. Lucie Rivers Watershed Protection Plans will identify storage goals and projects for these watersheds by January 1, 2009.

Biennial Report Table 2 – Research conducted at LILA

(July 2006 to June 2008)				
Title of Research Project	Tree Island Seedling Analysis	The Response of Tree Seedlings to Transplanting Trees on Tree Islands as a Function of Hydrology (SFWMD)	Prey Vulnerability to Avian Predation	Measurement of Flock Transport in the Everglades
Organization Affiliation of Researchers	Iowa State University	South Florida Water Management District/Florida International University, Miami (SFWMD)	Florida Atlantic University	South Florida Water Management District

Objective I-A.2: Develop alternative water storage systems capable of storing 1.7 billion gallons per day by 2030

At the end of the reporting period, two of the projects were underway and two are scheduled in later bands. See *Biennial Report* Table 3.

Aquifer Storage and Recovery Projects

Aquifer storage and recovery is defined as the storage of water in an aquifer via the use of a dual-purpose well that can be used for both recharge and recovery. ASR technology offers significant potential to store and supply vast quantities of water without the need for large tracts of land.

The ASR program is a vital component to the overall CERP program implemented by the SFWMD and the USACE. Although ASR has been used for many years, there are technical uncertainties of using this technology on such an unprecedented regional scale. These uncertainties are being thoroughly researched through the ASR Regional Study and the ASR pilot projects. In addition, a phased ASR Contingency Study is being prepared to identify storage and water supply options should implementation of ASR at the scale

envisioned in the CERP not be possible. The ASR program is the effort of a multiagency, multidisciplinary team of hydro-geologists, chemists, engineers, and environmental scientists who have developed plans, responded to reviews and critiques, formulated strategies, and conducted experiments to answer technical questions about the role of ASR in the CERP. ASR pilot project systems along the Kissimmee River and the Hillsboro Canal have been constructed and are about to initiate cycle testing. Cycle testing of these systems will take place through 2010, unless they are delayed by water use limitations associated with the drought. These tests will provide field data to augment scientific and engineering studies that have already been conducted. An exploratory well at Berry Groves, along the Caloosahatchee River, indicated that a high-capacity ASR will not be feasible at that location and was capped and sealed in early 2008. New locations will be assessed in conjunction with the C-43 Watershed PIR. Budget constraints delayed construction of pilot systems at Port Mayaca and Moore Haven. Construction of the Port Mayaca ASR pilot site has been postponed until 2010 to incorporate lessons learned from construction and operation of the Kissimmee River and Hillsboro pilots. Design and construction of a pilot facility at Moore Haven depends on additional funding authority.

A significant database has been compiled and developed into a comprehensive hydrogeologic

Biennial Report Table 3 – ASR Water Storage

1-A.2 Table reflects June 2008 Status of the Projects to Develop Alternative Water Storage Systems Capable of Storing 1.7 Billion Gallons per Day by 2030				
Project ID	Project Endpoint	Project Name	Output (Billion gpd)**	Status
1200	2019	C&SF: CERP North Palm Beach County – Part 2 (CERP Project WBS #18)	.220	
1201	2027	C&SF: CERP Lake Okeechobee ASR (CERP Project WBS #03)	1	In Progress Installation and testing
1202	2024	C&SF: Hillsboro ASR Phase 2 (M P2) (CERP Project WBS #22)	0.150	
1203	2017	C&SF: CERP ASR Regional Study		
1204	2020	C&SF: CERP PBC Agriculture Reserve Aquifer Storage & Recovery - Part 2 (CERP Project WBS #21) (Formerly part of Project ID 1106)	0.075	
1205	2019	C&SF: CERP C-43 Aquifer Storage and Recovery (ASR)- Part 2 (CERP Project WBS #05) (Formerly part of Project ID 1109)	0.220	In Progress (Design) and Pilot in Installation and Testing

* The outputs listed in Biennial Report Table 3 and the measures and restoration endpoints in Appendix A (the Integrated Financial Plan Summary Table) reflect the strategic goals and are not intended to function as an allocation or reservation of water, which must be implemented through applicable law.

framework of the Floridan aquifer system in south Florida. Extensive geological and geophysical investigations were then performed to fill in the identified data gaps, including the construction of seven new test wells and core borings throughout south Florida. Additional water-level and water-quality monitoring wells are being established to create a baseline of conditions within the Floridan aquifer system. Geophysical investigations—including a lineament survey, a seismic survey of Lake Okeechobee, cross-well tomography, and a fracture evaluation—were performed to supplement the new geological data.

Large scale groundwater models are being developed that will be used to predict the subsurface effects of the proposed CERP ASR initiatives throughout south Florida. The models represent the latest in cutting-edge computer programming and can simulate the effects of density, pressure, flow, and transport on both local and regional scales. Results of the pilot projects and the various geological and geophysical investigations will continue to refine and calibrate the models over the next few years.

A variety of geochemical studies and techniques have been developed in coordination with the Florida Geological Survey, the USGS, and others to assess the potential effects of ASR on the quality of water recovered from the Floridan aquifer system. Team members now have a more thorough understanding of the complex geochemical and biological reactions that take place within the Floridan aquifer system as a result of recharge, storage, and recovery of treated water.

An ecological risk assessment will be developed from water quality information that is obtained during cycle testing of the pilot systems. It is anticipated that those results will be available in 2011. An interim report for the ASR Regional Study – summarizing all of the work products that have been completed to date - was published in June 2008. A key expectation of the Lake Okeechobee Watershed Construction Project Phase II Technical Report is completing cycle testing of CERP ASR pilot projects, the interim reports, optimization analysis, and Floridan Aquifer groundwater model.

In addition, a baseline environmental monitoring program and preliminary ecological tests have been performed to assess and predict the effects of the ASR

Program on the South Florida Ecosystem. Ecotoxicological, bio-concentration, and methyl mercury evaluations are complete and will be integrated into a conceptual ecological model with data obtained during pilot project cycle testing over the next few years. The conceptual ecological model will provide insight into the relationships between potential stressors and receptors on the environment resulting from ASR systems. This will be an important step toward performing an ecological risk assessment to reveal the potential environmental benefits and risks that might occur from the proposed CERP ASR projects.

Additional investigations and studies are planned to provide restoration managers with necessary scientific and engineering information for making technically sound decisions for CERP ASR implementation and operation. This information will be incorporated into the final ASR Program Technical Data Report, which is expected to be available by 2012. The draft report for Phase I of the ASR Contingency Study, which recommends future efforts toward developing a contingency plan, is scheduled to be completed in 2008 and finalized through review and coordination by interagency stakeholders and the public.

State ASR and Deep-Well Injection Projects

The following ASR projects are currently underway: Taylor Creek ASR Reactivation, Seminole Brighton ASR well, and Paradise Run ASR. A Feasibility Study for deep well injection was completed in late 2007.

Lake Okeechobee and Estuary Recovery Plan ASR Projects

Four deep well projects were undertaken as a result of this initiative. A Feasibility Study for deep well injection was completed in late 2007. Re-activation of the Taylor Creek ASR well began in 2006. Permitting and design studies are currently underway. It is anticipated that the facility will be operational in early 2009. A siting evaluation was completed and an exploratory well was constructed at the Seminole Tribe Brighton Reservation ASR well. Permitting and design studies are currently underway. A 10 well ASR system was begun in mid 2006. An exploratory well was constructed in 2007 and permitting and design studies for an initial two well system are currently underway.

Objective 1-A.3: Modify 361 miles of impediments to flow by 2020

At the end of the reporting period, two of the projects contributing to objective 1-A.3 were completed and the rest were underway. See *Biennial Report* Table 4.

Foundation Projects

Kissimmee River Restoration

All 102,061 acres of land needed for the restoration have been acquired. Natural flow has been reestablished for an 18 mile section of the Kissimmee River, including 4 miles reconnected during the past period and the 14 miles that were reconnected in 2001. These first two (of four) restoration phases required backfilling a total of 10 miles of canal C-38 and have resulted in about 6,300 acres of formerly drained portions of the river’s floodplain now experiencing enhanced inundation and converting back to wetland habitat.

This restoration project, which is being jointly implemented and cost-shared by the SFWMD and the USACE, has two remaining construction phases. When complete, the project will have backfilled a total of 22 miles of C-38 and eliminated two major water control structures. Flow will be reestablished to approximately 40 miles of meandering river channel and over 12,000 acres of wetlands will be restored within a river/floodplain ecosystem over 40 square miles in area.

A comprehensive evaluation program for tracking environmental responses to the restoration is in place to gauge the success of the project in meeting its goal of ecological integrity for the river and the floodplain. The evaluation program predicts and tracks ecological changes that are expected to result from the project, including changes in hydrology, water quality, and major biological communities such as plants, invertebrates, fish, and birds. Restoration evaluation research is required to be continued by the SFWMD for at least five years following completion of the final phase of construction (currently projected for 2013), or until environmental responses stabilize.

The SFWMD is also conducting the Kissimmee Basin Modeling and Operations Study (KB MOS) to evaluate alternative water regulation schedules for the Upper Kissimmee Basin. This project will help meet the water needs of the Kissimmee River Restoration Project in the Lower Kissimmee Basin while maintaining flood protection. KB MOS continues to involve the SFWMD, the USACE, and many other participating local, state, and federal entities, as well as the public.

Modified Water Deliveries to Everglades National Park

Modified Water Deliveries, commonly called Mod Waters, was initially authorized by the ENP Protection and Expansion Act in 1989 to modify the C&SF project and “to the extent practicable, take steps to restore the natural hydrological conditions within the Park.” The improvement in water deliveries to the expanded ENP was also intended

Biennial Report Table 4 – Impediments to Flow

1-A.3 Table reflects June 2008 Status of the Projects to Modify 361 Miles of Impediments to Flow by 2020				
Project ID	Project Endpoint	Project Name	Output (miles modified)	Status
1300	2014	C&SF: C-111 (South Dade)	4.75	In Progress
1301	2019	C&SF: CERP WCA -3 Decompartmentalization and Sheetflow Enhancement (CERP Project WBS #12, 13 and 47)	240.00	In Progress
1302	2018	C&SF: CERP Florida Keys Tidal Restoration (CERP Project WBS #31)	0.60	
1303	2015	E&SF: Critical Projects - Southern CREW		
1306	2013	Kissimmee River Restoration	31.00	In Progress
1307	2013	Modified Water Deliveries to Everglades National Park	21.00	In Progress
1308	2011	E&SF: Critical Projects Tamiami Trail Culverts (Formerly Project ID 1400)	16	In Progress
COMPLETED PROJECTS				
1304	2012	East WCA-3A Hydropattern Restoration	8.50	Completed
1305	1997	Kissimmee Prairie	39.30	Completed

to benefit the Everglades wetlands in WCA 3A and WCA 3B. Due to concerns over delays and the development of the larger CERP in WRDA 2000, Congress made the appropriation of funds for construction of components of the CERP WCA-3 Decompartmentalization and Sheetflow Enhancement Project and the Central Lakebelt Storage Project contingent on the completion of the MWD.

There are four main components of the MWD project: (1) flood mitigation for the 8.5 Square Mile Area (SMA) which is a residential and agricultural area directly adjacent to ENP; (2) conveyance and seepage features to facilitate flow through the system from WCA-3A to WCA-3B and limit seepage eastward from WCA-3B and ENP; (3) modifications to the Tamiami Trail to facilitate water flow under the road; and (4) Project Implementation Support, which includes monitoring and operational changes. All four components are necessary and work together to restore flows from WCA-3A to WCA-3B under Tamiami Trail to the historic headwaters of the NESRS in the Everglades Expansion Area.

The flood mitigation for the 8.5 Square Mile Area is nearly complete:

- Acquisition of the western 2,100 acres and lands for construction of the 8.5 SMA (98% complete)
- Construction of an interior canal and western levees to provide the needed mitigation for the remainder of the 8.5 SMA (complete)
- Construction of the S-357 pump station on the south side of the 8.5 SMA with an associated Stormwater Treatment Area within the C-111 (South Dade) Project (complete)

The 1992 GDM specified the construction of the conveyance and seepage control features – gated structures, spillways, and pump stations. Several features are now complete as noted below:

- Structures S-345A, B, and C through the L-67A and C levees (pending)
- Structures S-349A, B, and C in the L-67A Borrow Canal (pending)
- Osceola Camp elevation design and construction (pending)
- L-29 weirs (pending)

- Degradation of the L-67 Extension Canal and Levee (4 of 9 miles degraded)
- S-331 Command and Control (in progress – adding telemetry and remote control of conveyance features)
- Spillway structures S-355A and B in the L-29 Levee (complete)
- S-333 modifications (complete)
- Tigertail Camp elevation (complete – area raised to 12.00 feet with first floor elevations of at least 12.5 feet)
- Pump Station S-356 between L-31N Canal and L-29 Canal (complete)

The USACE will address any remaining design modifications to existing C&SF project features for this component in an Engineering Documentation Report, with supporting National Environmental Policy Act (NEPA) documentation in Fiscal Year 2009.

The revised *Final General Reevaluation Report and Supplemental Environmental Impact Statement* for the Tamiami Trail modifications component of the MWD Project was completed in November 2005. The Record of Decision was signed in January 2006 and a real estate supplement was prepared in March 2006. The selected plan (Alternative 14) included constructing approximately three miles of bridges and raising the remaining road to allow conveyance of higher water stages expected to occur under the CSOP for the MWD ENP and C-111 projects. The USACE initiated design of the bridges and road raising; and has completed the initial geotechnical investigation and boundary surveys. However, estimated costs for the Tamiami Trail feature have grown dramatically since the 2005 Record of Decision. In response to cost increases in fuel, steel, Portland cement, and asphalt, the USACE initiated an integrated Limited Reevaluation Report (LRR) and Environmental Assessment (EA). A draft LRR was released for public comment in April 2008. It included a tentatively selected plan which included a one-mile eastern bridge, allowing L-29 Canal stage to reach 8.5 feet National Geodetic Vertical Datum (NGVD), and reinforcing the road to mitigate for road impacts from the 8.5 foot stage. The Final Integrated LRR and EA are scheduled to be submitted to Congress by July 2008.

The project implementation support component includes project and program management support by the DOI and USACE, hydrological stream gauge monitoring and wildlife monitoring, and operational plan development and close-out.

C-111 (South Dade)

The land exchange for this project of approximately 1,000 acres between ENP and the SFWMD was approved by Congress and executed in 2005. The USACE is preparing a Post Authorization Change Report to detail the design refinements and update the project costs and schedule necessary to complete the approved plan. Construction contracts were initiated in 2008 to complete earthwork for the detention flow way linking the B and C pump station detention areas. This extension expands the effective area being used to build a hydrologic barrier between ENP and the L-31N canal in order to reduce seepage losses from ENP. A construction contract will be initiated in 2010 to extend the S-332B north detention area and contain discharges of the 8.5 Square Mile Area STA component of the MWD ENP. This C-111 Project will help restore flows to Taylor Slough, reduce damaging discharges to Florida Bay, and maintain flood control.

The PMP, which was revised and updated in October 2007, is now being updated again. The project currently has two construction projects in process, the S-331 command and control facility and the retention/detention area (expansion at the southern detention area). Construction on the S-331 command and control facility is scheduled to be complete in March 2009. Construction of the retention/detention area is scheduled to be complete by September 2008. The project team is in the process of gaining approval of project feature refinements from USACE headquarters. A revised decision document and a Project Cooperation Agreement (PCA) to address the 50/50 cost share are forthcoming to address the design refinements.

Modifications to the C-111 project should be complete by 2014, subject to appropriations. A Combined Structural and Operational Plan (CSOP) for the Mod Waters Deliveries Project and the C-111 Project is currently being developed ensuring that both are operated consistently with project purposes and achieve the intended benefits while protecting the quality of water entering ENP. The L-31W tie back and the S-332D tie back are linked to the 8.5 Square Mile Area project.

Water Conservation Area 3 Decomartmentalization and Sheetflow Enhancement

The WCA 3 Decompartmentalization (Decomp) and Sheetflow Enhancement project outlined in the C&SF Restudy included the following components:

- AA: Construction of additional S-345 conveyance structures (through L-67 canals A and C)
- QQ Phase 1: Raise and bridge (using ten 100-foot box culvert bridges) the eastern portion of Tamiami Trail and completely backfill the Miami Canal within WCA-3
- SS: North New River Improvements needed to improve the discharge capability of an expanded/improved North New River Canal, necessary to compensate for the capacity lost via removal of the Miami Canal
- QQ Phase 2: Remove the remaining sheetflow obstructions, i.e., L-67A borrow canal (by filling in the southern 7.5 miles), L 68A, L-67C, L-29, L-28 tieback levees, and borrow canals

Components QQ and SS were two of the ten “Initially Authorized Projects” identified in WRDA 2000.

Because of scientific uncertainties and dependence on the MWD Project, the Decomp PDT is moving forward with a multiple PIR approach that implements decompartmentalization using adaptive management, construction of a first phase, monitoring of component performance, and additional construction for decompartmentalization to achieve desired results.

PIR 1 will cover a portion of the Restudy Part 1- the Miami Canal and North New River features. PIR 2 will focus on the remainder of the April 1999 Restudy Part 1 features (Tamiami Trail, degradation of L-29, backfilling the L-29 Borrow Canal, and additional S-345 conveyance structures through L-67 canals A and C). PIR 3 will incorporate the remaining Decomp features outlined in Decomp Part 2. Sequencing of Decomp with MWD, C-111 (South Dade), and CERP projects (e.g., L-31N Seepage Management Pilot, ENP Seepage Management, Broward County Water Preserve Areas, and Everglades Agricultural Area Reservoir) are critical because the projects for this region are so interrelated.

Other Related Hydrology Projects

Seepage Management Pilot

The purpose of this project is to resolve the critical uncertainties surrounding seepage management technologies which could be considered to control seepage from the ENP and WCA 3B. In early 2005, after further study of the L-31 North site, it was determined that a seepage management feature located along L-31 North levee and canal would reduce some seepage, but due to anticipated needs associated with the MWD project, it would be less useful for long term effects. Therefore, the project team was asked to review seepage management along the L-30 levee and canal. The team completed a draft Pilot Project Design Report in April 2008 recommending construction of a roughly 1,000 foot linear barrier of sheet pile and soil cement bentonite mixture for testing of constructability and effectiveness. A detailed monitoring plan has been developed for the measurement of the seepage reduction achieved by the constructed barrier.

Objective 1-B.1: Construct 96,010 acres of stormwater treatment areas by 2035

At the end of the reporting period, five of the projects contributing to objective 1-B.1 were completed, and six were underway. See *Biennial Report* Table 5.

Everglades Construction Project

As of December 2006, over 45,000 acres of STAs had been constructed by the SFWMD (STAs 1W, 2, 3/4, 5, and 6) and the USACE (STA-1E). During Water Year (WY) 2007, approximately 35,000 acres were in flow-through operation and removing total phosphorus that otherwise would have gone into the EPA. During WY 2007, STA-1E, STA-1W, STA-2, STA-3/4, STA-5, and STA-6 Section 1 removed more than 153 metric tons of total phosphorus, bringing the total removal to over 617 tons since 1994. For WY2007, STA inflow concentrations averaged 187 ppb, while the outflow concentrations averaged 58 ppb. STA performance varied over WY2007 similar to recent water years. Portions of the stormwater treatment areas were being managed for SAV, and the remainder for cattails and other emergent vegetation.

The STAs sustained damages from two hurricanes in 2004 and one hurricane in 2005, and portions of the STAs were still undergoing major enhancement projects during WY2007. All of these factors contributed to the less than optimal performance observed in the WY2007 STA performance data.

Everglades restoration is now focused on implementing biologically based (“green”) technologies to the maximum extent possible. This approach is based on manipulating hydrology together with selective vegetation management to create a wetland plant community dominated by emergent plants, SAV, or periphyton (algae). Research has indicated that SAV and periphyton-based STAs (PSTA) have the potential to reach restoration endpoint total phosphorus levels on a consistent basis. The current strategy for improving performance in the STAs includes implementation of the enhancements described in the Long-Term Plan which consist of reconfiguring the treatment cells internally to contain sequences of cells dominated by emergent plants followed by cells dominated by SAV. Another possible scenario would sequence cells dominated by emergent plants followed by SAV followed by PSTA. The SFWMD and the DEP will continue to investigate ways to exploit green technologies for use in Everglades restoration.

The most significant milestone during this last reporting period was completion of the initial expansions of STA-2, STA-5, and STA-6. These facilities were flow-capable by December 2006, however, due to the drought conditions, water was not available to introduce into these new treatment areas until the summer of 2007. The eastern flow-way, of STA-1E, representing about 20% of the treatment area, currently remains under the control of the USACE for a PSTA demonstration project. Due to the recent severe and prolonged drought period, the PSTA demonstration project start up was delayed. The construction and monitoring of the PSTA demonstration project will limit the hydraulic and treatment capacity of STA-1E through at least December 2009, subject to delays due to weather and other external conditions. After completion of the demonstration project, an undetermined amount of time will be required to remove the test cell levees and structures and return the eastern flow-way to full flow capability. For the purpose of forecasting a performance schedule, it is assumed that flow-through

in the eastern flow-way will occur some time after June 2010 subject to the decommissioning of the PSTA project by the USACE; the actual time frame is subject to vegetation establishment and other factors outside the control of the SFWMD.

Northern Everglades and Estuaries Protection Plan

In addition to the water quantity projects detailed under objective 1-A, the Northern Everglades and Estuaries Protection Program will accomplish multiple improvements to water quality in the region

as well. The Protection Plans include a Watershed Construction Project which will identify water quality projects that contribute to achievement of TMDLs. The Lake Okeechobee Protection Plan has identified STAs as a critical feature necessary for water quality improvements and is expediting the Lakeside Ranch STA in order to achieve early benefits. Additional STAs will be incorporated into the Protection Plans for the St. Lucie and Caloosahatchee watersheds as the plans are developed. Other stormwater and wastewater treatment projects (e.g., stormwater retrofits, sewer to septic conversions) will be incorporated into the plans as appropriate.

Biennial Report Table 5 – Acres of Stormwater Treatment Areas

1-B.1 Table reflects June 2008 Status of the Projects to Construct 96,010 Acres of Stormwater Treatment Areas by 2035				
Project ID	Project Endpoint	Project Name	Output (acres)	Status
1500	2019	C&SF: CERP Big Cypress/L-28 Interceptor Modifications (CERP Project WBS #10)	1,900	
1502	2016	C&SF: CERP Miccosukee Tribe Water Management Plan (CERP Project WBS #90)	900	In Progress
1505	2018	C&SF: CERP Caloosahatchee Backpumping with Stormwater Treatment (CERP Project WBS #06)	5,000	
1506	2009	E& SF: Critical Projects Lake Okeechobee Water Retention/Phosphorus Removal	940	In Progress
1513	2008	C&SF: West Palm Beach Canal STA-1E / C-51 West	6,500	In Progress
1514A	2011	State Expedited project includes Everglades Agricultural Area (EAA) Stormwater Treatment Areas (STAs) Expansion	18,000	In Progress
1515	2012	Lakeside Ranch STA - Expedited Project – The SFWMD is implementing as part of Northern Everglades Project	2,700	
1518	2018	C&SF: CERP Henderson Creek/Belle Meade Restoration (CERP Project WBS #93)	10	
1519	2012	C-43 Water Quality Treatment Area	1,200	
1101	2023	C&SF: CERP Indian River Lagoon – South (C-23/C-24/C-25/North Fork and South Fork Storage Reservoirs, and C-44 Basin Storage Reservoir) (CERP Project WBS #07)	8,700	In Progress
1104	2015	C&SF: CERP Lake Okeechobee Watershed (CERP Project WBS #01)	12,000	In Progress
1110	2036	C&SF: CERP Central Lake Belt Storage Area (CERP Project WBS #26)	640	
1115	2015	C&SF: CERP North Palm Beach County - Part 1 (CERP Project WBS #17) (Formerly Project ID 1503)	1,150	
COMPLETED PROJECTS				
1508	2000	STA-1 West Works and Outflow Pump Station (G-310)	6,700	Completed
1509	2000	STA-2 Works and Outflow Pump Station (G-335)	6,430	Completed
1510	2005	STA-3/4 Works	16,600	Completed
1511	2005	STA-5 Works	4,118	Completed
1512	2006	STA-6 (includes sections 1 and 2)	2,222	Completed
1516	2007	LOFT (Identified under LOER) - Nubbin Slough STA Expansion	800	Project cancelled

C-111 Spreader Canal

This project enhances the design for the C-111 North Spreader Canal by enlarging pump station S-332E and the extension of the canal under U.S. Highway 1 and Card Sound Road into the Model Lands. The initial design pumps water from the C-111 and the C-111E Canals into a detention area prior to discharging to southern Everglades and Model Lands. It also calls for filling in the southern reach of the C-111 Canal and removal of structures S-18C and S-197.

The PMP was approved in 2002 and the Tentatively Selected Plan (TSP) was recommended in October 2007. An Alternative Formulation Briefing (AFB) document was forwarded to USACE Headquarters for review and comment and the AFB meeting was held in April 2008. The Project Delivery Team is in the process of developing the PIR and is awaiting a Policy Guidance Memo from USACE Headquarters.

The SFWMD, through its state-expedited initiative, is advancing the design and construction of the project and is anticipating a September 2009 construction date for the Western PIR.

West Palm Beach Canal STA-1E/C-5I West

The original project was modified to include a 6,500 acre stormwater treatment area. In addition to the flood damage reduction benefits of the original project, the modified plan provides water quality treatment, reduction of damaging freshwater discharges to Lake Worth, and increased water supply for the Everglades and other users. Construction of the major project components has been completed and transferred to the SFWMD. Design and construction of the L-40 improvements are scheduled to be completed in 2008 and the field testing of periphyton treatment is scheduled to be completed in 2009. Periphyton is being utilized to aid in the removal and monitoring of total phosphorus found in agricultural and stormwater runoff.

Objective 1-B.2: Prepare locally-based plans to reduce pollutants as determined necessary by the total maximum daily loads by 2011

By the end of the reporting period, the project contributing to objective 1-B.2 was underway. See *Biennial Report* Table 6.

Total Maximum Daily Loads

The Watershed Restoration Act and the rules DEP has subsequently adopted are intended to identify Florida’s surface waters impaired by pollutants; establish scientifically-based pollutant reduction objectives (TMDLs); develop locally-based plans to reduce pollutants as determined necessary by the TMDL; and promote the physical and financial mechanisms necessary to implement those plans.

DEP has developed a phased approach to implementing the law. DEP’s comprehensive “watershed management” strategy views the state based on its natural boundaries, like river and estuary basins, rather than political boundaries. These naturally bounded areas have been organized into five “groups” of basins. In 2000, DEP began addressing the first group of basins (Group 1) and continues to initiate activities in a new group (Groups 2 through 5) each year over a five-year cycle to cover the entire state. The five-year cycle will then begin again in the Group 1 basins and continue through Groups 2-5 to re-evaluate the status of impaired waters, determine the successes and problems associated with ongoing activities, make necessary changes, and consider and address new circumstances associated with growth and development. The cycle will be repeated methodically and continuously over time.

The status of TMDLs for waters of the South Florida Ecosystem are located in Groups 1-5 and can be found by visiting www.dep.state.fl.us/water/tmdl/index.htm.

Biennial Report Table 6 – Plans for Impaired Waters to Comply with TMDLs

1-B.2 Table reflects June 2008 Status of the Project to Prepare Locally-Based Plans to Reduce Pollutants as Determined Necessary by the Total Maximum Daily Loads by 2011				
Project ID	Project Endpoint	Project Name	Output (% of waters having plans)	Status
1600	2011	Total Maximum Daily Load for South Florida		Underway

Other Related Water Quality Projects

Northern Everglades and Estuaries Protection Program

Under the Northern Everglades and Estuaries Protection Program (373.4594, F.S.), the SFWMD, in collaboration with DEP and DACS, is required to create watershed protection plans for the Lake Okeechobee, Caloosahatchee River, and St. Lucie River watersheds. These plans are to protect and to restore surface water resources by addressing the reduction of pollutant loadings, restoration of natural hydrology, and compliance with applicable state water quality standards. Pollutant load reductions associated with the watershed protection plans are to

be based upon TMDLs, which will serve as plan objectives. The Lake Okeechobee Phase II Technical Plan, which builds upon the 2004 Lake Okeechobee Protection Plan, was submitted to the Governor and Legislature in February 2008. The Caloosahatchee and St. Lucie River Watershed Protection Plans are due to be submitted for ratification on January 1, 2009.

C-43 Water Quality Treatment Area Project

The SFWMD and Lee County agreed to develop a Water Quality Treatment Area project near the Caloosahatchee River in the C-43 Basin to address total nitrogen treatment, with a focus on organic nitrogen removal, as well as other incidental nutrient treatment of the Caloosahatchee River Basin water upstream of structure S-79.

GOAL 2 ACCOMPLISHMENTS: RESTORING, PRESERVING, AND PROTECTING NATURAL HABITATS AND SPECIES

The second strategic goal of the Task Force concerns natural habitats and species. The Task Force has adopted the following for this goal:

GOAL 2: RESTORE, PRESERVE, AND PROTECT NATURAL HABITATS AND SPECIES

Subgoal 2-A: Restore, preserve, and protect natural habitats

Objective 2-A.1: Complete acquisition of 5.7 million acres of land identified for habitat protection by 2020

Objective 2-A.2: Protect 20 percent of the coral reefs by 2010

Objective 2-A.3: Improve habitat quality for 2.4 million acres of natural areas in south Florida

Subgoal 2-B: Control invasive exotic plants and animals

Objective 2-B.1: Achieve maintenance control of Brazilian pepper, melaleuca, Australian pine, and Old World climbing fern on south Florida's public conservation lands by 2020

Objective 2-B.2: Release 2 biological control insects per year for the control of invasive exotic plants

Objective 2-B.3: Achieve eradication of Gambian pouch rat by 2012

The major projects planned to meet these objectives are listed in the Task Force *Strategy* in part one of this volume (*Coordinating Success*), along with a schedule for their implementation. The projects or activities that were ongoing or completed during the reporting period of July 2006 to June 2008 are described below in the context of progress toward meeting each of the Task Force objectives.

Objective 2-A.1: Complete acquisition of 5.7 million acres of land identified for habitat protection by 2020

By the end of the reporting period, state and federal agencies had acquired a total of approximately 4.9 million acres of land identified for habitat protection. As of June 2008 the state had acquired 3 million acres of habitat conservation land in south Florida at a cost of over \$2.5 billion. See *Biennial Report* Table 7.

Land Acquisition Strategy and Database

The Task Force Land Acquisition Task Team (LATT) updated the 2006 *Land Acquisition Strategy* with 2007 data and the Task Force accepted it on September 27, 2007. The 2008 document is currently being prepared and approval is anticipated in the fall. The associated database includes local government programs, as well as state and federal land acquisition programs, providing a broad picture of the combined effort for conservation and restoration in the South Florida Ecosystem.

The first *Land Acquisition Strategy* was accepted by the Task Force in February 2003. It was developed as a response to GAO recommendation for a land acquisition plan that identifies and prioritizes additional lands needed to achieve restoration goals. The GAO highlighted the importance of acquiring as much land as possible, and quickly, because undeveloped land in south Florida is becoming increasingly scarce and costly.

Habitat Acquisition

The federal, state, and local expenditures in land acquisition during the reporting period are shown in *Biennial Report* Table 8.

Biennial Report Table 7 – Land Acquisition for Habitat Protection

2-A.1 Table reflects June 2008 Status of the Projects to Complete Acquisition of 5.7 Million Acres of Land Identified for Habitat Protection by 2020					
Project ID	Project Endpoint	Project Name	Total Project Acres	Acres Acquired to Date	Acres Remaining To Be Acquired
STATE/SFWMD PROJECTS					
2100		Allapattah Flats/Ranch	40,363	21,709	18,654
2101		Atlantic Ridge Ecosystem	16,002	5,910	10,092
2104		Belle Meade	28,506	18,238	10,268
2105		Big Bend Swamp/Holopaw Ranch	59,656	4,151	55,505
2106		Biscayne Coastal Wetlands	2,026	1,190	836
2107		Bombing Range Ridge	44,439	6,357	38,082
2108		Caloosahatchee Ecoscape	18,497	3,180	15,317
2109		Catfish Creek	19,029	10,184	8,845
2111		Charlotte Harbor Estuary/Flatwoods/Cape Haze	14,990	10,631	4,359
2112		Corkscrew Reg. Ecosystem Watershed (CREW)	69,500	27,460	42,040
2114		Coupon Bight/Key Deer/Big Pine Key	4,014	1,558	2,456
2115		Cypress Creek/Trail Ridge	31,999	3,285	28,714
2117		East Coast Buffer- Natural Lands	49,643	14,737	34,906
2118		Estero Bay	14,378	9,149	5,229
2120		Fakahatchee Strand	80,332	61,054	19,278
2121		Fisheating Creek	176,876	59,910	116,966
2122		Florida Keys Ecosystem	15,336	2,760	12,576
2124		Indian River Lagoon Blueway	1,385	750	635
2125		Juno Hills /Dunes	590	576	14
2127		Kissimmee River (Lower Basin)	75,617	71,642	3,975
2128		Kissimmee River (Upper Basin)	38,273	35,831	2,442
2126		Kissimmee-St. Johns River Connector	9,463	0	9,463
2129		Lake Wales Ridge Ecosystem	16,455	9,782	6,673
2132		Loxahatchee Slough	13,099	12,395	704
2134		Miami Dade County Archipelago	884	505	379
2135		Model Lands Basin	54,458	14,228	40,230
2138		North Fork of the St. Lucie River	3,714	1,232	2,482
2139		North Key Largo Hammocks	5,048	3,544	1,504
2141		Okaloacoochee Slough	35,201	34,982	219
2142		Okeechobee Battlefield	211	145	66
2143		Osceola Pine Savannas	6,357	1,333	5,024
2144		Pal-Mar	35,760	27,878	7,882
2145		Panther Glades	57,604	21,724	35,880
2146		Paradise Run	3,841	3,308	533
2147		Parker-Poinciana/Lake Hatchineha Watershed	6,437	0	6,437
2148		Pineland Site Complex	206	57	149
2149		Rookery Bay	18,721	18,636	85

2-A.1 Table reflects June 2008 Status of the Projects to Complete Acquisition of 5.7 Million Acres of Land Identified for Habitat Protection by 2020					
Project ID	Project Endpoint	Project Name	Total Project Acres	Acres Acquired to Date	Acres Remaining To Be Acquired
STATE/SFWMD PROJECTS					
2150		Rotenberger/Holey Land Tract	79,170	70,833	8,337
2151		Shingle Creek	7,673	2,623	5,050
2152		Six Mile Cypress	2,083	843	1,240
2154		South Savannas	6,046	5,182	864
2155		Southern Glades – Natural Areas	37,620	33,692	3,928
2156		Southern Golden Gate Estates (Save Our Everglades) Picayune Strand	55,247	54,442	805
1111		Ten Mile Creek – Natural Lands	240	113	127
2158		Twelve Mile Slough	15,653	7,486	8,167
2159		Lake Marion Creek and Reedy Creek Management Area (Formerly called Upper Lakes Basin Watershed)	39,323	12,915	26,408
2160		WCAs 2 and 3	721,433	670,844	50,589
2172		Cypress Creek/Loxahatchee	4,374	4,180	194
2174		Half Circle L Ranch	11,269	0	11,269
2176		Jupiter Ridge	287	271	16
2178		Ranch Reserve	2,217	67	2,150
2185		Devils Garden	82,508	0	82,508
2186		Pine Island Slough Ecosystem	21,583	0	21,583
STATE COMPLETED PROJECTS					
2102		Babcock Ranch	73,542	73,542	0
2110		Cayo Costa Island	1,955	1,955	0
2116		Dupuis Reserve	21,875	21,875	0
2123		Frog Pond- Natural Lands	2,484	2,484	0
1305		Kissimmee Prairie Ecosystem	38,284	38,284	0
2130		Lake Walk-In-Water a/k/a Sumica	4,009	4,009	0
2131		Loxahatchee River	1,912	1,912	0
2137		Nicodemus Slough	2,231	2,231	0
2153		South Fork St. Lucie River	184	184	0
2157		Tibet-Butler Preserve	439	439	0
2161		Yamato Scrub	207	207	0
FCT, STATE PARKS, & WMAs					
		State Florida Communities Trust Lands	26,138	26,138	0
		State Park Lands	101,438	88,600	12,838
		State Wildlife Management Areas	128,279	128,279	0
FEDERAL CONSERVATION LANDS					
2162		A.R.M. Loxahatchee NWR	145,567	143,874	1,693
2164		Big Cypress National Preserve Addition	146,117	143,612	2,505

2-A.1 Table reflects June 2008 Status of the Projects to Complete Acquisition of 5.7 Million Acres of Land Identified for Habitat Protection by 2020					
Project ID	Project Endpoint	Project Name	Total Project Acres	Acres Acquired to Date	Acres Remaining To Be Acquired
2163		Big Cypress National Preserve	574,449	573,614	835
2165		Biscayne National Park	172,924	172,590	334
2166		Crocodile Lake NWR	7,100	6,706	394
2167		Everglades National Park Expansion	109,504	108,797	707
2169		Florida Panther NWR	61,573	61,563	10
2168		Florida Keys NWR	415,433	410,000	5,433
2170		Hobe Sound NWR	1,130	1,034	96
2171		J. N. Ding Darling NWR	10,275	8,783	1,492
		Dry Tortugas National Park	64,701	64,701	0
		Everglades National Park	1,399,078	1,398,617	461
TOTAL HABITAT ACQUISITION			5,666,941	4,869,419	797,521

Biennial Report Table 8 – Land Acquisition Expenditures Summary 2006-2008*

Funding Source	Amount (\$ millions)	Acres
Florida Forever	74.1	12,855.54
Save Our Everglades Trust Fund	252.8	14,067.23
State, Local & Other Funding Sources ¹	132	13,850.99
Land & Water Conservation Fund ²	0	0
TOTALS	\$458.9	40,773.76

¹ The following funding sources are captured in this category: SFWMD ad valorem, county, mitigation, special state appropriations, Preservation 2000, Land Acquisition Trust Fund, and Water Management Lands Trust Fund.
² The Land and Water Conservation Fund is administered by the DOI.
 * The fiscal year for the DEP is July 1 through June 30. The fiscal year for the SFWMD, the FWS, and the NPS is October 1 through September 30.

Picayune Strand Restoration

The PIR is complete and the recommended plan will restore and enhance over 55,000 acres of wetlands in the former Southern Golden Gate Estates development and in adjacent natural areas and public lands by reducing over-drainage while restoring a natural and beneficial sheetflow of water to the Ten Thousand Islands National Wildlife Refuge. The project includes combination of pump stations with associated spreader canal systems, canal plugs, and road removal, to restore this natural habitat in the western area of Big Cypress Basin, Collier County. Additionally, the project will significantly increase the size of wetlands and improve major wetland ecosystems in adjacent lands including the Fakahatchee Strand State Preserve, Florida Panther National Wildlife Refuge, and Collier Seminole State Park, benefiting threatened and endangered species such as the Florida panther and the red cockaded woodpecker. Water quality and volume delivered to coastal estuaries will be improved by the moderation of large salinity fluctuations caused by freshwater flowing from the Faka Union Canal into the estuaries. The project will also maintain existing flood protection for the Northern Golden Gate Estates and provide public access and recreational opportunities.

The State of Florida initiated an early start on this hydrologic restoration project in October 2003. By early 2007, seven miles of Prairie Canal have been filled and 65 miles of adjacent roadways have been removed. This work is already showing benefits by reducing area drainage in the project area and the adjacent Fakahatchee Strand State Preserve, restoring habitat for threatened and endangered species. Road removal between Prairie Canal and the Merritt Canal was completed by the SFWMD and the remaining road removal efforts are being done as a state-expedited project.

The balance of construction will be implemented by the USACE. The Chief’s Report was signed September 15, 2005 and the Assistant Secretary of the Army completed a review and referred the project to Congress by letter dated April 2, 2007. OMB has also completed their review. WRDA 2007 authorized the project for construction, dependent on appropriations from Congress.

Objective 2-A.2: Protect 20 percent of the coral reefs by 2010

At the end of the reporting period, the initial project contributing to objective 2-A.2 was completed. Additional efforts will be required to expand the protected areas from 10 percent to 20 percent by 2010. See Biennial Report Table 9.

Florida Keys National Marine Sanctuary Zoning Action Plan

The Florida Keys National Marine Sanctuary has implemented a marine zoning action plan that includes a network of fully protected areas, including two ecological reserves (Western Sambo and Tortugas Ecological Reserves), eighteen sanctuary preservation areas, and four research only areas. Combined, these areas fully protect 10 percent of the coral reef resources in the Sanctuary. The Sanctuary met the initial Task Force objective of protecting 10 percent of the coral reefs in this region by 2006. It is currently monitoring the biological, ecological, and socioeconomic changes resulting from the full protection of these areas and will use the information learned to determine the efficacy of full protection. This will inform a comprehensive review of the zoning scheme to evaluate the benefits of additional protection and/or alternative to increase full protection to 20% of coral reefs by 2010.

Biennial Report Table 9 – Protect Coral Reefs

2-A.2 Table reflects June 2008 Status of the Projects to Protect 20 Percent of the Coral Reefs by 2010				
Project ID	Project Endpoint	Project Name	Output (Percent of reefs protected)	Status
	2010	Florida Keys National Marine Sanctuary Zoning Action Plan	10%	Underway

Objective 2-A.3: Improve habitat quality for 2.4 million acres of natural areas in south Florida

At the end of the reporting period, six projects were underway. See *Biennial Report* Table 10.

Winsberg Farms Wetlands Restoration

The Winsberg Farm project was included in the 1999 Restudy as an "Other Project Element". Projects in this category were determined to be consistent with planning objectives and have a federal interest, but were too small in scale to evaluate from a system-wide perspective. The non-federal partner for USACE is Palm Beach County's Water Utilities District (PBCWUD). The project seeks restoration of approximately 114 acres of wetlands on former agricultural lands using treated wastewater from PBCWUD's Southern Region Wastewater Reuse Facility. Project lands totaling approximately 175 acres were acquired by PBCWUD from the Winsberg family. As a result of a condition of the real estate purchase agreement, Phase 1 of the project (approximately 72 acres of wetlands, plus a parking lot, visitor center, and recreational access features) was constructed. PBCWUD completed construction of Phase 1 in 2004 and renamed the project "Green Cay Wetlands".

A draft PIR was completed in February 2008 and was released for public and agency comment. The draft report recommends credit for PBCWUD's share of the project, and if approved, will be submitted to the Secretary of the Army to authorize federal funds for the construction of the Phase 2 portion of the project (the remaining 42 acres). The Final PIR is expected to be submitted to the Secretary of the Army for review late in 2008.

Biscayne Bay Coastal Wetlands

The goal of the project is to improve the current ecological health of Biscayne Bay by adjusting the quantity, quality, timing, and distribution of freshwater entering Biscayne Bay and Biscayne National Park. The primary means envisioned to accomplish this goal is through the redistribution of freshwater flow and the expansion and restoration of wetlands adjacent to southwestern Biscayne Bay (in

Miami-Dade County). This project will also enhance recreational opportunities in Biscayne Bay and adjacent wetlands.

An AFB was held in early December 2007 and a guidance memorandum was received from USACE Headquarters in April 2008. In February 2008 it was decided to divide the project into two phases. Phase I of the project will consist of the design and construction of two essential components, the Deering Estate Flow-way and the Cutler Ridge Wetlands. Phase II of the project will include the remainder of the project features not included in Phase I. The PDT is proceeding forward with the preparation of a draft PIR for Phase I, which is currently scheduled for release for public comment towards the end of this calendar year. Work on the draft PIR for Phase II is scheduled to start in 2009.

Manatee Pass Gates

Installation of the Manatee Protection System (MPS) at S-78, Ortonia Lock, is near completion, and the contractor is preparing closeout documents. The installation of the MPS at S-77, Moore Haven Lock, has been postponed until FY 2009; instead the contract for installation of the MPS at S-80, St. Lucie Lock, was awarded the week of April 28, 2008. In June 2008, construction work will be performed concurrently on S-308, Port Mayaca, and S-80, St. Lucie Lock, to minimize lock closures. Task orders for subsequent gates (W.P. Franklyn Lock and Taylor Creek Lock) are expected in the winter of 2008.

Acme Basin B Discharge

Work on a draft PIR had been suspended. However, the SFWMD, through its state-expedited project initiative, proceeded with the design and construction in advance of the scheduled 2009 construction date with most of the construction completed in 2007.

The Loxahatchee Impoundment Landscape Assessment

The SFWMD has a cooperative agreement with the USFWS to conduct long-term research in four large ridge and slough impoundments on the Arthur R. Marshall Loxahatchee NWR LILA facility. LILA is needed to inform the development of several CERP performance measures of a healthy South Florida Ecosystem. LILA is serving as a pilot study for hydrologic regimes proposed under the CERP. Key

Everglades landscape features were sculpted from existing NWR impoundments, and modified with controlled hydrologic regimes with flow rates that simulate historic flows. This design has given LILA the unique capability of measuring responses by

wading birds, tree islands, and ridge and slough communities to sustained inflows of low nutrient water. The LILA fills key information gaps of the CERP and gives the public a rare opportunity to see restored Everglades habitats.

Biennial Report Table 10 – Improve Habitat Quality

2-A.3 Table reflects June 2008 Status of the Projects to Improve Habitat Quality for 2.4 Million Acres of Natural Areas in South Florida				
Project ID	Project Endpoint	Project Name	Output (Acres of Habitat)	Status
<p><i>Note – The April 1999 USACE C&SF Project Comprehensive Review Study Final Integrated Feasibility Report and Programmatic Environmental Impact Statement included an extensive environmental evaluation of the likelihood of CERP in meeting, planning objectives for both spatial extent and habitat quality improved through implementation of the CERP projects. Table 7-18 of that publication identifies in detail the anticipated effectiveness of various alternative plans in meeting the CERP planning objectives on a sub-regional basis. However, appropriate measures by project are currently being developed through the establishment of interim goals. There are some projects included in this tracking matrix that exemplify how this objective will be achieved and are listed below.</i></p>				
2300	2010	C&SF: CERP Strazzulla Wetlands (CERP Project WBS #39)	3,335	
2301	2010	C&SF: CERP Winsberg Farms Wetlands Restoration (CERP Project WBS #91)	114	In Progress
2302	TBD	C&SF: CERP Lakes Park Restoration (CERP Project WBS #94)	60	In Progress
2303	2022	C&SF: CERP Restoration of Pineland and Hardwood Hammocks in C-11 Basin (CERP Project WBS #92)	50	In Progress
2304	TBD	A.R.M. Loxahatchee NWR Prescribed Fire Program	84.5	In Progress
2306	2009	C&SF: CERP Acme Basin B Discharge (CERP Project WBS #38) (was 1100)	365	
2307	2015	C&SF: CERP Picayune Strand Restoration (CERP Project WBS #30)	55,000	In Progress
2309	2015	C&SF: CERP Biscayne Bay Coastal Wetlands (CERP WBS #28)	1,695	
2310	2011	C&SF: CERP C-111 Spreader Canal (Formerly Project ID 1517)(CERP Project WBS #29)	TBD	
1101	2023	C&SF: CERP Indian River Lagoon – South (C-23/C-24/C-25/North Fork and South Fork Storage Reservoirs, and C-44 Basin Storage Reservoir) (CERP Project WBS #07)	97,880	
1104	2015	C&SF: CERP Lake Okeechobee Watershed (CERP Project WBS #01)	3,730	
1107	2013	C&SF: CERP Site 1 Impoundment and ASR (CERP Project WBS #40)	114	
1111	TBD	E&SF: Critical Projects - Ten Mile Creek	2,740	
1116	2017	C&SF: CERP Broward County WPAs (C-9 Stormwater Treatment Area/Impoundment and Western C-11 Diversion Impoundment and Canal and Water Conservation Areas 3A and 3B Levee Seepage Management) (Formerly Project ID 1501) (CERP Project WBS #45)	4,633	In Progress
1303	2015	E&SF: Critical Projects: Southern CREW	4,090	
1306	2013	Kissimmee River Restoration Project	27,000	
1307	2013	Modified Water Deliveries to Everglades National Park	190,000	
3902	2016	C&SF: CERP Wastewater Reuse Technology Pilot Project (CERP WBS #37) (Formerly Project ID 3802)	3,500	

Other Natural Habitat and Species Projects

South Florida Multi-Species Recovery Plan

A final implementation schedule for the Multi-Species Recovery Plan (MSRP) was completed and announced in the Federal Register on March 26, 2007. The MSRP and the implementation schedule are to be used by state and federal agencies, tribes, nongovernmental organizations, and other partners who are committed to endangered and threatened species conservation and to restoration of the South Florida Ecosystem. The implementation schedule prioritizes certain recovery actions in the MSRP, as well as providing time and cost estimates for those actions. Participants to complete those actions are also identified.

American Crocodile Reclassification in Florida

On April 19, 2007, the American crocodile in Florida was reclassified from endangered to threatened. The American crocodile, which occurs only in south Florida in the United States, was listed as endangered in 1975. Loss of nesting habitat, killing for sport, and disturbance to individuals, nest sites, and habitat led to widespread population decline. In 1975, the crocodile population in Florida was estimated to contain 10-20 breeding females. Today, the population in Florida is estimated to be 1,400-2,000 individuals (excluding hatchlings), including greater than 90 nesting females. The nesting range has expanded to include Key Largo, Biscayne Bay, Florida Bay, and occasional nests on the southwest coast. Approximately 95 percent of the remaining habitat in south Florida has been acquired by federal, state, or county agencies and is now protected from development.

Wildlife Returns to Picayune Strand

The FWC recently documented the birth of two female panther kittens in southwest Florida. Born on April 1, 2007, the mother and babies have made a den in the restored portion of Picayune Strand. This is proof positive that restoration efforts are working and wildlife is beginning to flourish in this region of the South Florida Ecosystem. Completing the Picayune Strand Restoration Project, a state-expedited project, will greatly improve panther habitat. Since 1981,

scientists have fitted many Florida panthers with radio collars, a common remote sensing tool, to help keep track of their movements, habitats, and land use patterns. The collars release radio waves that can be sensed by a special receiver. Currently, 30 panthers, including the kittens' mother, have radio collars. FWC documented over 20 panther kitten births in Florida in 2007.

Completion of land acquisition, road removal, and implementation of ecosystem management principles in Picayune Strand will further aide in the panthers' ability to feed, reproduce, and find shelter. Restoration will also improve habitat conditions for the panthers' prey, and a more restricted human presence will produce larger areas for the panthers to roam. With a completion date of 2010, the project will return the natural water flow across 85 square miles in western Collier County, drained in the early 1960s for residential development.

Key Deer Recovery

Prior to its listing as endangered in 1967, the Key deer population may have numbered as few as 50 individuals. Today, there are about 600 deer in the core portion of its range, Big Pine Key and No Name Key. Approximately 100 additional deer occur on keys outside of the core. Through translocations from the core, the FWS has augmented herds on the two keys within the species' range farthest from the core, Cudjoe and Sugarloaf. The MSRP serves as the current recovery plan for the deer and does not provide delisting criteria. The FWS is currently revising the recovery plan and anticipates completing a technical/agency draft in late 2008. This updated plan will contain criteria for both reclassification to threatened and delisting.

Reprogrammed Funds

In 2004, the FWS' South Florida Ecological Services Office received \$8.29 million from Congress to expend on threatened and endangered species recovery and restoration projects. The FWS has developed contracts and agreements to implement high-priority research projects and management actions to aid in achieving recovery of threatened and endangered species and to develop effective habitat restoration projects. As of October 2007, all of the reprogrammed funds have been obligated, committed, or spent. Based on existing contracts and

modifications, all funds will be spent by September 2009. In total 70 individual agreements and 12 purchase orders for services or goods have been completed. In implementing projects under the reprogrammed funds, the focus has been on working to ensure integration among related projects and ongoing research efforts funded by other agencies or organizations. In addition, FWS has focused on encouraging research in an applied context that provides meaningful information to aid in recovery of listed species, planning under CERP and other restoration projects, and resource management. Several important projects on candidate plants in the Florida Keys have been completed. Critical projects that are under way include research and monitoring of Cape Sable seaside sparrows, Florida grasshopper sparrows, Key Largo wood rats, and wading birds and conservation of endangered scrub plants. In developing contracts for research, the FWS has been promoting research grants that make use of the Cooperative Ecosystem Studies Units (CESU) that have been established to help provide assistance to managers in federal land management, and environmental and research agencies.

Subgoal 2-B: Control invasive exotic plants and animals

In December 2007, the Task Force reviewed the subgoals and objectives of the strategic plan. Changes to Subgoal 2-B include the consideration of invasive exotic animals and modification of the objectives regarding invasive exotic plants.

Noxious Exotic Weed Task Team

NEWTT has been coordinating on three primary projects. The first project included the development of an exotic plant indicator as part of the System-wide Indicators for the Task Force. This includes the development of a performance measure, conceptual ecological model, and communication tool for invasive exotic plant indicators. This indicator has been completed and is under review for publication and is being reported in this 2008 Biennial Report. The second task has been the development of a PIR with the USACE and the SFWMD for biological control of plants. The USACE PIR was started in July 2005 and the anticipated completion date is April 2009. The anticipated development of a master plan has been postponed indefinitely as no agency has agreed to lead this effort.

Objective 2-B.1: Achieve maintenance control of Brazilian pepper, melaleuca, Australian pine, and Old World climbing fern on south Florida's public conservation lands by 2020

At the end of the reporting period, the projects contributing to objective 2-B.1 were underway. See Biennial Report Table 11.

Florida Department of Environmental Protection Efforts

Current efforts on melaleuca have achieved remarkable success in the use of chemical control on public lands within the EPA. During the 2006-2007 fiscal years, maintenance control was conducted on approximately 4,700 acres of melaleuca within ENP. This was accomplished with \$778,000 from the BIPM Uplands Program and \$135,000 of NPS funds. An estimated 5,000 acres of melaleuca is all that remains for initial control in ENP. Melaleuca maintenance control is conducted in the WCAs each year through a partnership between the DEP and the SFWMD. For 2006-2007, a total of 53,617 acres was treated at a cost of \$1,902,000 from the Uplands Program and \$1 million in SFWMD funds. With the development and release of two biological control insects and the anticipated release of two additional insects, monitoring information indicates that melaleuca may well be a species that will no longer be a serious pest of natural areas in Florida by 2020.

However, Old World climbing fern (*Lygodium*) is now considered the most serious south Florida invader. As a fern, it reproduces by microscopic spores that are spread across the state with every hurricane. Control efforts are underway on conservation lands, but the amount of infested acres in the EPA is unknown. Between 1998 and 2007 the BIPM Uplands Program expended over \$15 million to control 55,000 infested acres. Initial control of 3,500 acres of *Lygodium* in ENP was conducted during 2006-2007 with \$300,000 from the Uplands Program and \$25,000 of NPS money. This contrasts with the very large need throughout south Florida (see Loxahatchee NWR, below). Research is being conducted on biological and chemical control

methods. The first biocontrol agent for *Lygodium* was released in 2005 and a second insect has been approved for release.

Second to *Lygodium*, Brazilian pepper is the most widespread invasive in south Florida. Although easily controlled through chemical or mechanical means, this species was planted throughout south Florida for over one hundred years. Some estimates place the extent of Brazilian pepper in south Florida (on public and private lands) at hundreds of thousands of acres. By way of comparison, the BIPM Uplands Program has controlled 70,000 acres of pepper on public conservation lands since 1997. The USDA biological control program for Brazilian pepper has one candidate species for release, but approval appears to be held up in administrative regulatory procedures. Brazilian pepper is and will continue to be an extremely widespread and serious threat to natural areas of Florida.

Australian pine is an easy species to control; however, control is often quite expensive since it can involve heavy machinery. Trees are also often located near roads, power lines, houses, and other infrastructure, raising safety concerns (and additional costs). From a control perspective, Australian pine is a much less serious problem than melaleuca, *Lygodium*, and Brazilian pepper. Nonetheless, it is a severe ecological threat to natural areas and should be

removed from the remaining conservation lands where it occurs.

Loxahatchee National Wildlife Refuge Exotic Management

During the 2006-2008 reporting period, 56,600 acres of the Arthur R. Marshall Loxahatchee NWR interior were treated by DEP for both melaleuca and *Lygodium*. Approximately 21,600 acres of *Lygodium* were aerially treated on heavily infested islands in the northern interior. The remaining 35,000 acres were covered and treated by ground crews. State funding from the BIPM Uplands Program totaled approximately \$4,390,000 for this work.

Approximately 32,800 acres were initially treated by USFWS for one or both exotic plant species, Old World climbing fern and Melaleuca. 15,000 acres were re-treated for all exotic plant species.

The FY 2008 base and special funding for USFWS will be applied to more initial ground treatments of Old World climbing fern (\$376,000), additional initial aerial treatment of both Old World climbing fern, Melaleuca, and Brazilian pepper (\$1 million), and ground re-treatments of all exotics (\$2.5 million). Heavily infested areas must receive a second and even third treatment in order to achieve maintenance control.

Biennial Report Table 11 – Maintenance Control of Invasive Species on Public Lands

2-B.1 Table reflects June 2008 Status of the Project to Achieve Maintenance Control of Brazilian Pepper, Melaleuca, Australian Pine, and Old World Climbing Fern on South Florida's Public Conservation Lands by 2020				
Project ID	Project Endpoint	Project Name	Output (control)	Status
2501	2009	Monitoring the Effects of Repeated Aerial Herbicide Application on <i>Lygodium microphyllum</i> and Native Vegetation.		
2502	TBD	Invasive exotic plants control in terrestrial and aquatic natural systems		
2503	TBD	Invasive Species Research and Information Exchange		
2504	TBD	Develop and implement a FWS Florida Invasive Species Strike Team		
2505	2026	C&SF:CERP - Melaleuca Eradication and Other Exotic Plants(Formerly Project ID 2602) (CERP Project WBS #95)		
2506	TBD	Everglades National Park Exotic Control Program (Formerly Project ID 2604)		
2507	2017	Hole-in-the-Donut (Formerly Project ID 2606)		
2508	TBD	Aquatic and Upland Invasive Plant Management		
2509	2014	Exotic Species Removal (Formerly Project ID 2605)		
2510	TBD	Exotic Vegetation Control (Critical) Big Cypress National Preserve (Formerly Project ID 2607)		

Melaleuca Control Program — Melaleuca Eradication and Other Exotic Plants

The USACE and the SFWMD amended the CERP design agreement to include this project. The PIR is being developed by the PDT with the AFB meeting held on March 10, 2008. The PIR is focusing on the mass rearing and controlled release of biological agents to control melaleuca, Brazilian pepper, Australian pine, and Old World climbing fern. The publication of the final PIR in the Federal Register is scheduled for April 2009. This project can be authorized by the Secretary of the Army under the WRDA 2000 Programmatic Authority without additional congressional authorization.

Special Report on Invasive Species

The USACE contracted with the DOI invasive species specialist to produce a special report on the federal role in invasive species management for Everglades restoration and to make recommendations on further federal involvement. This report was completed in November 2005 and recommends development of a Master Plan for management and control of invasive and exotic species.

Removal of Exotic Plants from Big Cypress National Preserve

In 2003 Big Cypress National Preserve completed initial treatment of melaleuca in the originally estimated 150 square miles infested with this invasive exotic tree. Follow-up treatments in areas of previous control have been ongoing, and were continued each of the years since. With initial treatments of melaleuca completed, more resources have been applied to control Brazilian pepper. The Preserve's strategy has been initially to eliminate some of the largest seed-source populations to reduce exotic propagule introduction from these densely populated areas, and to allow these areas to be restored to native biological communities. Treatment of *Lygodium* has

been underway for several years and all known populations have been treated or are now being treated. Surveillance for *Lygodium* continues and because of its prolific ability to spread, additional discoveries and treatment strategies are needed.

Many other exotic trees and shrubs are routinely eliminated during exotic management treatments. During fiscal years 2006 and 2007, the BIPM Uplands Program funded control of 8,101 acres of Brazilian pepper and *Lygodium* at a cost of \$474,000. This continued funding that has been provided to the Preserve since 2000, with a total outlay as of 2007 of \$1.1 million of DEP funds and \$462,000 of matching NPS funds.

Objective 2-B.2: Release 2 biological control insects per year for the control of invasive exotic plants

In December 2007, the Task Force adopted a new Objective 2-B.2 that focuses on biological controls for invasive exotic plants. The inclusion of this objective helps to better describe the suite of activities necessary to address the issue of invasive exotic plants in the South Florida Ecosystem. At the end of the reporting period, the projects contributing to objective 2-B.2 were underway. See *Biennial Report* Table 12.

USDA Quarantine Facility

The USDA Fort Lauderdale Quarantine facility has been working on biological control agents for seven invasive exotic pests including: water hyacinth, Old World climbing fern, melaleuca, Brazilian pepper, air potato, skunk vine, and lobate lac scale.

Biennial Report Table 12 – Biological Control of Invasive Species

2-B.2 Table reflects June 2008 Status of the Project to Release 2 biological control insects per year for the control of invasive exotic plants				
Project ID	Project Endpoint	Project Name	Output (control)	Status
2601	TBD	Casuarina Biological Control Agents		
2602	TBD	Lygodium Biological Control Agents		
2603	TBD	Melaleuca Biological Control Agents		

- Two insects are being tested in quarantine for water hyacinth, a plant hopper, and a stem boring fly.
- Three insects have been cleared and released for Old World climbing fern and one has become established in the field.
- Three insects have been cleared and released for melaleuca. One of these insects, a stem galling midge, appears to be establishing and looks like it may be very effective.
- Four insects are being tested in quarantine for Brazilian pepper.
- Testing on a leaf beetle for air potato has been completed and the petition for release submitted.
- Two insects are being tested in quarantine on skunk vine and one of the insects appears to be very effective and is expected to be successful once released.
- Four insect parasites of lobate lac scale have concluded their testing in quarantine. One of the four parasitic insects passed the testing protocols and looks likely for petitioning for release.

In December 2007, the Task Force adopted a new Objective 2-B.3 to begin addressing invasive exotic animals within the strategic plan. The inclusion of this objective also required modification of the subgoal language itself and is anticipated to be an increasingly important component of the strategic plan moving forward.

In February 2006, a pilot eradication project was initiated on Crawl Key where Gambian pouch rats were recorded in 2005. In June 2006, the USDA Animal and Plant Health Inspection Service (APHIS) Wildlife Services (WS) deployed 94 bait stations. Supplemental trapping was done to obtain rats for radio telemetry. It was determined that the combined effects of the eradication effort, along with impacts from Hurricane Wilma, eliminated this sub-population. Using information from previous trapping and radio telemetry work, a bait-station grid was established for Grassy Key. From January to May, 2007, 1,000 bait stations were placed throughout Grassy Key hammock and residential areas. Between May 21st and June 15th, the final eradication effort commenced with roughly 600 stations around the periphery of the original core area. Intensive surveys using remote cameras and trapping were conducted in July and September, 2007, and will be repeated for the next five years to detect and eliminate any surviving Gambian pouch rats.

Objective 2-B.3: Achieve eradication of Gambian pouch rat by 2012

At the end of the reporting period, the project contributing to objective 2-B.3 was underway. See *Biennial Report* Table 13.

Biennial Report Table 13 – Achieving Eradication of Gambian Pouch Rat

2-B.3 Table reflects June 2008 Status of the Project to Objective 2-B.3: Achieve eradication of Gambian pouch rat by 2012				
Project ID	Project Endpoint	Project Name	Output (control)	Status
2700	2011	Eradication of Gambian Pouch Rat		Underway

GOAL 3 ACCOMPLISHMENTS: FOSTERING COMPATIBILITY OF THE BUILT AND NATURAL SYSTEMS

The third strategic goal of the Task Force is fostering compatibility of the built and natural systems. The Task Force has adopted the following for this goal:

GOAL 3: FOSTER COMPATIBILITY OF THE BUILT AND NATURAL SYSTEMS

- Subgoal 3-A:** Use and manage land in a manner compatible with ecosystem restoration
- Objective 3-A.1: Prepare a land use analysis for selected restoration projects
- Objective 3-A.2: Designate or acquire an additional 10,000 acres of lands needed for parks, recreation, and open space to complement South Florida Ecosystem Restoration through local, state, and federal programs by 2015
- Objective 3-A.3: Increase participation by 350,000 acres in the Grassland Reserve Program, Wetland Reserve Program, Farm and Ranch Land Protection Program, and the Environmental Quality Incentive Program to promote compatibility between agricultural production and South Florida Ecosystem Restoration by 2014
- Objective 3-A.4: Increase the number of local governments that adopt into their comprehensive plans (goals, objectives, policies, and related strategies) - concepts compatible with South Florida Ecosystem Restoration
- Objective 3-A.5: Increase the use of educational programs and initiatives to further the publics' and local governments' understanding of the benefits of South Florida Ecosystem Restoration
- Subgoal 3-B:** Maintain or improve flood protection in a manner compatible with ecosystem restoration
- Objective 3-B.1: Maintain or improve existing levels of flood protection for the urban, agricultural, and natural environments

Objective 3-B.2: Rehabilitate the Herbert Hoover Dike to provide adequate levels of flood protection to the communities and lands surrounding Lake Okeechobee

Subgoal 3-C: Provide sufficient water resources for built and natural systems²

Objective 3-C.1: Plan for regional water supply needs

Objective 3-C.2: Increase volumes of reuse on a regional basis

Objective 3-C.3: Increase water made available through the State's Water Protection and Sustainability Program and the SFWMD Alternative Water Supply Development Program

The major projects planned to meet these objectives are listed in the Task Force *Strategy* in part one of this Volume (*Coordinating Success*), along with a schedule for their implementation. The projects or activities that were ongoing or completed during the reporting period of July 2006 to June 2008 are described below in the context of progress toward meeting each of the Task Force objectives.

Subgoal 3-A: Use and manage land in a manner compatible with ecosystem restoration

In December 2007, the Task Force reviewed the subgoals and objectives of the strategic plan. Many of the objectives under Subgoal 3-A were updated to reflect current needs and challenges as well as to reflect many of the innovative initiatives underway within the ecosystem.

² The legal authority and requirements for water supply planning are included in Chapters 373, 403, and 187 Florida Statutes. During the State of Florida's 2005 legislative session, lawmakers revised state water law. This has led to the SFWMD reporting increased water supply in Objective 3-C.2 in the alternative water supply program and deleting the Objective 3-C.1 as a measurable output of increased water. The regional water supply plans are still being done but the increased supply is being funded through the Alternative Water Supply Development Program.

Integrated Land Use and Water Supply Planning

The Florida DCA, DEP, and water management districts are implementing 2005 legislation that requires local governments to address current and future water supply needs of their communities. The statutory changes require local governments to ensure that future land use plans are based on the availability of adequate water supplies and the necessary public treatment and distribution facilities. Local governments must also amend their comprehensive plans to identify and incorporate alternative water supply projects, and include a 10-year water supply facilities work plan that shows a commitment to the construction, operation, and financing of the identified projects. The local government work plan must be consistent with the appropriate regional water supply plan adopted by the SFWMD.

During the reporting period, the SFWMD adopted four regional water supply plans, which blanket its district, border to border – Upper East Coast, Lower East Coast, Lower West Coast, and Kissimmee Basin. Each of the SFWMD's regional water supply plans concluded that the water supply for future residents must come from alternative sources. Furthermore, the potential for developing additional traditional sources is limited by the need to protect water for the natural system. In the case of the Lower East Coast plan, the SFWMD approved the plan concurrently with a new Regional Water Availability Rule, which precludes additional water withdrawals that would place new demands directly or indirectly on the Everglades. The Lower East Coast plan was based on the new rule.

There are a total of 153 local governments within the boundaries of the SFWMD that are subject to one of the four regional water supply plans. Local governments subject to the Lower West Coast and Upper East Coast plans had until January 2008 to develop and incorporate elements of their 10-year water supplies facilities work plan into their local government comprehensive plans. The local governments subject to the Kissimmee Basin plan had until June 2008 and those affected by the Lower East Coast plan have until August 2008 to do the same. In April 2008, the DCA in conjunction with the SFWMD launched an informal technical assistance initiative to identify the local governments most in need of assistance in complying with this law. This

includes helping local governments identify which projects in the regional water supply plan they intend to build and identify other alternative water supply projects that they will build as a substitute for a recommended project or in addition to a recommended project. This process and the subsequent amending of local government comprehensive plans will take place over the next two years.

Florida Greenways and Trails Designation Program

At the end of the reporting period, the Florida state-wide system of greenways and trails contained 298,777 acres plus an additional 147 linear miles of greenways and trails land in the 16-county area corresponding in whole with the SFWMD boundary.³ The primary mission of this program is to provide a recreational trail or greenway experience within 15 minutes of every residence and business within the state.

Lake Okeechobee Scenic Trail

Design and construction of the Lake Okeechobee Scenic Trail (LOST) began in 2003. This project will create a 110-mile multi-purpose trail on top of the Herbert Hoover Dike around Lake Okeechobee. November 2005 marked the official opening for Phases 1 and 2, consisting of 26 and 36 miles respectively, of an 11 foot wide asphalt multipurpose trail with an adjacent three foot hiking tread. Phases 1 and 2 were constructed by the Florida Department of Transportation using \$12.5 million of the state's federal enhancements funds. The DEP's Office of Greenways and Trails submits annual requests for funding to complete the remaining 48 miles of trail, which is expected to cost an additional \$12.5 million. To date, there have been two \$1 million allocations that will complete three miles of trail in the Fisheating Creek area where there is no levee to build the trail on, and fund a pedestrian bridge over Taylor Creek. Completion of the entire trail is contingent upon funding. Other projects underway include the Glades County Economic Development Council partnering with local Visit Florida partners to do a "wayfinding" project for LOST trailheads in Glades County. In addition, Palm Beach County received

³ The SFWMD encompasses all of Broward, Collier, Glades, Hendry, Lee, Martin, Miami-Dade, Monroe, Palm Beach, and St. Lucie Counties, as well as portions of Charlotte, Highlands, Okeechobee, Orange, Osceola, and Polk Counties.

\$1 million to construct plazas and entryways into the Palm Beach County “Glades Communities” trail system, which will connect with the LOST.

The project will make Lake Okeechobee accessible to pedestrians, backpackers, bicyclists, equestrians, sightseers, naturalists, skaters, picnickers, campers, and fishermen, allowing the surrounding communities to appreciate this great natural resource and the derived economic benefits.

Objective 3-A.1: Prepare a land use analysis for selected restoration projects

At the end of the reporting period, the project contributing to objective 3-A.1 was underway. See *Biennial Report* Table 14.

Land Use Compatibility Analyses

Beginning in December 2007, the DCA launched an initiative to analyze current and future land uses in the South Florida Ecosystem. The purpose of this analysis is to identify potential conflicts and/or opportunities for management of that land in a manner that is compatible with South Florida Ecosystem restoration. As an initial starting point, and with input from the Task Force and the SFWMD, the following four CERP projects and their surrounding land uses were chosen as “pilot” projects:

1. C-111 Spreader Canal
2. Biscayne Bay Coastal Wetlands
3. IRL-S - C-23/24 South Reservoir
4. Lake Okeechobee ASR

The DCA will analyze the relationship between the CERP project and its surrounding current and future land use categories to identify potential land use conflicts and incompatibility. As additional analyses

are conducted over time, the findings may lead to the development of model local government comprehensive plan goals, objectives and policies to address the avoidance of land use impacts that conflict with South Florida Ecosystem restoration and ensure that restoration projects are considered in future land use decisions. This project may also lead to opportunities to educate local public officials about the impacts and opportunities for ecosystem restoration at the local government level.

Objective 3-A.2: Designate or acquire an additional 10,000 acres of lands needed for parks, recreation, and open space to complement South Florida Ecosystem Restoration through local, state, and federal programs by 2015⁴

At the end of the reporting period, the project contributing to objective 3-A.2 was underway. See *Biennial Report* Table 15.

Florida Communities Trust Grant

In the 2006-2008 state fiscal years, \$60.8 million of state funds and \$73.2 million of local funds were spent through this program to acquire 4,331 acres in the South Florida Ecosystem. The local governments in south Florida have utilized this program as a resource to increase open space; provide recreational opportunities; provide public water body access; preserve natural, cultural and historical resources; and create flood and stormwater treatment solutions in a park setting.

⁴ This is a statewide goal; a regional breakout was not available from the reporting agency at the time this goal was established by the Task Force.

Biennial Report Table 14 – Florida Greenways and Trails Program

3-A.1 Table reflects June 2008 Status of the Project to Prepare a land use analysis for selected restoration projects				
Project ID	Project Endpoint	Project Name	Output (additional acres)	Status
3100	2010	Analysis of Land Use Patterns Surrounding CERP Projects		Underway

Biennial Report Table 15 – Additional Park, Recreation, and Open Space Land

3-A.2 Table reflects June 2008 Status of the Project to Designate or Acquire an Additional 10,000 acres of lands needed for Park, Recreation, and Open Space to complement South Florida Ecosystem Restoration through local, state and federal programs by 2013				
Project ID	Project Endpoint	Project Name	Output (acres/miles)	Status
	2007	Florida Communities Trust Grant Program	1,000 acres	Underway
3200	Ongoing	Florida Keys Overseas Heritage Trail (Formerly Project ID 3301)		Underway
3201	Ongoing	Lake Okeechobee Scenic Trail (Formerly Project ID 3102)		Underway
3202	2009	Florida Greenways and Trails Program (Formerly Project ID 3100)	10,000	Underway

CERP Master Recreation Plan

The draft PMP for the CERP Master Recreation Plan (MRP) was released for public comment on February 23, 2004. The MRP will coordinate CERP recreation with other known public and private recreation plans. The plan is a 'living document' to guide planners in a system-wide approach to identify, evaluate, address, and recommend recreation activities, facilities, and aspects of CERP implementation. This includes not only existing recreation use within the South Florida Ecosystem, but also potential new recreation, public use, and public educational opportunities. In 2006, the planning team hosted a series of meetings and received public input on existing recreation

conditions, future recreation needs, and recreation trends and issues. Development of the recreation performance measures was completed in May 2006.

The USACE and the SFWMD conducted another series of public meetings throughout south Florida in April and May of 2008 to present and receive feedback on regionally based recreation conceptual plans for the CERP MRP. Comment forms, fact sheets, regional conceptual plan maps, the Regional Conceptual Recreation Plans Draft Report, a public meeting presentation, and other read-ahead materials/materials for review and comment for the MRP are available at: www.evergladesplan.org/pm/progr_master_rec_plan.cfm.

Objective 3-A.3: Increase participation by 350,000 acres in the Grassland Reserve Program, Wetland Reserve Program, Farm and Ranch Land Protection Program, and the Environmental Quality Incentive Program to promote compatibility between agricultural production and South Florida Ecosystem restoration by 2014

At the end of the reporting period, the two projects contributing to objective 3-A.3 were both underway. See *Biennial Report* Table 16.

Biennial Report Table 16 – Participation in Voluntary Farm Bill Conservation Programs

3-A.3 Table reflects June 2008 Status of the Projects to Increase participation by 350,000 acres in the Grassland Reserve Program, Wetland Reserve Program, Farm and Ranch Land Protection Program, and the Environmental Quality Incentive Program to promote compatibility between agricultural production and South Florida Ecosystem restoration by 2014				
Project ID	Project Endpoint	Project Name	Output (acres/miles)	Status
3300	2011	Technical Assistance to Indian Reservations (Formerly Project ID 3201)	107,000	Underway
3301	2007	2002 Farm Bill Conservation Programs (Formerly Project ID 3202)	1,106,108	Underway

Farm Bill Conservation Programs

In 2006-2008, a total of 229,395 acres in the 16-county south Florida region were enrolled in Farm Bill conservation programs at an obligated cost of \$56,072,264. *Biennial Report* Table 17 reflects the achievement during this reporting period by specific programs.

The Wetlands Reserve Program is a voluntary program to assist landowners in restoring wetlands that have had wetlands functions reduced or eliminated by agricultural production practices. Priority is given to those lands that will maximize wildlife habitat. Permanent and 30-year conservation easements provide financial incentives for wetlands enhancement in exchange for retiring marginal agricultural lands.

The Environmental Quality Incentives Program (EQIP) is a voluntary conservation program from

the USDA Natural Resources Conservation Service. It supports production agriculture and environmental quality as compatible goals. Through EQIP, farmers may receive financial and technical help with structural and management conservation practices on agricultural land.

The Wildlife Habitat Incentives Program (WHIP) is a voluntary program for people who want to develop and improve wildlife habitat primarily on private land. Through WHIP, USDA's Natural Resources Conservation Service provides both technical assistance and up to 75 percent cost-share assistance to establish and improve fish and wildlife habitat. WHIP agreements between NRCS and the participant generally last from 5 to 10 years from the date the agreement is signed.

Biennial Report Table 17 – Farm Bill Accomplishments 2006-2008

Program	Dollar Amount	Acreage Enrolled
Wetlands Reserve Program	\$37,428,264	8,779 acres
Environmental Quality Incentive Program	\$18,200,000	208,866 acres
Wildlife Habitat Incentives Program	\$444,000	11,750 acres
TOTALS	\$ 56,072,264	229,395 acres

Objective 3-A.4: Increase the number of local governments that adopt into their comprehensive plans (goals, objectives, policies, and related strategies) - concepts compatible with South Florida Ecosystem restoration

At the end of the reporting period, the project contributing to objective 3-A.4 was underway. See *Biennial Report* Table 18.

Local Government Comprehensive Plan Research and Assessment

In conjunction with the project described under objective 3-A.1, the DCA is conducting baseline research to identify the level of protection and consideration given to South Florida Ecosystem restoration in local government comprehensive plans. The research is simple and involves the following three steps:

1. Identify each local government with a CERP project or projects located within its political boundaries.
2. Determine whether the local government comprehensive plan contains goals, objectives, or policies that specifically address South Florida Ecosystem restoration, Everglades' protection, recognition of the CERP project(s), etc.
3. Create a database containing the results of the research.

Once the research is complete and the database created, the DCA will initiate a local government outreach effort. This will include working with local

governments through the local government comprehensive plan evaluation and appraisal report process to strengthen the plans and local government decision-making in a manner that supports and complements South Florida Ecosystem restoration.

Objective 3-A.5: Increase the use of educational programs and initiatives to further the public's and local governments understanding of the benefits of South Florida Ecosystem restoration

At the end of the reporting period, the projects contributing to objective 3-A.5 were ongoing. See *Biennial Report* Table 19.

CERP Outreach and Regional Coordination

The USACE and SFWMD continued to make much progress during this reporting period to raise awareness of central and south Florida's public-at-large and socio-economically impacted communities about CERP, and continued some of these efforts at the state or national level. Innovative products, unique delivery methods, and public involvement all helped ensure that CERP was better understood and that the public had opportunities to participate in decision-making. Between July 2006 and June 2008, the USACE:

- Distributed at least 425,000 newspaper inserts, brochures, CDs, promotional items, and other materials about CERP.
- Prepared special materials for Haitian Americans about CERP, including a new poster and bookmark and related media campaign in 2008.

Biennial Report Table 18 – Comprehensive Plan Compatibility

3-A.4 Table reflects June 2008 Status of the Projects to Increase the number of local governments that adopt into their comprehensive plans (goals, objectives, policies, and related strategies) - concepts compatible with South Florida Ecosystem Restoration				
Project ID	Project Endpoint	Project Name	Output	Status
3400	2010	Consideration of Land Use Policies and Planning by Local Governments with CERP		Underway

Biennial Report Table 19 – Increase Community Understanding

3-A.5 Table reflects June 2008 Status of the Projects to Increase the use of educational programs and initiatives to further the publics' and local governments' understanding of the benefits of South Florida Ecosystem restoration				
Project ID	Project Endpoint	Project Name	Output	Status
3502	Ongoing	USACE Outreach Program	Public meetings, speakers bureau, presentations at conferences, symposia and interest group meetings, environmental education, newsletters: Everglades Report and Community Outreach in Action, community events, media relations and extensive use of the web.	Ongoing
3503	Ongoing	SFWMD Outreach Program		Ongoing

- Continued to translate materials into both Spanish and Creole, as needed.
- Distributed 10 issues of an electronic newsletter about Everglades outreach activities.
- Held more than 35 public meetings or workshops for CERP and related topics.
- Distributed more than 60 news releases for CERP and related topics.
- Participated in at least 55 community events with staff, displays and materials. Bilingual staff members often were present.
- Updated the official CERP website with current information, including many of these public information products. Presentations are available in Spanish and Creole.

Other highlights from SFWMD and USACE for the reporting period are summarized below.

General Public Awareness. Many successful outreach efforts took place to raise awareness of and encourage involvement in the CERP. The official CERP website (www.evergladesplan.org) continued to provide an important source of current and archived news and information to the public and stakeholders about the CERP and was updated regularly. A toll-free line introduced in 2005 continued this reporting period. The line (1-877-CERP-USA) is recorded in English and Spanish, updated regularly with meetings and activities, and allows callers to leave a name to receive information in English or Spanish by mail. A network of CERP touch-screen kiosks expanded this reporting period. There were eight kiosks managed by the USACE in 2008. The presentation was updated, translated into Spanish, and a new exterior wrap was developed. The kiosks have been placed in public

locations throughout south Florida, including a community college, science magnet school, and libraries. Screensavers were also developed.

An electronic newsletter, *CERP Report*, continued through 2007. An electronic newsletter about CERP news and projects, *Everglades Report*, was introduced in 2008, is distributed six times a year, and is available online. A new game for children and adults was introduced this reporting period: *Name That CERP Sound*. It features the sounds of birds and other animals of the Everglades. Fact sheets were produced on CERP projects and promotional items helped keep the CERP fun at community and other events.

The 2006 *CERP Report to the Public* was printed and distributed in early 2007 as well as being made available on the website. The 2007 *CERP Report to the Public* is currently in draft and should be available in print and out on the website later in 2008.

Ecosystem Restoration – with a focus on the Everglades – was the topic of one issue of the *Water Matters* newspaper insert produced quarterly by the SFWMD. This issue mirrored the project milestones in the executive summary of the annual *South Florida Environmental Report*. It was distributed in 1.5 million newspapers through the 16 counties.

A monthly Greater Everglades Ecosystem e-letter is also produced by the SFWMD and distributed electronically throughout the 16 counties and beyond. It also continues to be posted on the website. It covers project thresholds and events and usually includes dynamic video stream on a project in progress.

The SFWMD contributed photos and text on water management in south Florida and Everglades history and restoration for an interactive kiosk at the newly opened Palm Beach County Historical Society. Additionally, oversight and photography was provided for a new comprehensive Everglades exhibit at the South Florida Science Museum.

The SFWMD contracted with a film crew to produce *Everglades Restoration Update* segments that ran on local broadcast news stations (currently the CBS affiliate) on the lower west coast. These vignettes highlight components of Everglades restoration with an interviewer and engineer and/or scientist in the field. They are 3-5 minutes in length and have been very successful to provide filler for the evening news shows. In 2007, the SFWMD produced 13 stories that ran weekly for 3 months and then went to 13 stories over a 6-month period to run bi-monthly. The segments were repackaged into half-hour shows that provided edu-tainment on the ferry ride from the west coast to the Florida Keys.

Minority Community Outreach. Special efforts continued to reach south Florida's African American, Haitian, and Hispanic residents with the CERP message. This included participating at community events with a display, materials, and team members; developing creative and culturally-sensitive public information products and programs; translating materials to Spanish and Creole; continuing an electronic newsletter and newspaper insert (*Community Outreach in Action*); producing television and radio programs; and holding special events (such as for Earth Day) in minority communities. The kiosks were placed in cities with high populations of minority residents, such as the Glades areas (Belle Glade, South Bay, and Pahokee) and Clewiston when possible.

In reaching out to the youth of the African American community, the USACE continued to produce "Living with the Waters," a comic strip series and workbook that teaches young readers lessons about how the Everglades figure in everyday life. New products included comic installments, an activity book, and a bookmark. For the Hispanic community, the kiosks were placed in areas with large Hispanic populations each September in observance of Hispanic Heritage Month, with an associated special event. For the Haitian community, a new event called

Haitian Art Expressions was launched in 2006, the kiosk was placed in areas with larger Haitian populations in May (in connection with Haitian Flag Day), and the overview to the kiosk was translated into Creole. A print newsletter, *Community Outreach in Action*, continued to be published approximately two times a year, with a total of 150,000 copies of each issue delivered to minority communities via newspaper inserts and community groups.



Outreach was greatly expanded to the Lake Okeechobee area this reporting period. This was in response to a hurricane in 2005 and public interest in the rehabilitation of the Herbert Hoover Dike and CERP. Many of the residents who live and work around the lake are minority residents. Activities this reporting period for Lake Okeechobee communities included partnering with the Project HOPE organization in 2006 to organize community outreach activities; adding dedicated outreach staff members to visit local governments and communities regularly (one is fluent in Spanish); development of many print and online materials about the lake and dike; development of an online video about the lake and dike; holding a small business industry day in 2007; and placing comment card boxes in lake communities.

The SFWMD developed community coordination groups consisting of community colleges, community development corporations, ministerial alliances, elected officials, transportation representatives, workforce development, farm workers migrant programs, chambers of commerce, economic development councils, Florida Rural Economic Development Initiative (FREDDI), Florida Gulf Coast University, Education Center of Southwest Florida, and others. These groups helped to identify the local

labor force, students for training, and small businesses that could participate in Everglades restoration work activities. The SFWMD also regularly informed these groups of project progress. Monthly one-on-one meetings were also held by the SFWMD with elected officials from the Glades area, and presentations were provided at city council and county commission meetings and other area meetings on a regular basis. Recruitment fairs were held by the SFWMD in Belle Glade, and door to door outreach was conducted to inform the community about CERP.

Environmental Education. The USACE continued with a very popular environmental education program this past reporting period. *The Journey of Wayne Drop to the Everglades* is a storybook for third to fifth graders about the Everglades ecosystem. An accompanying teacher's guide with lesson plans also was developed. The storybook was first introduced in 2005, with widespread distribution to central and south Florida classes at that time. Since then, the USACE has continued the program on both the state and national level. The USACE has participated in state and national science teachers conferences for three years to raise awareness about the storybook and teacher's guide. During this reporting period the USACE distributed 44,000 student booklets in English. The storybook was also translated into Spanish and Creole, with 10,000 of each printed and distributed this reporting period. All products were placed online in a downloadable format. Associated promotional products were developed and distributed including fact sheets, a mobile, bulletin board characters, Wayne Drop squeeze figures, and rulers. In 2007, the remaining story books were distributed to private, charter, public, and home schools in central and south Florida, and to requestors nationally via an online request form. An online reading list also was developed of books of the Everglades in a searchable database.

The USACE held Earth Day events in 2007 and 2008 with elementary school students in south Florida creating more than 3,900 individual artworks on the Everglades. Associated special events were held in regional malls and movie theaters.

The SFWMD, in conjunction with the School Board of Palm Beach County and other partnering bodies, redeveloped curriculum for the Newspaper In Education (NIE) program for middle and high school

students entitled: "Everglades: An American Treasure." This environmental educational material provides a history of the Everglades, educates students on goals of the CERP, and discusses current and future plans for restoring the ecosystem. The curriculum includes a student newspaper along with a teacher's guide that has Florida Comprehensive Assessment Test (FCAT) structured questioning and benchmark reading for seventh and ninth graders. It is distributed to more than 200,000 students throughout the 16-county region of the SFWMD.



As a complement to the NIE, the SFWMD also offers an Everglades Teacher Workshop where teachers are provided hands-on training on how to teach their students about the Everglades using this curriculum. The SFWMD offers one workshop per region on an annual basis where more than 100 teachers participate in these sessions.

An offset to the Everglades restoration stories produced for evening news segments (described above) is an interactive DVD developed for the classroom. The video segments have been repackaged into lessons highlighting the flora and fauna in the Everglades and the challenges faced when restoring this American treasure. Students provide the voice-over talent and questions have been added at the end of each lesson. These are distributed to teachers attending the NIE workshops. Approximately 150 copies have been distributed to schools with expanded stories and distribution in the works for next fiscal year.

Teacher workshops and curriculum was also being developed for the Loxahatchee Impounded Landscape Assessment (LILA) project for 7th and 9th graders. Two workshops will be conducted this fiscal year with plans to double this effort next year.

The SFWMD has also purchased five CERP kiosks strategically placed within the District's region to further showcase the goals, objectives, and progress on CERP.

Finally, the SFWMD partnered with the Urban League of Palm Beach County and Audubon of Florida to provide intern opportunities for at-risk youth from high school and college to work on Everglades related projects.

Small Business Outreach. Many efforts were made to reach south Florida's small and minority-owned businesses with information on how to participate in CERP. This included holding workshops, distributing printed materials, updating materials, participating in small business related conferences and fairs, and other efforts to ensure small business owners and representatives understand the separate federal and state contracting processes. In 2007, an industry day was held for the Herbert Hoover Dike Rehabilitation Project to increase awareness of the federal contracting process and opportunities for small businesses in the area. Lessons and concepts presented applied to other large programs around the lake, including the CERP.

The SFWMD participation approach consisted of identifying construction related businesses through business related groups, i.e. builders associations, economic development groups, and trade associations. The second approach was personal contact with small businesses in the area. Public meetings and construction symposiums were held for the public. The SFWMD developed a database and entered registered vendors into the database. Project managers were encouraged to divide large projects into smaller projects when possible to encourage small business participation at the prime level. Vendors were constantly notified of prime and subcontractor opportunities for Everglades restoration contracts. Vendors were also educated about the SFWMD procurement process, and the database of vendors was provided to prime contractors so they could identify potential subcontractors. In addition, a "Help Wanted" newsletter was created and distributed monthly to area businesses that contained information on upcoming projects and bids. The SFWMD enacted a new Small Business Enterprise (SBE) program which mandated that prime

contractors utilize a set percentage of SBEs for subcontract activity.

As part of CERP's mission to reach out to socially and economically disadvantaged communities, the SFWMD partnered with Palm Beach Community College, Education Center of Southwest Florida, and Miami Lakes Educational Center's Adult Education Division to develop and implement workforce development programs. Residents and contractors in areas where CERP projects will be built were trained in basic construction skills and heavy equipment operations to carry out expedited construction projects. In May 2006, 17 students from Belle Glade graduated from this training, making them the first class trained to work on an Everglades restoration project, the EAA A-1 Reservoir. Graduates received a certificate [Occupational Safety and Health Administration (OSHA) 10 certification, employability skills, small tool identification, site orientation, blue print reading, etc.] along with a uniform, hard hat, tools, and other accessories required for this trade.

Several symposiums have been hosted in local communities to increase awareness, provide skill assessments, and promote workforce training. To date, the SFWMD has held six symposiums, with over 1,500 interested parties attending. They were held in LaBelle (Hendry County), Belle Glade and West Palm Beach (Palm Beach County), Okeechobee (Okeechobee County), Stuart (Martin County), and Ft. Myers (Lee County). Face-to-face meetings were also conducted with more than 600 individuals/businesses for potential partnership and participation in this workforce effort.

Project-Level Involvement. Many public meetings and workshops were held to inform and include the public in the development of CERP projects. This form of project-specific communication is essential to the success of the CERP. Meetings were announced in advance, held in convenient locations, and often featured an open house session to meet CERP staff prior to the formal meeting or workshop. For those people who could not attend meetings, all meeting documents were posted online. Comments were taken online, in addition to those taken in person at the meetings and workshops. Fact sheets were developed for individual CERP projects, with some translated into Spanish.

Since the launching of the accelerated projects initiative in 2004, the SFWMD has held numerous public workshops to encourage the exchange of ideas and information from stakeholders and the general public on the design phases of specific projects. Since 2004, four Construction Symposia and thirteen WRAC Issues Workshops/Public Meetings have been held. These meetings and workshops were held in locations in close proximity to the projects in order to offer greater public and stakeholder attendance and participation. As the accelerated projects move from design into construction, the public has been invited to participate in groundbreaking ceremonies to share the accomplishments of ‘turning dirt’ on these projects. To date, 12 groundbreakings have been held for the accelerated projects.

Economic Benefits. The accelerated restoration projects have provided the south Florida economy with new job opportunities on various projects. For the EAA Reservoir Phase 1 Project, over 80 percent of the workforce hired is from the state of Florida, with over 52 percent coming directly from the Glades and Clewiston communities. Additionally, more than 80 percent of the goods and services have been provided from Florida companies, with 20 percent coming directly from the Glades community. Of the 310 current hourly project employees, 265 are from Florida: 124 are from the Glades area, 38 are from Clewiston, 84 are from within the SFWMD 16 counties, and 19 are from communities outside the 16 counties, but within Florida. Payroll wages of \$13,541,000 have been put directly back into Florida residents’ household incomes. \$5,066,000 have gone to residents of the Glades area, \$4,276,000 to local residents within the SFWMD 16 counties within Florida, and \$2,459,000 to Florida residents outside the 16 counties but within Florida.

In addition, the following expenditures were made for the referenced accelerated projects:

- Picayune Strand Restoration (Collier County region)
 - 28 local businesses
 - \$8,047,550 in expenditures to date (100%)
- C-43 Test Cells (Hendry County region)
 - 33 local businesses
 - \$10,000,000 in expenditures to date (100%)
 - 55 new jobs
- C-44 Test Cells (Martin/St. Lucie County region)
 - 42 local businesses

- \$84,900,000 in expenditures to date (100%)
- 20 new jobs
- Compartment B-ST A-2, Cell 4 (Palm Beach County)
 - 19 local businesses
 - \$19,419,909 in expenditures to date (100%)
 - 19 new jobs
- STA-5, Flow-Way 3 (Hendry County)
 - \$12,012,566 in expenditures to date (100%)
- STA-6, Section 2 (Hendry County) \$22,433,986 expenditures to date (100%)

The Museum of Discovery and Science and the Task Force Collaboration Committee

The Museum of Discovery and Science (MODS) continued to serve as the interpretive site for Everglades restoration by educating south Florida’s residents and visitors about the quality, quantity, timing, and distribution of water in the Everglades. During the reporting period, the *Florida Ecoscapes* exhibit was visited by over 450,000 visitors including 95,000 school children. Museum programming focused on a unique combination of engaging hands-on demonstrations, labs, and live animal encounters. These presentations were delivered at the museum and in the community. Additional Everglades programming was delivered during the museum’s camp-ins, day camps, summer camps, and via school, public, and BECON television programs. An estimated 48,000 children from underserved areas were served through school and community visits and special programs targeting at-risk youth.

Through a collaborative initiative with the South Florida National Parks Trust and Florida Aquarium (Tampa), MODS held 10 training workshops for public school teachers and provided them with curriculum resources on how to bring Everglades education into the classroom. Separate Everglades courses were directed at children in grades K-3, 4-6, and 5-8. For the third consecutive year, the Florida Division of Forestry provided funding for MODS urban forestry internships that encouraged their interest in pursuing careers in environmental sciences and/or teaching. Five high school students worked in the program, giving over 350 informal presentations and tending the museum’s backyard exhibit. Through collaboration with the University of Central Florida Media Convergence Laboratory, the museum has

started participating in a four-year National Science Foundation project that will merge virtual reality technology with museum exhibits to tell the Florida Water Story. The MODS capital campaign to build the *EcoDiscovery Center* moved into high gear this year. Over \$14 million has been raised toward the \$20 million expansion project, which is scheduled for groundbreaking in 2011. To date, the museum has received four naming gifts of over \$1 million. Construction on the first phase of the project, the Bank of America Visitor Pavilion, began in March 2008.

Everglades Radio Network

The Everglades Radio Network (ERN) was the first FM version of a highway advisory radio station in Florida designed to educate and inform Florida’s residents and visitors about the expansive Everglades ecosystem. The network’s original programming highlights the natural wonders and environmental challenges facing the restoration of the Greater Everglades Ecosystem, as well as profiles of individuals and organizations associated with the region.

Serving as a vital link to more than 18,000 motorists daily, ERN also enhances highway and public safety by airing emergency weather bulletins, travel advisories, and Amber Alerts along Alligator Alley, the reversible hurricane evacuation route linking southwest and southeast Florida. Broadcast from Florida Gulf Coast University, the magazine-style continuous broadcast from WFLP-LP or WFLU-LP (FM 98.7 or 107.9) features details about the Everglades ecosystem, its wildlife and habitat, along with a history of the Everglades and the natural and man-made forces affecting its future. All of ERN’s segments are also available over the Internet at www.evergladesradionetwork.org. The website links to the live streaming broadcast or individual segments in MP3 format, which are available to be downloaded for educational purposes.

Subgoal 3-B: Maintain or improve flood protection in a manner compatible with ecosystem restoration

Objective 3-B.1: Maintain or improve existing levels of flood protection for the urban, agricultural, and natural environments

At the end of the reporting period, one project contributing to objective 3-B.1 is ongoing and one is underway. See *Biennial Report* Table 20.

C-4 Basin Flood Mitigation Project

The project was under construction during the reporting period and is scheduled to be completed in March 2011. The C-4 Emergency Detention Basin Phase 1 and the C-4 Emergency Detention Phase 2 were completed and operational as of 2006. Phase 3 involved the selective dredging of the C-4 to improve conveyance capacity at SW 132nd Avenue and the Florida Turnpike. This project was completed in June 2007. A gravity wall (flood wall) will be constructed in three segments along the north bank of the C-4 Canal from: 132nd Avenue to the Florida Turnpike; SW 107th Avenue to SW 97th Avenue; and from SW 97th Avenue to the Palmetto Expressway. A portion of the first segment is in the solicitation process and the contract is expected to be awarded in June 2008. The remaining segments will proceed upon obtaining sufficient construction easements and with the availability of funds.

Biennial Report Table 20 – Flood Protection

3-B.1 Table reflects June 2008 Status of the Projects to Maintain or Improve Existing Levels of Flood Protection for the urban, agricultural, and natural environments				
Project ID	Project Endpoint	Project Name	Output	Status
3600	2013	C-4 Flood Mitigation Projects	Flood protection at 1 in 10-year level	Ongoing
1300	2010	C&SF: Canal C-111(South Dade)	Flood protection at 1 in 10-year level	Underway

Objective 3-B.2: Rehabilitate the Herbert Hoover Dike to provide adequate levels of flood protection to the communities and lands surrounding Lake Okeechobee

At the end of the reporting period, the project contributing to objective 3-B.2 is ongoing.
See *Biennial Report* Table 21.

Biennial Report Table 21 – Herbert Hoover Dike

3-B.2 Table reflects June 2008 Status of the Project to Provide Adequate Levels of Flood Protection to the Communities and Lands Surrounding Lake Okeechobee				
Project ID	Project Endpoint	Project Name	Output	Status
3700	2025	Herbert Hoover Dike Rehabilitation		Ongoing

Herbert Hoover Dike Rehabilitation

The Herbert Hoover Dike (HHD) system consists of approximately 143 miles of levee surrounding Lake Okeechobee with 19 culverts, hurricane gates, and other water control structures. The first embankments around Lake Okeechobee were constructed by local interests from sand and muck, circa 1915. Hurricane tides overtopped the original embankments in 1926 and 1928 causing over 3,000 deaths. The River and Harbor Act of 1930 authorized the construction of 67.8 miles of levee along the south shore of the lake and 15.7 miles of levee along the north shore. The USACE constructed the levees between 1932 and 1938 with crest heights ranging from +32 to +35 feet, NGVD.

A major hurricane in 1947 prompted the need for additional flood protection work. As a result, Congress passed the Flood Control Act of 1948 authorizing the first phase of the C&SF Project. By the late 1960's the new dike system was completed, raising the elevation of the levees to +41 feet, NGVD. This provides protection to the Standard Project Flood level, approximately an event occurring once in 935 years.

However, investigations conducted in the 1980's and early 1990's of the dike system's potential seepage and stability problems resulted in the identification of two major areas of concern: the seepage and embankment stability at the culvert locations, and the problematic foundation conditions of the dike. During high water events piping is experienced through the levee. In 1999, the USACE developed a plan to rehabilitate the HHD and the plan was approved in 2000. This rehabilitation work covers the entire dike. The areas of work are defined as Reaches 1 – 8, with Reach 1 further divided into four sub-reaches, A through D.

Currently the project is broken into three phases: (1) completion of the Major Rehabilitation Report (MRR) for Reaches 2 and 3, (2) design of land side rehabilitation within Reach 1, and (3) construction of a cut-off wall in Reach 1.

The MRR includes looking at a system of alternatives to rehabilitation in Reaches 2 and 3 of HHD while performing a risk assessment that focuses on geotechnical, structural, and loss of life as the basis for the report. The Draft MRR is expected to be completed in March 2009 with a Final MRR expected in December 2009.

Design continues on sub-reaches 1A, B, C, and D of the land side rehabilitations. Design alternatives range from construction of seepage berms, installation of relief wells, filling of perimeter toe ditch, or a combination of features. The Reach 1 land side design is being completed by USACE Jacksonville District staff, dam safety experts from other USACE Districts, as well as USACE contractors. All land side design work is being reviewed by independent technical review teams as well as USACE dam safety experts. All landside design work in Reach 1A is scheduled to be completed by May 2009.

Cut-off wall installation began in sub-reach 1A and is being completed by a combination of three under a Multiple Award Task Order Contract (MATOC) vehicle throughout all of Reach 1. The cut-off wall is being installed about 60-feet below the crest of HHD with installation depth dependant on the geology of the Reach. Cut-off wall installation is scheduled to be completed in Reach 1 by 2011.

Subgoal 3-C: Provide sufficient water resources for built and natural systems

Objective 3-C.1: Plan for regional water supply needs ⁵

At the end of reporting period updates of the four regional water supply plans within the South Florida Ecosystem that contribute to objective 3-C.1 were all underway and nearing completion. See *Biennial Report* Table 22.

Biennial Report Table 22 – Regional Water Supply

3-C.1 Table reflects June 2008 Status of the Regional Water Supply Plans				
Project ID	Project Endpoint	Project Name	Output (plans)	Status
3800	2008	Regional Water Supply Plans (Formerly Project ID 3704)	Plan	Underway

Regional Water Supply Plans

Updates of the Upper East Coast and Lower West Coast Water Supply Plans were approved in July 2006. The Kissimmee Basin Water Supply Plan Update was approved in December 2006 and the Lower East Coast Water Supply Plan Update was approved in February 2007. The updated plans reflect the Water Resource Protection and Sustainability Program, created by

Senate Bills 444 and 332 and enacted in the 2005 state legislative session. The Water Resource Protection and Sustainability Program requires a higher level of water supply planning and coordination between the water management districts and local governments and ensures that permitted water supply and potable water facilities are available before new development is approved.

Objective 3-C.2: Increase volumes of reuse on a regional basis

At the end of the reporting period, the projects contributing to objective 3-C.2 are on hold. See *Biennial Report* Table 23.

Wastewater Reuse Technology Pilot

The Technology Pilot Project as originally identified in the CERP has been on hold since 2004. The PMP was approved in November 2003 and part of the initial PIR efforts (e.g. site-selection, the development of a Technology Report to evaluate

various treatment alternatives, the performance of these alternatives in obtaining the desired water quality to be discharged to a pristine environment, and the capital and operating costs associated with these technologies for full-scale implementation and the monitoring and evaluation of the presence of micro-contaminants in the existing wastewater treatment facility in South Miami-Dade County), were completed at the time that the project was put on hold.

⁵ The legal authority and requirements for water supply planning are included in Chapters 373, 403, and 187 Florida Statutes. During the State of Florida’s 2005 legislative session, lawmakers revised state water law. This has led to the SFWMD reporting increased water supply in Objective 3-C.2 in the alternative water supply program and deleting Objective 3-C.1 as a measurable output of increased water. The regional water supply plans are still being done but the increased supply is being funded through the Alternative Water Supply Development Program.

Biennial Report Table 23 – Water Reuse

3-C.2 Table reflects June 2008 Status of the Projects to Increase Volumes of Reuse on a Regional Basis				
Project ID	Project Endpoint	Project Name	Output (mgd)	Status
3900	2023	C&SF: CERP – South Miami-Dade County Reuse (CERP Project WBS #98) (CERP Project # WBS 98)(Formerly Project ID 3800)	131	
3901	2023	C&SF:CERP – West Miami-Dade County Reuse (CERP Project WBS #97) (CERP Project # WBS 98)(Formerly Project ID 3800)	100	
3902	2016	C&SF: CERP Wastewater Reuse Technology Pilot Project (Formerly Project ID 3802) (CERP Project WBS #37)		

Water reuse will be implemented in Miami-Dade County over the next 20 years. A 20-year consumptive use permit was issued for the Miami-Dade Water & Sewer Department in 2007. This permit incorporates 170 mgd of reuse projects. Potential projects include ground water recharge, environmental enhancement, and irrigation. The permit includes development and construction of a Technology Pilot Project.

To advance water reuse in southeast Florida, the SFWMD, in cooperation with the cities of Sunrise and Plantation, conducted advanced wastewater treatment pilot studies to evaluate the alternative of reusing highly treated reclaimed water for ground water replenishment via canal discharge and infiltration

trenches in 2007. The pilot studies investigated the performance of different physical-chemical and biological advanced waste, including removal of micro-constituent, and modeling the fate, transport, and impact of discharged reclaimed water, and evaluated the toxicity of reclaimed water discharged into natural water bodies.

The volume of wastewater that was treated and reused in the SFWMD has almost doubled over the last 10 years to 229 MGD. See *Biennial Report* Table 24. Reclaimed water is being reused for irrigation of residential lots, golf courses, and other green space, ground water recharge, industrial uses, and environmental enhancement.

Biennial Report Table 24 – SFWMD Water Reuse, 2006

Region	Wastewater Treated (mgd)	Water Reused (mgd)	% of Wastewater Reused
Lower East Coast	650	67	10%
Lower West Coast	83	69	83%
Upper East Coast	19	11	58%
Kissimmee Basin	82	82	100%
TOTALS	834	229	27%

Objective 3-C.3: Increase water made available through the State's Water Protection and Sustainability Program and the SFWMD Alternative Water Supply Development Program

At the end of the reporting period, the project contributing to objective 3-C.3 was underway and ongoing. See *Biennial Report* Table 25.

Biennial Report Table 25 – Alternative Water Supplies

3-C.3 Table reflects April 2008 Status of the Project to Increase Water Made Available through the State's Water Protection and Sustainability Program and the SFWMD Alternative Water Supply Program				
Project ID	Project Endpoint	Project Name	Output (mgd)	Status
4000	TBD	Alternative Water Supply Grant Program (Formerly Project ID 3900)	172	Ongoing

Alternative Water Supply Grant Program

The Alternative Water Supply (AWS) Development Program awards grants to local water providers to develop additional water supply through alternative technologies.

In 2005, the Florida Legislature revised state law and created the Water Protection and Sustainability Program, which established recurring funds and is administered through the SFWMD's Alternative Water Supply Funding Program specifically for cost-sharing AWS project construction costs. The new legislation defined AWS projects as: saltwater and brackish water projects; surface water captured predominately during wet-weather flows; sources made available through the addition of new storage capacity; reclaimed water; stormwater (for use by a

consumptive use permittee); and any other source designated as nontraditional in a regional water supply plan.

The annual targets and the actual alternative water supplies for each region are listed in *Biennial Report* Table 26. The 2007 achievements were lower than the annual water targets by 4.83 mgd. The 2007 targets were based on the estimated water made available in the applications received. The Alternative Water Supply Program recommended that 55 projects receive funding for fiscal year 2007. The FY2007 budget included \$36 million in AWS funding for local government and other partners of which \$18 million was provided by the State for 55 water supply projects as part of the Alternative Water Supply Funding Program.

Biennial Report Table 26 – SFWMD Alternative Water Supply Program Achievements, 2007

Region	2007 Targets (mgd)	2007 Achievements (mgd)
Lower East Coast	22.30	20.30
Lower West Coast	7.70	3.70
Upper East Coast	2.33	5.50
Kissimmee Basin	3.15	1.15
TOTALS	35.48	30.65

Measuring Progress Toward Restoration



MEASURING PROGRESS TOWARD RESTORATION

The Task Force requested that the SCG develop a small set of System-wide Indicators (Table 27) that will help them understand in the broadest terms how the ecosystem, and key components, are responding to the implementation of restoration projects, initiatives, and management activities. In response to this request, a suite of System-wide Indicators was developed in an open and transparent process, independently reviewed and identified in the 2006 Strategy and Biennial Report. The indicators are organized into ecological and compatibility categories. Since 2006 the SCG, in close cooperation with RECOVER and the broader community of indicator scientists, coordinated a common format for assessing and communicating the scientific aspects of the ecological indicators. This is the first year that the Biennial Report will include the status of the ecological indicators. Metrics and targets for the compatibility indicators are being developed, tested, and vetted. As additional years are added to the biennial indicator report, additional columns of stoplights will be added to the stoplight tables and will provide a framework for seeing trends in restoration for each indicator. The biennial stoplight reports are linked to the detailed information contained in the report entitled, *System-wide Indicators for Everglades Restoration 2008 Assessment*.

The CERP and RECOVER programs are and will be monitoring many additional aspects of the ecosystem including such things as: rare and endangered species, mercury, water levels, water flows, storm-water releases, dissolved oxygen, soil accretion and loss, phosphorus concentrations in soil and water, algal blooms in Lake Okeechobee, hydrologic sheet flow, increased spatial extent of flooded areas through land purchases, percent of landscape inundated, tree islands, salinity, and many more. The set of indicators included here are a sub-set from a larger monitoring and assessment program and they are intended to provide a system-wide, big-picture appraisal of restoration. Many additional indicators have been established that provide a broader array of parameters. Some of these are intended to evaluate sub-regional elements of the ecosystem (e.g. individual habitat types) and others are designed to evaluate individual CERP projects (e.g. water treatment areas). This combination of indicators will

afford managers information for adjusting restoration activities at both large and small scales. This suite of System-wide Indicators was developed specifically to provide a top-of-the-mountain-view of restoration for the Task Force and Congress. The approach used to select these indicators focused on individual indicators that integrate numerous physical, biological, and ecological properties, scales, processes, and interactions to try to capture that sweeping mountain-top-view. Identifying a limited number of focal conservation targets and their key ecological attributes improves the successful use and interpretation of ecological information for managers and policy makers and enhances decision-making.

A goal has been to develop a suite of indicators composed of an elegant-few (Table 27) that would achieve a balance among: feasibility of collecting information, sufficient and suitable information to accurately assess ecological conditions, and communicating the information in an effective, credible, and persuasive manner to decision makers. For the purposes of this set of indicators, system-wide is characterized by both physiographic and ecological elements that include: the boundary of the SFWMD and assessment modules and the ecological links among key organisms.

In addition, these indicators will help evaluate the ecological changes resulting from the implementation of the restoration projects and provide information and context by which to adapt and improve, add, replace, or remove indicators as new scientific information and findings become available. Indicator response will also help determine appropriate system operations necessary to attain structural and functional goals for multiple habitat types among varying components of the Everglades system.

Using a suite of System-wide Indicators (Table 27) to present highly aggregated ecological information requires indicators that cover the spatial and temporal scales and features of the ecosystem they are intended to represent and characterize. While individual indicators can help adaptively manage at the local scale or for particular restoration projects, collectively indicators can help assess restoration at the system scale.

Stoplight-Key Findings Report Cards

The integrated summary is presented in a 2-page format using colored traffic light symbols that have a message that is instantly recognizable, easy to comprehend, has appropriate cultural associations for the responses needed in each case, and is universally understood. This stoplight restoration report card provides a uniform and harmonious method of rolling-up the science into an uncomplicated synthesis. This report card effectively evaluates and presents indicator data to managers, policy makers, and the public in a format that is easily understood, provides information-rich visual elements, and is uniform to help standardize assessments among the indicators in order to provide more of an “apples to apples” comparison that managers and policy-makers seem to prefer.

The 2008 Assessment of the suite of System-wide Indicators includes a 2-page stoplight/key summary report card for each indicator summarizing the status of the indicators, a more detailed set of science reports on the status of each indicator, and a summary synthesis that evaluates the collective information of the suite of indicators. For more detailed information on these indicators please also refer to the report entitled, *System-wide Indicators for Everglades Restoration 2008 Assessment* available online at www.sfrestore.org. This report contains summary information for each of the

system-wide indicators and a synthesis of the indicators collectively. This report was independently reviewed by a panel of scientists including: Dr. Jeffrey Jordan, Dr. Donald Kent, Dr. JoAnn Burkholder, Dr. Joanna Burger, and Dr. Robert Ward. Additional information on the individual indicators, their development, and application is available in the peer reviewed journal: *Ecological Indicators Special Issue – Indicators for Everglades Restoration*.

Biennial Report Table 27 – Task Force System-wide Indicators for 2008

ECOLOGICAL INDICATORS

- Fish and Macroinvertebrates
- Wading Birds (White Ibis, Wood Stork)
- Wading Birds (Roseate Spoonbill)
- Florida Bay Submerged Aquatic Vegetation
- Florida Bay Algal Blooms
- Crocodylians (American Alligators and Crocodiles)
- American Oysters
- Periphyton and Epiphyton
- Juvenile Pink Shrimp
- Lake Okeechobee Littoral Zone
- Invasive Exotic Species

COMPATIBILITY INDICATORS

- Water Volume
- Biscayne Aquifer Saltwater Intrusion
- Flood Protection – C-111 Basin

Stoplight-Color Legend



Red – Substantial deviations from restoration targets, creating severe negative condition that merits action.



Yellow – Current situation does not meet restoration targets and merits attention.



Green – Situation is good and restoration goals or trends have been reached. Continuation of management and monitoring effort is essential to maintain and be able to assess “green” status.

Fish and Macroinvertebrates

KEY FINDINGS

SUMMARY FINDING:

Shark River Slough and Taylor Slough monitoring sites did not meet restoration targets (red) because of drier conditions than expected based on rainfall. These conditions resulted in more Everglades crayfish (*Procambarus alleni*, which prefers drier conditions), and fewer fish than expected. Water management is causing drier conditions in these areas than would be expected based on the amount of rainfall and water depth patterns in our baseline hydrological period (baseline) of 1993 through 1999. Results were mixed in Water Conservation Areas (WCA) 3A and 3B, where there was a greater deal of variation between long- and short-hydroperiod regions than would be expected from observed rainfall. Water management has caused a re-distribution of fish in these areas, though it is not currently possible to determine if the net effect is more or fewer fish. This long-term monitoring program indicates that the current hydrological impacts have existed at least since 2002. Monitoring data indicate that non-native taxa are most common at edge habitats, though widespread in Everglades marshes. There was no evidence of changes in the relative abundance of non-native taxa at our monitoring sites between 2000 and present.

KEY FINDINGS:

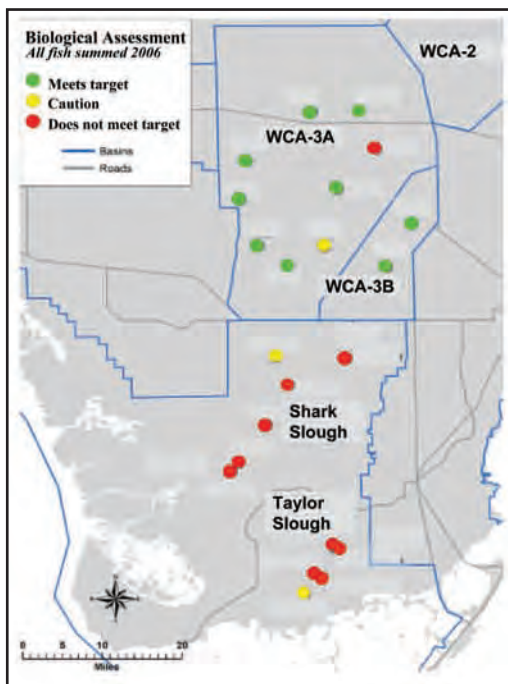

























Figure 1. The target hydrological years for this assessment include 1993-1999. Forecasting models (statistical models derived by cross-validation methodology) that link regional rainfall to surface water-depth at our monitoring sites were used to model hydrology. Alternative hydrological model outputs, such as those derived by the Natural System Model, generally yield longer hydroperiods than used here leading to more impacts.

1. All of the sites coded red for fish density resulted from fewer fish than expected based on observed rainfall, and most fish are in Everglades National Park.
2. Of the 3 long-term monitoring sites coded yellow, 1 was for greater fish density than expected and two for less. The lone site with more fish was in WCA 3A.
3. Everglades crayfish and one species of fish, which both prefer short-hydroperiod conditions, were more abundant in Taylor Slough than expected, as well as in some parts of Shark River Slough.
4. Results were mixed in WCA 3A. There was evidence of more frequent drying than expected from observed rainfall in the western area. There were more fish than expected in the southeastern corner of WCA 3A. Data suggest this is due to fishes moving into this section of 3A when western portions of the area dried. Everglades crayfish were infrequently collected in WCA 3A in the hydrological baseline period and afterwards.
5. There were no systematic deviations from rainfall-based expectations in WCA 3B for all fish summed. Flagfish and eastern mosquitofish indicated a potential impact from drier conditions than baseline. Everglades crayfish were infrequently collected in WCA 3A in the baseline period and afterwards.
6. Non-native fish are generally 2% or fewer of the fishes collected at all monitoring sites. However, higher numbers, particularly of Mayan cichlids, have been noted at the mangrove edge of Shark River Slough and Taylor Slough, in the Rocky Glades, and in canals in general. Plans to increase ecosystem connectivity may increase dispersion of such taxa and should be monitored.

Fish and Macroinvertebrates

STOPLIGHTS

PERFORMANCE MEASURE	CURRENT STATUS	CURRENT STATUS
SHARK RIVER SLOUGH		
eastern mosquitofish		Fewer than expected because of regional drying.
flagfish		Two of 18 plots with more than expected.
bluefin killifish		Fewer than expected because of local and regional drying.
total fish		Fewer than expected because of local and regional drying.
Everglades crayfish		More than expected because hydroperiod was shorter than expected.
Non-native fishes		Present at all monitoring sites. None more than 2% of all fish collected; numbers highest at mangrove boundary.
TAYLOR SLOUGH		
eastern mosquitofish		Fewer than expected because of local and regional drying.
flagfish		No assessment; model did not converge.
bluefin killifish		Fewer than expected because of local and regional drying.
total fish		Fewer than expected because of local and regional drying.
Everglades crayfish		More than expected because hydroperiod was shorter than expected.
Non-native fishes		Present at all monitoring sites. None more than 2% of all fish collected; numbers highest at mangrove boundary.
WATER CONSERVATION AREA 3A		
eastern mosquitofish		7 of 27 plots with more than expected because of regional drying.
flagfish		More than expected at sites affected by regional drying.
bluefin killifish		Fewer than expected because of local and regional drying.
total fish		
Non-native fishes		Present at all monitoring sites. All less than 2% of total and fewer than in Everglades National Park.
WATER CONSERVATION AREA 3B		
eastern mosquitofish		More than expected because of regional drying.
flagfish		More than expected because of regional drying.
bluefin killifish		No deviations from expectations.
total fish		No deviations from expectations.
Non-native fishes		Present at all monitoring sites. All less than 2% of total and fewer than in Everglades National Park.

 **Blank** – No data are available.

Wading Birds (Wood Stork and White Ibis)

KEY FINDINGS



SUMMARY FINDING:

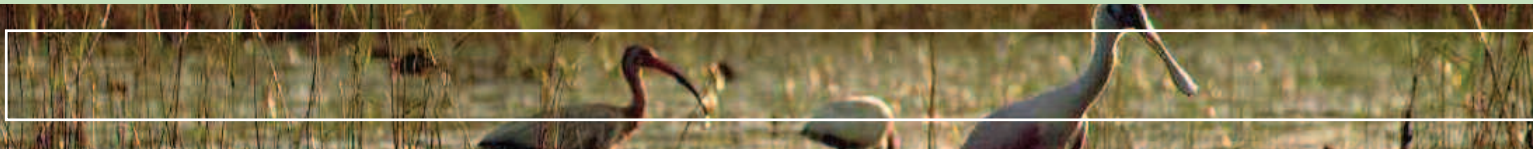
Conditions for nesting were suboptimal for wading birds in 2007, with poor conditions for production of prey preceding the nesting season, and dry to very dry conditions prevailing during much of the nesting season. Annual conditions are notoriously variable, however, and a longer term view of trends is important when evaluating wading bird responses. Three of the four indicators are well below thresholds for restoration – timing of stork nesting, proportion of all nesting taking place in the coastal regions, and ratio of ibis/stork nests to Great Egret nests. However, each of these indicators has shown some degree of improvement over the past ten years. The interval between exceptionally large ibis nesting events has improved markedly, and is now well in the range of restored conditions, though none of the large nestings has occurred in the ecotone region. Taken together, these indicators suggest only slight progress towards desired restoration goals, though the trend appears to be positive.






KEY FINDINGS:

1. Dry to very dry nesting conditions were exhibited in 2007, preceded by low water levels. This created poor conditions for the production and availability of prey animals throughout the system. Numbers of breeding wading birds were considerably reduced in 2007 by comparison with recent averages, and nest success was poor to very poor in nearly all locations. However, recent research has linked food availability, body condition of adults, and nest initiation and success, which is a crucial step in understanding and managing populations of these birds.
2. Wood Storks did not nest at many locations and initiated nesting late (February) by historical standards where they did nest. Over the past decade, there is some indication of earlier breeding (January and December), providing weak evidence of an improving trend. Thresholds for recovery correspond to nest initiation dates earlier than December 30.
3. The proportion of nesting birds occurring in the headwaters/ecotone was only 7%, far below restoration goals. This suggests that conditions in the coastal zone have not improved appreciably for nesting wading birds. Larger freshwater flows are likely to create conditions more conducive to nesting in the estuarine zone. Over the past ten years, there is evidence of an increasing trend in the proportion of birds nesting in the headwaters. Restored conditions are expected to generate greater than 70 percent of nesting in the ecotone.
4. The ratio of ibis+stork nests to Great Egret nests (4:1) is still far below the 30:1 characteristic of predrainage conditions. Over the ten-year period, there has been considerable improvement in this ratio, suggesting that the system may be becoming more attractive to shallow water tactile foragers such as white ibis and wood stork, and less so to deep water sight foragers such as great egrets.
5. The frequency of exceptionally large ibis nesting events has improved dramatically since the late 1990s, and the mean interval between these events has changed from over 40 years to less than three. Recent research strongly supports the hypothesis that the change is due to increased production and availability of prey to ibises. All of the large nestings, however, have been in freshwater areas, and not in the estuarine headwaters. Restored conditions are expected to generate a mean interval of 2.8 years or less between large ibis nestings – that condition has been met.

Wading Birds (Wood Stork and White Ibis)

STOPLIGHTS



PERFORMANCE MEASURE	CURRENT STATUS ^a	CURRENT STATUS ^a
Wading bird Indicator Summary		Three out of the four Wading Bird Indicators are Red based on the most current data available. Overall, wading bird populations and indicators are well below recovery goals.
Ratio of Wood Stork + White Ibis nests to Great Egret nests		Current ratio is well below 30:1 considered representative of healthy nesting conditions.
Month of Wood Stork nest initiation		2007 initiation was in February, and mean initiation dates in past five years are well below the recovery goal of November or December.
Proportion of nesting in headwaters		Proportion nesting in the headwaters was 7% in 2007, and average proportions in last five years remain well below yellow or green thresholds.
Mean interval between exceptional ibis nesting years		This interval is now very close to the target for restoration, and has shown dramatic improvement in last decade.

^aData in the Current Status column for the wading bird indicator reflect data inclusive of calendar year 2007.

Wading Birds (Roseate Spoonbill)

KEY FINDINGS



SUMMARY FINDING:

Roseate spoonbill nesting results in Florida Bay indicate that conditions in Florida Bay and Taylor Slough are still unable to support colonies with target numbers of spoonbills bay-wide. The colonies in the northwestern portion of the bay seem to be doing well and have been stable both in numbers and nest success for the last 10 years. However, the total numbers in the NW part of the bay are relatively low, and numbers bay-wide are still not meeting targets. Northeastern bay colonies are in serious decline. Although the bay-wide spoonbill population remained stable in 2007, there was no sign of recovery toward targets. It appears that restoration actions to date have had no ecologically significant effects for the southern estuaries, and particularly the NE region of Florida Bay. We expect the spoonbill performance measures may begin to improve after proposed changes to the South Dade Conveyance System (SDCS) (i.e., Modified Water Deliveries Project (MOD Waters) and C-111 Spreader Canal Phase 1) are completed. However, unless we experience some very wet years in the meantime, we can expect no improvement in these performance measures until these management changes occur.

KEY FINDINGS:

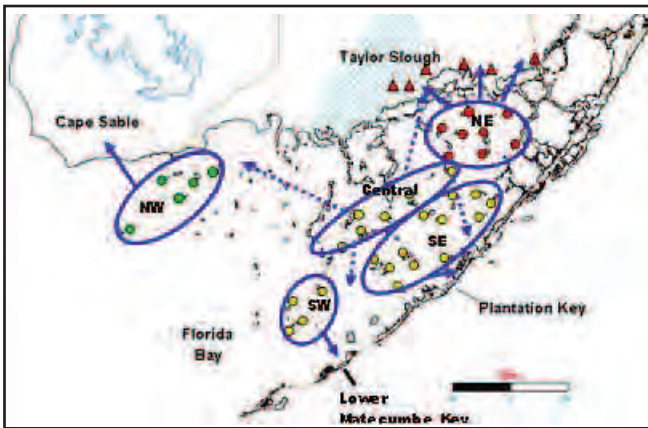











Figure 1. Location of all known spoonbill nesting colonies within Florida Bay (blue ovals) and prey fish sampling sites in the Taylor Slough and C-111 Basin foraging grounds (red triangles). Colonies are grouped into five regions of the bay based on important foraging grounds for the colonies. Arrows from each region indicate the primary foraging ground. Colors of colonies and prey sampling sites are based on spotlight scores for various performance measures.

1. Northeastern Florida Bay is in need of immediate action in order keep spoonbill numbers from continuing to decline. The threshold of at least 1 chick per nest was not met in 2007 and was therefore considered a failed year. The NW Florida Bay colonies produced 1.66 chicks per nest, well above the target, suggesting that the NE colonies may have failed due to the influence of water management in Taylor Slough. The number of nests in the NE bay remained very low in 2007, with only 106 nests out of a target of 688 nests in this region.
2. Taylor Slough and the C-111 basin remain less productive than under historic conditions based on prey fish data. There were 452 nests bay-wide in 2007. This was well below the target of 1258 nests. However, the bay-wide numbers are stable.
3. Number of nests and nest production continue to exceed targets in northwestern Florida Bay. Data suggest this is probably because this area is less affected by water management and provides a more stable habitat condition.
4. The NE Florida Bay colonies forage in estuaries that rely on water from Taylor Slough (see map). Their continued failure to meet restoration targets indicates that water timing, quantity and distribution in Taylor Slough and NE.
5. Florida Bay are not meeting criteria necessary for proper estuary function in these locations.

Wading Birds (Roseate Spoonbill)

STOPLIGHTS



PERFORMANCE MEASURE	CURRENT STATUS ^a	CURRENT STATUS ^a
NORTHEASTERN FLORIDA BAY AND THE SOUTHWESTERN ESTUARIES		
Number of successful nesting years out of the last 10 in NE FL Bay		In NEFB, only two of the last 10 years have been successful at >1.0 c/n. Current conditions are well below restoration targets.
Chick Production Comparison of NE to NW (5 Yr Mean) ^d		The five year mean of NE production was less than half that of the NW. Lack of sufficient freshwater flows into Taylor South continue to negatively affect spoonbill nesting in NEFB.
Number of nests in FL Bay (5 yr mean)		The target number of nests for the whole bay is 1250. The 5 year mean number of nests was 474 or 38% of target. This indicates that the FL Bay spoonbill population is not recovering.
Number of nests in N.E. FL Bay (5 Yr mean)		The target number of nests is 625. The 5 year mean number of nests was 109 nests or 18% of target, indicating that the NEFB spoonbill population is in jeopardy.
Number of Nests in SW FL Bay		No data are being collected in the SW estuaries.
Prey Community Structure		Prey fishes classified as freshwater species made up less than 1% of the total catch at the sampled spoonbill foraging sites in NEFB. The Target is 40% suggesting that the prey base for nesting spoonbills remains very low.
NORTHWEST FLORIDA BAY		
Chick Production in NW FL Bay		This performance measure indicates that 1.25 c/n in NW FL Bay is being maintained. In 2007, the NW colonies produced 1.7c/n; well above the target.
Number of nests in NW FL Bay (5 Yr Mean)		The target for the number of nests in NW Florida Bay is 200. The average number of nests for the last five years was 241 exceeding the target.
Percent successful years in NW FL Bay		In the NW FL Bay spoonbills have been successful 8 of the last 10 years. The mean for the last 5 years has been 66% successful.



Blank – No data are available.

^dData in the Current Status column reflect data collected in the 2006-2007 nesting cycle.

Florida Bay Submerged Aquatic Vegetation

KEY FINDINGS



SUMMARY FINDING:

Most indicators show good (green) Submerged Aquatic Vegetation (SAV) Abundance Indices in 2007 improving against 2006 and the 10-year trend with exceptions in the Central Zone and the Southern Zone. The Target Species index (see spotlight table) in the Transition Zone is poor (red), reflecting the absence of *Ruppia* in 2006-7 while other zones show increased diversity. Combined index scores (Fig. 1) show fair (yellow) status in Transition, Central and Southern Zones, and good (green) in the Northeast and Western Zones.

KEY FINDINGS:

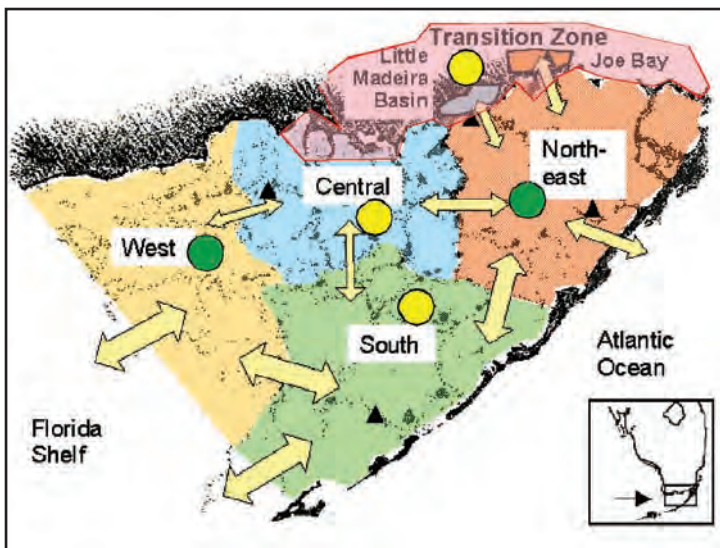


Figure 1. Map of SAV Indicator Zones with current status indicators combining Abundance and Species Indexes.

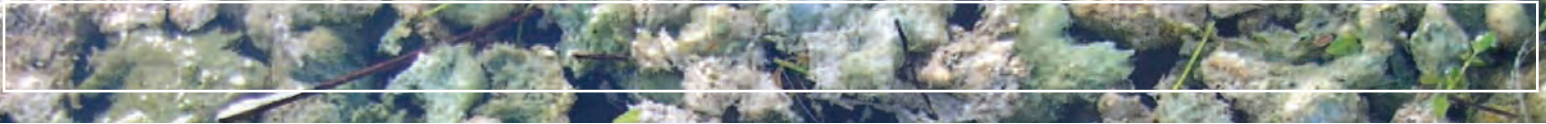
1. The Abundance Indicator (spatial coverage and average density) is in generally good condition or improving except in the Central and Southern Zones. These zones had previously exhibited loss of SAV through die-off and then became sites of recurring algal blooms. The Northeast Zone metric has declined during a two-year bloom, though slightly above the “good” threshold.
2. The Target Species indices (species diversity and presence of specific target species) are considered more variable and less predictable than the Abundance index. Nonetheless, the Transition Zone has shown clear decline in the *Ruppia* target species over the past two years. Northeast, Southern and Transition Zones have shown some improvement in this indicator due to increased *Halodule* presence.
3. Indicator criteria for both Abundance and Diversity are zone-specific. The Northeastern Zone has generally low SAV density but high coverage and species diversity of *Thalassia*, *Halodule* and *Ruppia*. The Transition Zone has mixed populations of *Thalassia* - *Halodule* and *Ruppia* -macroalgae. The











Southern Zone has high occurrence of monospecific *Thalassia* stands while *Thalassia* and *Halodule* co-occur in the Central Zone. The Western Zone is productive with dense, diverse stands of *Thalassia*, *Syringodium*, and *Halodule* in some basins.

4. As freshwater is introduced, *Ruppia* will continue expansion and other species may decline in the Transition Zone, Northeast Bay and the Central Bay in response to lower salinity. Transition bays Long Sound, Joe Bay, Little Madeira Bay, McCormick Creek are expected decline in *Thalassia* as low-salinity species increase, resulting in a more diverse, stable SAV habitat. Reducing hypersalinity and abrupt changes in salinity in Florida Bay, especially in the Transition Zone, Central Bay and Northeast Bay, will assist in preventing development of monospecific stands of *Thalassia*. Conditions that exclude multiple SAV species and reduce species diversity lead to poorer habitat quality and greater potential for seagrass loss. Determination of sources of algal blooms will aid in developing plans to reduce blooms and their impact on SAV.

Florida Bay Submerged Aquatic Vegetation

STOPLIGHTS



ZONE/PERFORMANCE MEASURE	CURRENT STATUS ^a	CURRENT STATUS ^a
NORTHEAST		
Abundance		Abundance is good in all basins monitored in the NE with a composite scores of 0.81 (max=1) for extent and density of SAV.
Target Species		A score of 0.81 (good) is measured for current (2007) species evenness and presence of subdominants Halodule and Ruppia, up from 0.63 in 2006.
TRANSITION ZONE		
Abundance		Highest scores for abundance are found in basins in the Transition Zone, increasing from 0.83 to 0.91 in 2006-7.
Target Species		Generally good species evenness in 2006 was reduced in 2007 due to dominance by either Thalassia or Halodule in areas and reduced co-occurrence of the two. Evenness scores are offset by lack of target Ruppia in this zone.
CENTRAL		
Abundance		Abundance in Central basins were marked by low scores throughout, based mostly on low density, trending lower in several basins in this zone in recent years. Spatial coverage was generally very good.
Target Species		Increasing presence of secondary target species (Halodule) has improved in this region though a slight reduction in species evenness was noted.
SOUTH		
Abundance		The Southern region shows high spatial extent (0.88) but a low score for the SAV density index (avg. 0.34) with slight decline into the yellow criterion in one basin.
Target Species		In the Southern region basins measured, Thalassia dominance is reflected in a poor though improving diversity score (0.25).
WEST		
Abundance		Western Zone basins are marked by high abundance scores (1.0) for both extent and density. Although on average, the zone has very high scores for diversity (0.75), one area has shown losses in diversity and presence of target species in 2006.
Target Species		Although on average, the zone has very high scores for diversity (0.75), one area has shown losses in diversity and presence of target species in 2006.

^a2007 data; all zones for which calculations are made are based on 10 year datasets.

Florida Bay Algal Blooms

KEY FINDINGS

SUMMARY FINDING:

Re-suspension of nutrients from the 2005 hurricane season resulted in algal blooms in many regions of the southern estuaries and may cause continued algal blooms in the bay for some time. However, this is expected to subside within a few additional years in lieu of further significant hurricane activity and, if water flows to the southern estuaries are improved, should return to predominantly green for all regions, with the possible exception of Barnes Sound and Manatee Bay. If water flows do not improve, the areas will probably remain yellow.

KEY FINDINGS:

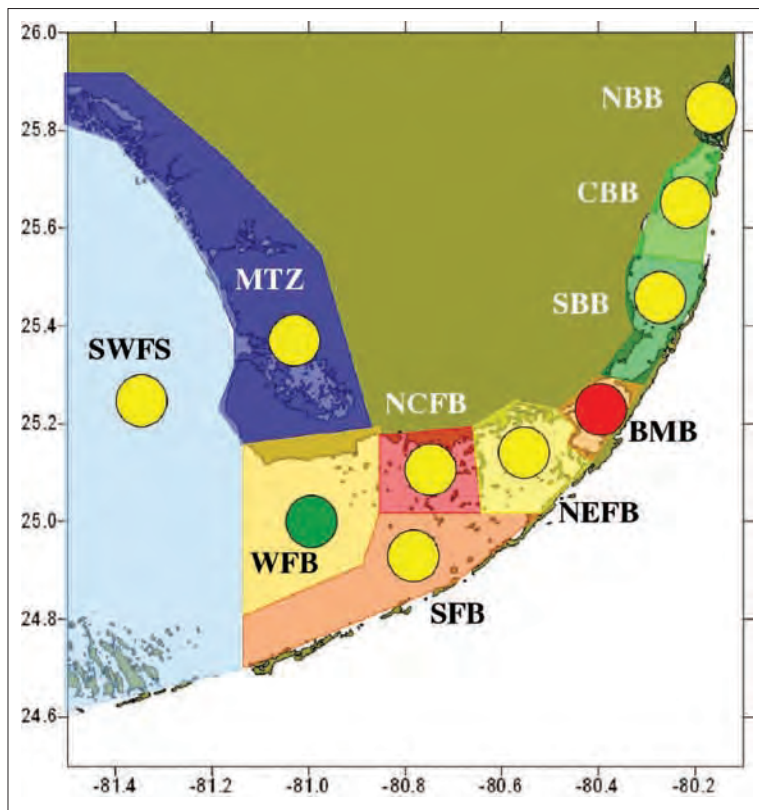












Figure 1. Map of Florida Bay regions with stoplight ratings by region.

1. The majority of regions assessed had significant algal bloom activity that appears to have been predominantly influenced by the heavy 2005 hurricane season aggravated for the eastern bay by road construction on US 1.
2. The majority of regions assessed had chlorophyll-*a* and algal blooms rated as moderate (yellow).
3. The majority of regions assessed where the chlorophyll-*a* was higher than the median do not appear to be indicative of long-term negative trends.
4. The most commonly occurring condition was large spatial coverage of algal blooms and elevated chlorophyll-*a* concentrations.
5. Overall excess nutrient (eutrophic) symptom expressions were geographically variable and appear to be explainable from existing observations of hurricane activity overall exacerbated by road construction along US 1 in the eastern areas of the bay.
6. If water flows are improved to the southern estuaries water quality is expected to improve and the number and scale of algal blooms to diminish. However, under current water flow conditions there will probably be little or no improvement in the conditions in the southern estuaries.
7. Monitoring of Barnes, Manatee and Blackwater Sounds was critical to being able to detect the impacts of road construction along US 1.

8. Monitoring long-term consequences of nutrient releases into the southern estuaries from both natural (e.g., hurricanes) and human causes (e.g., road construction) and the interactions of hydrological restoration (e.g., more fresh water flow into the southern estuaries, particularly Florida Bay) is critical to continuing the evaluation and assessment restoration for the southern estuaries.

Florida Bay Algal Blooms

STOPLIGHTS

PERFORMANCE MEASURE	CURRENT STATUS ^a	CURRENT STATUS ^a
Chlorophyll <i>a</i> BARNES, MANATEE & BLACKWATER SOUNDS (BMB)		This region of the bay experienced an unusual cyanobacterial bloom in 2006. The bloom was initiated by a large spike in phosphorus from a combination of canal releases and highway construction in response to the active hurricane season. The bloom has abated somewhat but chlorophyll concentrations have not returned to previous levels.
Chlorophyll <i>a</i> NORTHEAST FLORIDA BAY (NEFB)		The current status is due to influence of the cyanobacterial bloom from Barnes, Manatee and Blackwater Sounds periodic expansion into this region.
Chlorophyll <i>a</i> NORTH-CENTRAL FLORIDA BAY (NCFB)		The current status is due to the presence of a seasonal cyanobacterial bloom in both early and late 2006. These blooms do not appear every year, but have occurred intermittently over the past 15 years.
Chlorophyll <i>a</i> SOUTH FLORIDA BAY (SFB)		The current status is due to the extension of the cyanobacterial bloom from the north-central region of the bay during both years. This has occurred intermittently over the past 15 years and it is unlikely that this signifies a long-term negative trend.
Chlorophyll <i>a</i> WEST FLORIDA BAY (WFB)		The seasonal diatom blooms in this region for both 2006 and current were not as dense or widespread as in the past.
Chlorophyll <i>a</i> MANGROVE TRANSITION ZONE (MTZ)		The chlorophyll concentrations were slightly higher in this region for 2006. This may have been due to the active 2005 hurricane season and is unlikely to indicate a negative long-term trend.
Chlorophyll <i>a</i> SOUTHWEST FLORIDA SHELF (SWFS)		The chlorophyll concentrations were slightly higher in this region for both 2006 & 2007. This may have been due to the active 2005 hurricane season and is unlikely to indicate a negative long-term trend.
Chlorophyll <i>a</i> NORTH BISCAYNE BAY (NBB)		The chlorophyll concentrations were higher than the baseline for the past four years.
Chlorophyll <i>a</i> CENTRAL BISCAYNE BAY (CBB)		The chlorophyll concentrations were higher than the baseline for the past four years.
Chlorophyll <i>a</i> SOUTH BISCAYNE BAY (SBB)		The chlorophyll concentrations were higher in this region for 2006. This area was also influenced by periodic expansion of the cyanobacterial bloom from Barnes, Manatee and Blackwater Sounds into this region.

^aData in the Current Status column for the algal bloom indicator reflect data inclusive of calendar year 2006.

Crocodylians (Alligators and Crocodiles)

KEY FINDINGS



SUMMARY FINDING:

On the whole, alligator and crocodile status remained constant during 2006, with only one area (Water Conservation Area 3A) showing a decline in status compared to previous years. However, the majority of locations show substantial deviations from restoration targets. The status of alligators and crocodiles is expected to improve if hydrologic conditions are restored to more natural patterns.

KEY FINDINGS:

1. Alligator overall status at the A.R.M. Loxahatchee National Wildlife Refuge (WCA-1) is the highest in south Florida and remains stable.
2. Overall status of alligators throughout the Water Conservation Areas is substantially below restoration targets and requires action in order to meet restoration goals.
3. While body condition of alligators is higher in the southern portion of Everglades National Park (ENP) than in other areas, overall status of alligators throughout ENP is below restoration targets and requires action in order to meet restoration goals.
4. Growth and survival components for crocodiles, while below restoration targets, appear stable at this time and are expected to increase given proper hydrologic conditions through restoration.
5. Restoration of patterns of depth and period of inundation and water flow are essential to improving performance of alligators in interior freshwater wetlands.
6. Restoration of patterns of freshwater flow to estuaries will improve conditions for alligators and crocodiles.
7. Continued monitoring of alligators and crocodiles will provide an indication of ecological responses to ecosystem restoration.

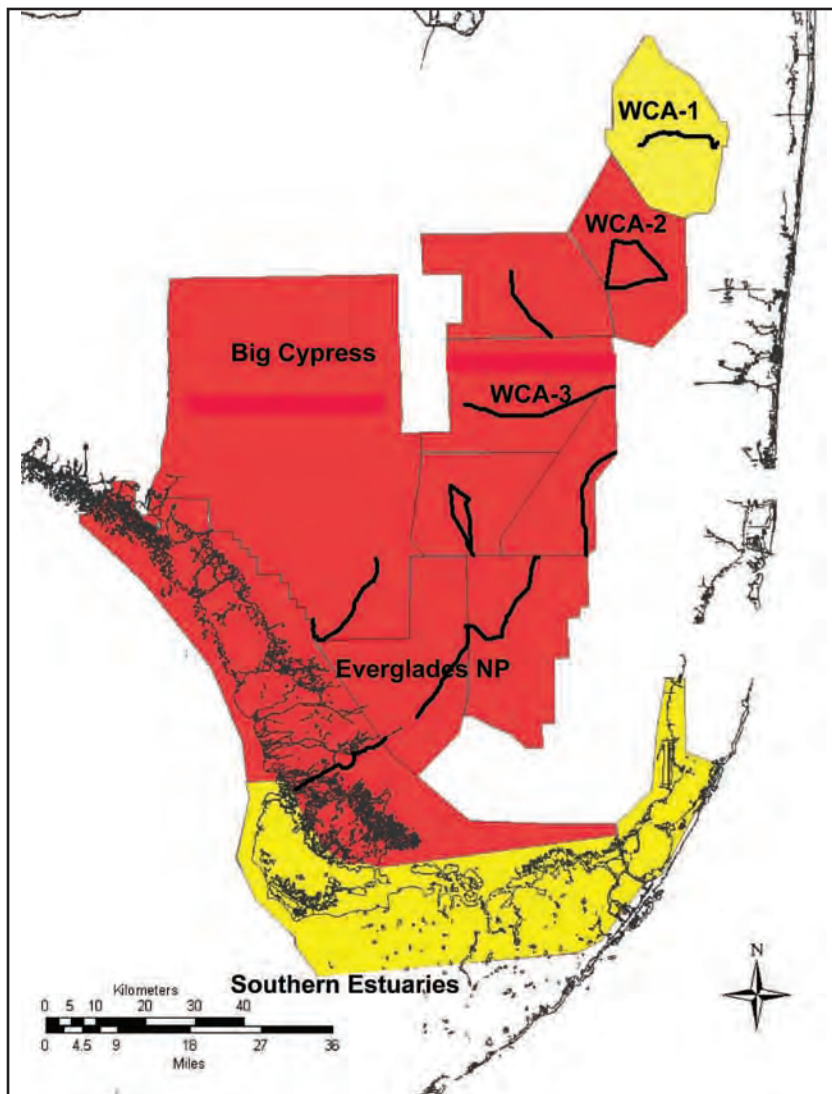










Figure 1. Map of Greater Everglades regions with stoplight ratings by region.

Crocodylians (Alligators and Crocodiles)

STOPLIGHTS



LOCATION	CURRENT STATUS ^a	CURRENT STATUS ^a
AMERICAN ALLIGATOR		
American Alligator A.R.M. Loxahatchee National Wildlife Refuge		Relative density (component score = 0.83) and body condition (component score = 0.17) combined for a location score of 0.5 and so current conditions do not meet restoration criteria, signifying that this area needs further attention.
Water Conservation Area 2A		Relative density (component score = 0.17) and body condition (component score = 0.5) combined for a location score of 0.34 and so current conditions are below restoration criteria.
Water Conservation Area 3A		Relative density in two of the three locations within WCA 3A is low (northern and southern areas) and higher (yellow) in the central area; body condition scores yellow in the north and central areas, and red in the south. The combined score of both components for the overall area is 0.31, which is well below restoration goals.
Water Conservation Area 3B		Relative density (component score = 0.17) and body condition (component score = 0.5) combined for a location score of 0.34 and so current conditions are below restoration criteria.
Everglades National Park		Relative density in all three locations within Everglades National Park is low. Body condition is higher (yellow) in Shark Slough and estuarine areas, but low (red) in northeast Shark Slough. The combined score of these two components for the overall area, and alligator hole occupancy in the inaccessible areas, is 0.35, which is well below restoration goals.
Big Cypress National Preserve		Relative density (component score = 0.17) and body condition (component score = 0.5) combined for a location score of 0.34 and so current conditions are below restoration criteria.
AMERICAN CROCODILE		
Everglades National Park		Juvenile growth (component score = 0.67) and survival (component score = 0.5) combined for a location score of 0.59 and so current conditions do not meet restoration criteria.
Biscayne Bay Complex		Juvenile growth (component score=0.67) does not meet restoration criteria. There currently is not enough data to calculate a survival component for this area.



Blank – No data are available.

^aData in the Current Status column reflect data inclusive of calendar year 2006.

Oysters

KEY FINDINGS



SUMMARY FINDING:

On the whole, Eastern oyster status remained constant up to 2007. Given the duration of monitoring of this species, only the Caloosahatchee Estuary had sufficient data to infer trends and status of this indicator. Monitoring in other estuaries (St. Lucie Estuary, Loxahatchee Estuary, and Lake Worth Lagoon) is ongoing, and we expect will yield data to make trend and status assessments for the 2010 report. Current conditions in the Caloosahatchee Estuary show negative deviations from restoration targets, therefore restoration actions are merited. Status of oysters is expected to improve if hydrologic conditions are restored to more natural patterns.

KEY FINDINGS:

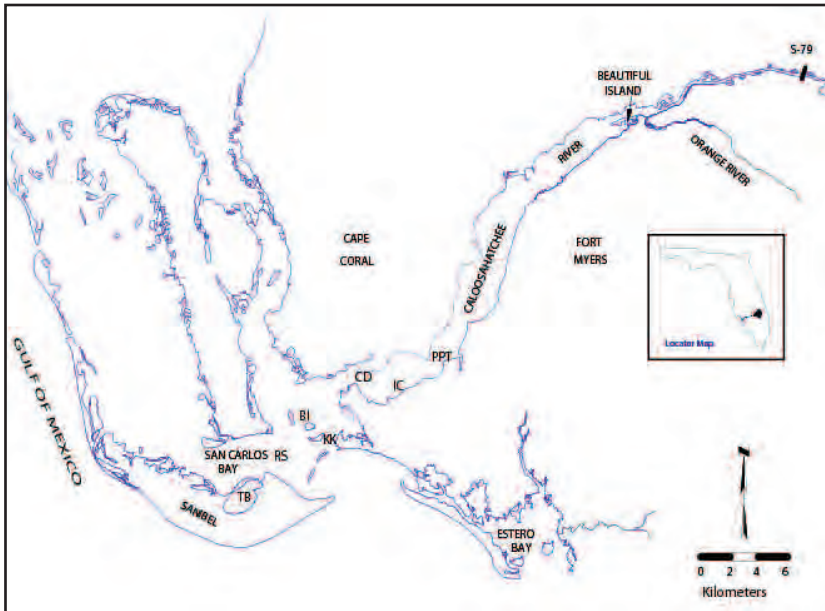







Figure 2. Oyster sampling locations within the Caloosahatchee Estuary. Locations (PPT = Pepper Tree Point, IC = Iona Cove, CD = Cattle Dock, BI = Bird Island and TB = Tarpon Bay) are from upstream to downstream along a salinity gradient.


1. Preliminary results suggest that oyster status in the Caloosahatchee Estuary is the highest in the Northern Estuaries and remains stable. It should be cautioned that insufficient data exist for other estuaries to infer trends and make statistical comparisons.
2. There is too much freshwater inflow into the Caloosahatchee Estuary in the summer months (usually due to flood water releases from Lake Okechobee) and too little freshwater inflow into the estuary in the winter months (usually a result of water needs for human consumption), disrupting natural patterns and estuarine conditions. The oysters in the Caloosahatchee Estuary are still being impacted by this unnatural water delivery pattern. Too much fresh water impacts reproduction, larval recruitment, survival and growth while too little fresh water impacts the survival of oysters due to higher disease prevalence and intensity of *Perkinsus marinus* and predation.
3. Overall status of oysters in the Caloosahatchee Estuary is below restoration targets and requires action in order to meet restoration goals.
4. Oyster responses and population in the Caloosahatchee Estuary, while below target, appear to be stable at this time and are expected to increase given proper hydrologic conditions through restoration.
5. Restoration of natural patterns (less freshwater flows in the summer and more freshwater flows in the winter) along with substrate enhancement (addition of cultch) is essential to improving performance of oysters in the estuaries.
6. Continued monitoring of oysters in the Caloosahatchee and other estuaries will provide an indication of ecological responses to ecosystem restoration and will enable us to distinguish between responses to restoration and natural variation.

Oysters

STOPLIGHTS



LOCATION	CURRENT STATUS ^a	CURRENT STATUS ^a
EASTERN OYSTER		
Caloosahatchee Estuary		The oysters in the Caloosahatchee Estuary are still being impacted by too much fresh water in summer and too little fresh water in the winter. Too much fresh water impacts reproduction, larval recruitment, survival and growth, while too little fresh water impacts the survival of oysters due to higher disease prevalence and intensity of Perkinsus marinus and predation. Current conditions do not meet restoration criteria, signifying that this area needs further attention.
St. Lucie Estuary		Insufficient data
Loxahatchee Estuary		Insufficient data
Lake Worth Lagoon		Insufficient data
Lostman's River (Southern Estuaries)		Insufficient data

 **Blank** – No data are available.

^aData in the current status column reflect data collected between calendar years 2000 – 2007.

Periphyton-Epiphyton

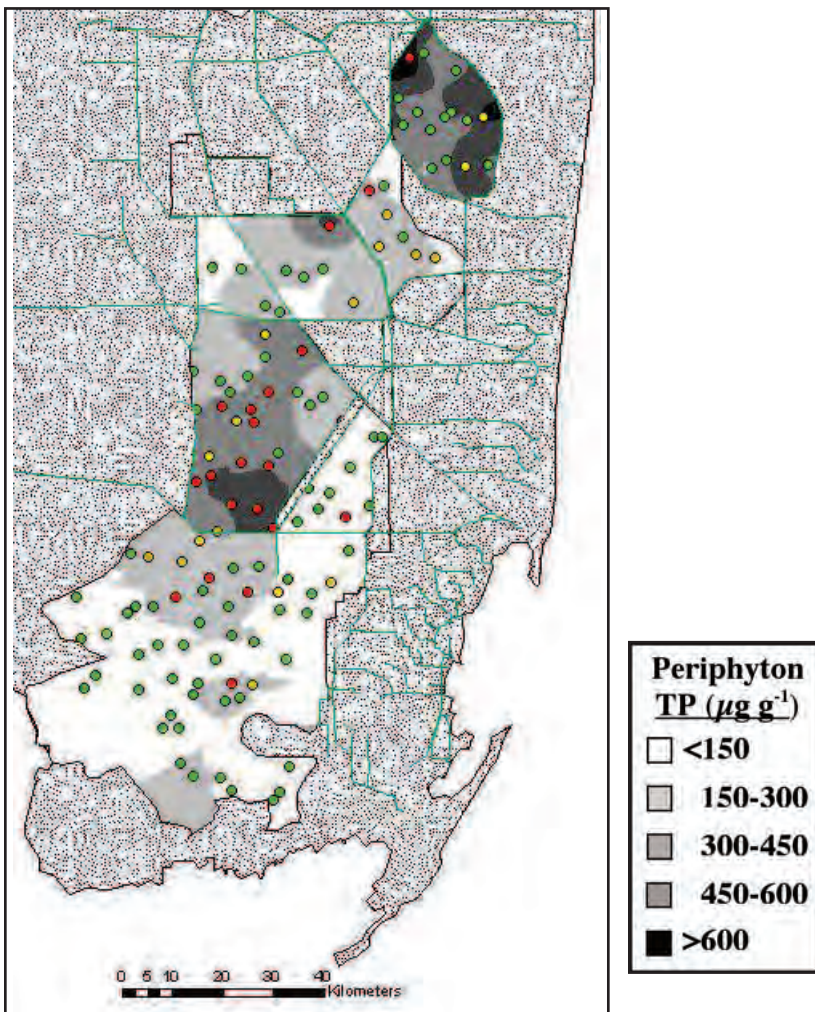
KEY FINDINGS

SUMMARY FINDING:

Many of the sites coded as “altered” (red) are near the peripheral canals surrounding the wetlands, or in drainages downstream of canal inputs (see map). In WCA-1, canals deliver above-ambient concentrations of both nutrients and calcium carbonate, both causing changes in periphyton quality, including increased Total Phosphorus (TP) from nutrient enrichment and reduced organic content from calcium carbonate inputs. In WCA-2A, long-term delivery of above-ambient Phosphorus (P) in canal inputs have caused enrichment cascades throughout most of the system. This is most severe in the northeast portion of this wetland, where monospecific cattail stands predominate, precluding periphyton sampling. The central slough of WCA-3A appears to be enriched, a trend that continues downstream of water control structures in Shark River Slough. Taylor Slough has remained relatively free of enrichment or hydrologic modifications that would influence periphyton composition.

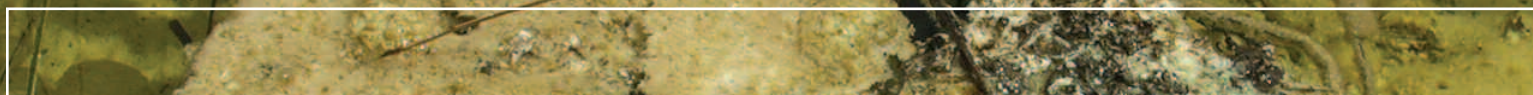
KEY FINDINGS:
















1. The percent (26%) of “altered” (red) sites was similar to that estimated for 2005 (25%) and are in areas close to canal sources of P. Areas in central WCA-3A need to be observed to determine if this is an area of unusual concern.
2. A total of 17% of sites were coded yellow for periphyton TP, and are centered near areas downstream of canal inputs of P.
3. A total of 60% of sites were coded yellow or higher for biomass (not shown), primarily reflecting a negative response to increasing P input.
4. Continued input of above-ambient P concentrations will both increase severity of enrichment effects near canals and cause these effects to continue to cascade downstream of inputs.
5. Increased input of water through restorative projects may increase periphyton development in areas formerly dry, but if accompanied by above-ambient P concentrations, cascading P effects are expected.




Periphyton-Epiphyton

STOPLIGHTS



PERFORMANCE MEASURE	CURRENT STATUS ^a	CURRENT STATUS ^a
WCA 1A		
Biomass¹		Periphyton shows evidence of enrichment near canals and calcareous mat biomass has increased due to calcite input from canals.
Quality²		
Composition³		
WCA 2A		
Biomass		Periphyton TP has increased near canal inputs; composition and biomass reflect this long term input of above ambient P.
Quality		
Composition		
WCA 3A		
Biomass		This area has received some low level P enrichment, reflected in periphyton biomass and quality.
Quality		
Composition		
SRS		
Biomass		SRS has received low level P enrichment for decades, reflected in periphyton biomass and quality.
Quality		
Composition		
TS		
Biomass		TS has remained relatively unimpacted due to low levels of disturbance and low P inputs.
Quality		
Composition		

 **Blank** – No data are available.

^aData in the Current Status column for the periphyton indicator reflect data inclusive of calendar year 2006. ¹Biomass metric refers to the ash-free dry biomass of periphyton measured in m² quadrats. ²Quality metric refers to the total phosphorus content of periphyton.

³Composition metric refers to the algal species composition of the periphyton.

Juvenile Pink Shrimp

KEY FINDINGS



SUMMARY FINDING:

Juvenile Pink Shrimp density (number of shrimp per square meter) varies regionally and seasonally. It is consistently greatest in Johnson Key Basin and lowest in eastern Florida Bay and is generally most abundant in the fall. The status of juvenile pink shrimp in the assessment year, 2007, was poor; shrimp density was low compared to the historic record everywhere except Johnson Key Basin in spring of 2007 and South Biscayne Bay in fall of 2007. In Johnson Key Basin, the fall shrimp density of 5.2 shrimp per square meter was the 4th lowest in a 20-year period-of-record. Baselines, or periods-of-record (POR) for historical data sets against which “status” is compared, are only 2 years long for all areas other than Johnson Key Basin and South Biscayne Bay, where the POR is 20 years. These 2-year baseline data sets add considerable uncertainty to the outcomes.

KEY FINDINGS:

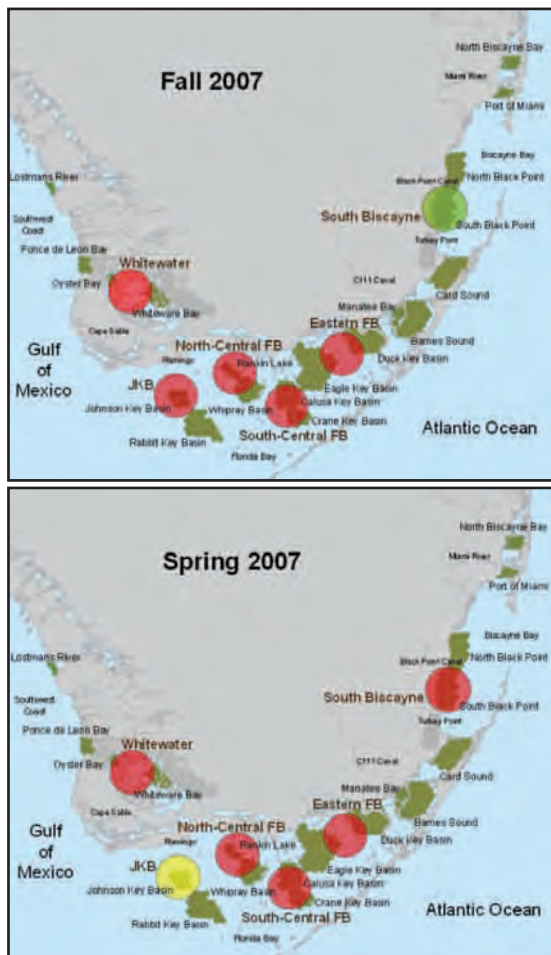
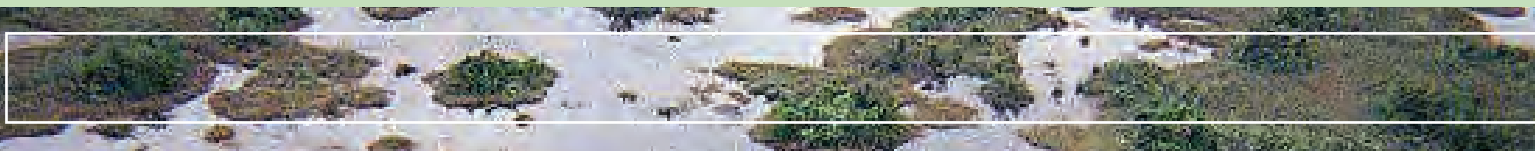














Figure 1. Map of South Florida estuaries with 2007 pink shrimp stoplight scores indicated for each response area, spring and fall.

1. Shrimp are substantially more abundant in the fall than in the spring in Whitewater Bay and most of Florida Bay, but similarly abundant seasonally in Biscayne Bay and eastern Florida Bay.
2. Shrimp density deteriorated over the last 3 years in Whitewater Bay relative to the 2-year POR. Spring density was in the green zone in 2005, the yellow zone in 2006, and the red zone in 2007. Fall density was in the yellow zone in both 2005 and 2006 and in the red zone in 2007.
3. Shrimp density in Johnson Key Basin declined in fall 2007 to low levels compared to the 20-year record and the previous two Monitoring Assessment Plan (MAP) years, 2005 and 2006.
4. The lack of synchrony of year-to-year patterns among response areas in 2005 and 2006 suggests that nearshore conditions are influencing shrimp densities. In contrast, low abundances, relative to previous years, throughout Florida Bay in 2007 may reflect poor spawning success offshore, or may be due to hypersalinity in central Florida Bay in the late summer and fall of 2007, which did not occur in 2005 or 2006.
5. The POR in areas other than Johnson Key Basin and, to a lesser extent, south Biscayne Bay, may be too short at this time to provide a reliable baseline (25th and 75th quartiles) against which to compare current MAP monitoring results.
6. The pink shrimp assessment will be improved with additional baseline data.

Juvenile Pink Shrimp

STOPLIGHTS



LOCATION	CURRENT STATUS	CURRENT STATUS
SPRING LOCATION		
South Biscayne Bay		Pink Shrimp Density was low compared to the historic record of 6 years (HM=0.45/m ²) ¹ .
Eastern Florida Bay		Density was low compared to short historic record (HM=0.05/m ²).
North-Central Florida Bay		Density was low compared to short historic record (HM=0.32/m ²).
South-Central Florida Bay		Density was low compared to short historic record (HM=0.77/m ²).
Johnson Key Basin		Density was neutral compared to short historic record of 20 years (HM=2.55/m ²).
Whitewater Bay		Density was low compared to short historic record (HM=0.56/m ²).
FALL LOCATION		
South Biscayne Bay		Density was high compared to historic record (HM=0.72/m ²) but low compared to the nearly 3.0/m ² of 2005.
Eastern Florida Bay		Density was low compared to short historic record(HM=0.13/m ²).
North-Central Florida Bay		Density was low compared to short historic record (HM=1.50/m ²).
South-Central Florida Bay		Density was significantly lower than historic mean (HM=3.46/m ²).
Johnson Key Basin		Density was significantly lower than 20 year historic mean(HM=12.98/m ²).
Whitewater Bay		Density was significantly lower than short historic record(HM=4.62/m ²).

Note: Current Year = 2007. HM=historic mean density.

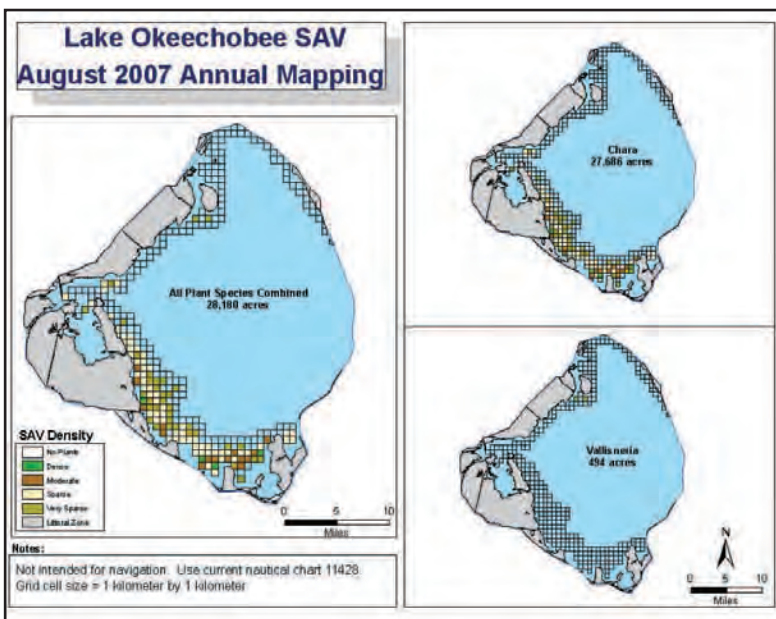
Lake Okeechobee Littoral Zone

KEY FINDINGS

SUMMARY FINDING:

Submerged aquatic vegetation (SAV) declined from approximately 55,000 acres in 2004 to approximately 3,000 acres in 2006. Dramatic declines in SAV areal coverage were caused by the passage of three hurricanes: Frances and Jeanne in 2004 and Wilma in 2005. Physical disturbance (e.g., uprooting of plants) and prolonged turbidity resulted in the decline in SAV coverage, especially that of vascular plants such as eelgrass (*Vallisneria americana*), Hydrilla (*Hydrilla verticillata*), and peppergrass (*Potamogeton illinoensis*). *Chara* areal coverage rebounded between 2006 and 2007 and by August 2007 was similar to pre-hurricane coverage during the summer of 2004. A prolonged drought beginning in early 2007 has resulted in lake stages far below the long-term mean and dry conditions across most of the nearshore region which once contained vascular SAV. If a viable seed bank remains in these areas, a return to more typical stages (> 12 ft m.s.l) may result in sufficient vascular SAV recovery to classify these areas as yellow rather than red. If these areas remain dry or do not contain a viable seed-bank, the red stoplight status may persist.

KEY FINDINGS:



1. Total SAV coverage decreased by approximately 95% between 2004 and 2006. Much of the SAV was likely lost due to physical disturbance by three hurricanes, and prolonged excessive water column turbidity (> 50 mg/L) prevented recovery.
2. *Chara* spp. areal coverage decreased tenfold between 2004 and 2006 but then rebounded to approximately pre-hurricane coverage between 2006 and 2007. *Chara* also has shifted offshore in response to historically low lake stages resulting from a prolonged drought during 2007-08. Prolonged low lake stage may result in large increases in *Chara* areal coverage during the upcoming summer.
3. Vascular SAV, primarily eelgrass (*Vallisneria americana*), Hydrilla (*Hydrilla verticillata*), and peppergrass (*Potamogeton illinoensis*) declined following the 2004 hurricanes and have not yet recovered. Hydrilla declined from approximately 24,500 acres in 2004 to 0 acres by 2006-07. Eelgrass declined from approximately 8,200 acres in 2004 to approximately 500 acres in 2007.


Peppergrass declined from approximately 6,700 acres in 2004 to 0 acres in 2006-07. During the winter of 2008, eelgrass was observed in the western nearshore area, and prolonged low lake stage may result in a favorable light regime for vascular SAV plant growth during the upcoming summer.

4. Seed-bank studies are currently being conducted to assess whether viable vascular SAV seeds exist in the nearshore region where the water column is shallow (<1 m). This region is further offshore than those areas where vascular plants typically have been found over the past decade.
5. An anticipated return to more typical lake stages (e.g. > 12 ft m.s.l) following the current drought may result in the reestablishment of the vascular SAV community.

Lake Okeechobee Littoral Zone

STOPLIGHTS



PERFORMANCE MEASURE	CURRENT STATUS ^a	CURRENT STATUS ^a
Submerged Aquatic Vegetation Areal Coverage NEARSHORE REGION		<p>Submerged aquatic vegetation (SAV) coverage, especially vascular plant coverage, decreased dramatically since the fall of 2004. This decline in areal coverage was caused by physical disturbance (uprooting) from three hurricanes (Frances, Jeanne and Wilma) followed by prolonged water column turbidity. Chara spp. coverage dramatically increased during 2007, covering approximately 27,700 acres. However, vascular plants accounted for only approximately 500 total acres.</p>

^aThe current status column is based on peak 2007 (August) SAV areal coverage and targets of 40,000 acres of total SAV coverage, with at least 50% being comprised of vascular plants.

Invasive Exotic Plants

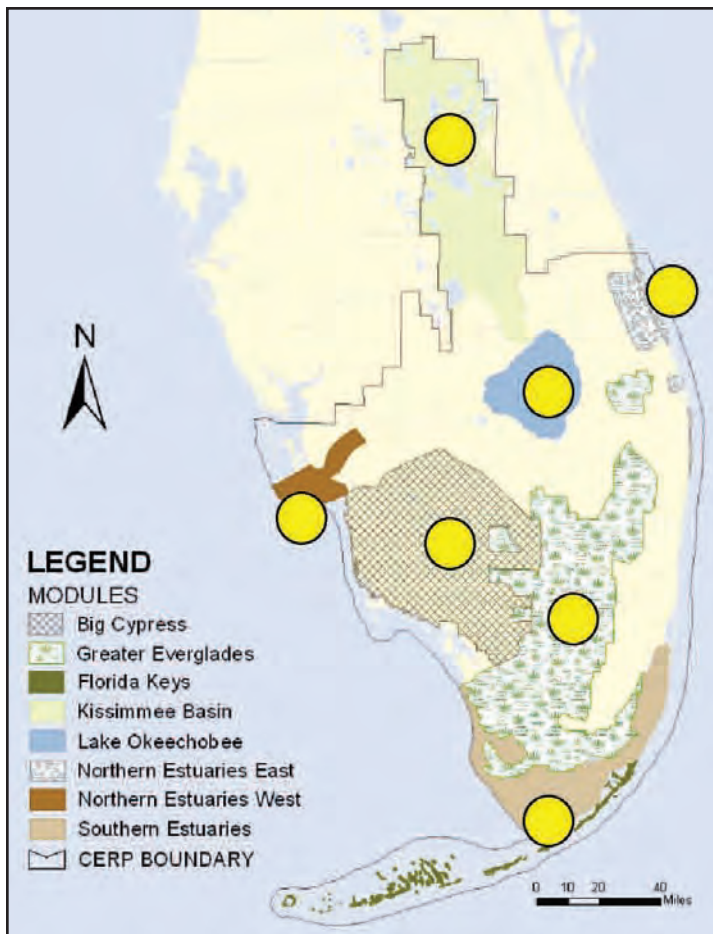
KEY FINDINGS



SUMMARY FINDING:

Most modules have some level of control program for high-priority species and are showing progress with commonly known and wide spread species such as melaleuca, particularly on public lands. However, even Brazilian pepper and Old World climbing fern continue to be serious invaders in many modules, and several new and recently introduced species are being identified in many modules and little information exists on distribution or control methods. Monitoring programs are insufficient for tracking invasive species (especially new species) and predominantly cover only the Greater Everglades Module.

KEY FINDINGS:



1. Control of exotics has been successful but is limited to public lands and only to a few species.
2. Biological control on melaleuca is proving to be very effective as previously released insects are spreading and restoration of natural habitat is being documented.
3. For several other serious invasive plants a number of new insects have been released others are in development for release within 1-2 years.
4. All of the modules have significant invasive exotic plant problems that are documented to be affecting natural areas and altering natural habitats and processes and are not being controlled or monitored.
5. Monitoring programs to assess the trends in invasive exotic plants only cover the entire restoration area for six high-priority species.
6. Monitoring that would identify new species or new distributions for existing species only covers portions of the Greater Everglades module, the other modules are not being monitored.
7. Due to the scale of the problem, new species are becoming established about which little is known, leaving the overall control picture mixed. Control and monitoring efforts are not keeping up with the establishment and expansion of exotic plant species.
8. Existing monitoring programs do not cover the other six modules. Therefore, we are unable to determine where and when new species arrive and establish and assess success of control programs in these areas.
9. While we have made good progress with a number of species, we are still unable to control exotic plant species faster than they are invading and spreading. It is important to get ahead of the exotic plant invasion rate. Control and prevention programs would have to be expanded in order to do that.

Invasive Exotic Plants

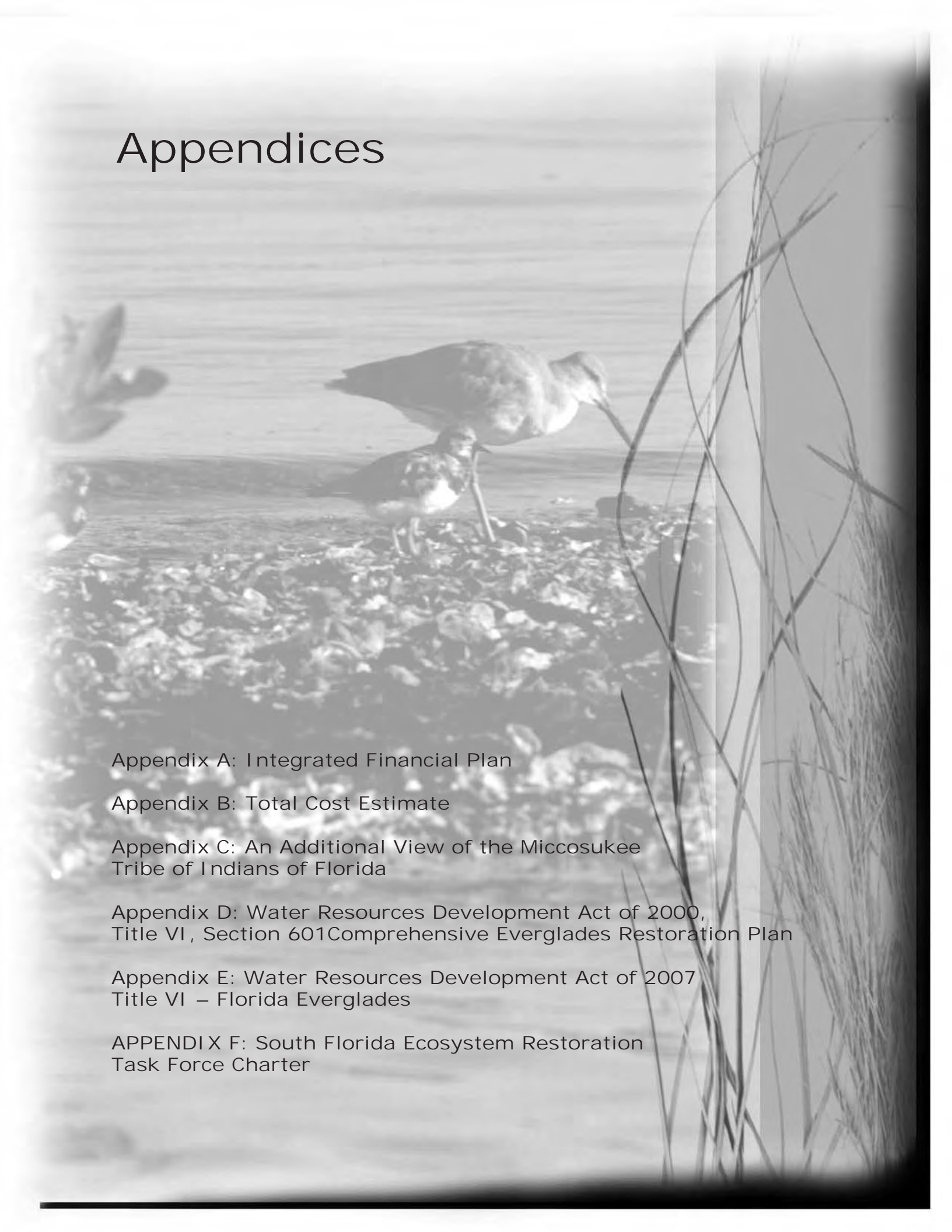
STOPLIGHTS



LOCATION	CURRENT STATUS	CURRENT STATUS
KISSIMMEE RIVER		<p>The Good: Restoration efforts under way with good progress made with some species; Successful control programs for water hyacinth, waterlettuce and melaleuca. New control programs started for other recent invaders.</p> <p>The Bad: Many non-indigenous species occur in this region for which little is known about their control, distribution and potential invasiveness.</p>
LAKE OKEECHOBEE		<p>The Good: Large control programs under way provide sustained maintenance control for many species including melaleuca, floating aquatic weeds which is key in restoration efforts.</p> <p>The Bad: Some serious species remain in module; continued disturbance of littoral zone may increase chances of new invasions.</p>
NORTHERN ESTUARIES – EAST COAST		<p>The Good: Progress with melaleuca, Brazilian pepper and Australian pine; first biocontrol releases for Old World climbing fern.</p> <p>The Bad: Other species increasing, most not included in indicator monitoring programs; little known about majority of invaders; unable to assess status in repetitive way to determine trends.</p>
NORTHERN ESTUARIES – WEST COAST		<p>The Good: Much progress made with melaleuca, Brazilian pepper, Australian pine; first biocontrol releases for Old World climbing fern; new biocontrol for Brazilian pepper under study.</p> <p>The Bad: Other species gaining foothold and most not included in any indicator monitoring program; little known about large majority of invaders and not able to assess their status in an objective or repetitive way.</p>
BIG CYPRESS		<p>The Good: Good control of melaleuca and Australian pine; first biocontrol releases for Old World climbing fern; occasional reductions on private lands.</p> <p>The Bad: Two potentially serious invaders, crested floating heart and cogongrass are present in module, control efforts ineffective.</p>
GREATER EVERGLADES		<p>The Good: Good control of melaleuca and Australian pine; biocontrol for melaleuca effective; first biocontrol releases for Old World climbing fern.</p> <p>The Bad: Old World climbing fern and Brazilian pepper still widespread, serious threats; continued rapid spread of these two species with little results from control efforts; still several other species present with little or no control effort or efficacy.</p>
SOUTHERN ESTUARIES		<p>The Good: Control programs under way for many years; significant control achieved for Australian pine.</p> <p>The Bad: Many new species invasions and possible effects unclear; most of Florida Bay not included in any monitoring program. Latherleaf, a serious invader of rare habitats along the southern coast of Park.</p>
FLORIDA KEYS		<p>The Good: Restoration efforts under way for several years; much progress made on Australian pine, sickle bush, laurel fig.</p> <p>The Bad: Still some use of invasive species in private landscapes.</p>



Appendices



Appendix A: Integrated Financial Plan

Appendix B: Total Cost Estimate

Appendix C: An Additional View of the Miccosukee
Tribe of Indians of Florida

Appendix D: Water Resources Development Act of 2000,
Title VI, Section 601 Comprehensive Everglades Restoration Plan

Appendix E: Water Resources Development Act of 2007
Title VI – Florida Everglades

APPENDIX F: South Florida Ecosystem Restoration
Task Force Charter



APPENDIX A: Integrated Financial Plan

2008 Integrated Financial Plan

Purpose

In 1996 Congress directed the Task Force to prepare an Integrated Financial Plan (IFP) for the restoration, preservation and protection of the South Florida Ecosystem. The IFP is updated annually and posted on the South Florida Ecosystem Restoration Task Force website. Every two years it is published along with the Task Force Strategy and Biennial Report.

The purpose of the IFP is to provide detailed information about the federal, state, tribal and local restoration projects that contribute to the accomplishment of the vision, goals, subgoals, and objectives of the Task Force Strategy for restoration of the South Florida Ecosystem.

Background

The overall premise of restoration is that the ecosystem must be managed from a systemwide perspective. Rather than dealing with issues independently, the challenge is to seek out the interrelationships that exist between all the components of the ecosystem. The same issues that are critical to the natural environment — getting the water right and restoring, preserving, and protecting diverse habitats and species — are equally critical to maintaining a quality built environment and lifestyle for South Florida's residents and visitors.

The success of this comprehensive approach will depend upon the coordination and integration of hundreds of individual restoration projects carried out by various agencies at all levels of government, and with input from many stakeholders. Each agency brings its own authority, jurisdiction, capabilities, and expertise to this initiative and applies them through its individual programs, projects, and activities.

Criteria and Assumptions

The IFP is a compilation of project specific information provided by the members of the Task Force. The cost estimating protocols, fiscal year cycles, time frames and methodologies used by the members vary widely. As such, the IFP reflects the criteria and assumptions used by the reporting Task Force entities and do not follow a single format.

Specific criteria and assumptions for each project are annotated with footnotes.

For policy reasons, the Florida Department of Environmental Protection (FDEP) and SFWMD do not make individual project cost projections on future non-CERP land acquisitions for habitat preservation and conservation purposes listed under Goal 2. The cost of lands already purchased for habitat preservation and conservation purposes are the actual costs. An estimate of future land costs for non-CERP Goal 2 land acquisition is provided in the Total Cost Estimate in Appendix B of the 2008 edition of the Coordinating Success Volume 1 document.

The following criteria and assumptions apply to all of the project financial information as provided in the Task Force's 2008 Integrated Financial Plan:

- Federal agencies and the South Florida Water Management District (SFWMD) operate and report financial activities on an October 1 to September 30 fiscal year, while other State of Florida agencies operate on a July 1 to June 30 fiscal year.
- Generally the U.S. Army Corps of Engineers (USACE), in seeking project authorizations, uses current year dollars to develop cost estimates, as provided in appropriate authorizing documents. Once a project is authorized, the USACE uses OMB inflation indices to price level estimated project costs to current year dollars, and then inflates to mid-point of construction based on the current schedule to produce a fully funded project cost estimate. Estimated project costs are updated annually using the OMB directed inflation indices (prepared each October) and current schedules.
- USACE project costs are reported as follows:
 - a) CERP: The Project Implementation Report (PIR) is the decision document used to obtain approval and/or authorization of CERP projects and completion of the final PIR is normally the time when all costs are updated. Prior to the development of a final PIR, project cost estimates assume a 50% Federal and 50 % Non-Federal cost share and are reported in 2007 dollars that have been updated using the OMB inflation indices. None of the CERP projects are fully funded.

b) Central & Southern Florida (C&SF) C-111 (South Dade), C&SF West Palm Beach STA 1 East/ C-51 West, Kissimmee River Restoration, Everglades and South Florida Ecosystem Restoration Critical Projects costs are reported in 2007 dollars, fully funded.

c) Southwest Florida Feasibility Study: Study cost estimate is reported based on amended Feasibility Cost Sharing Agreement (FCSA) increasing the total study cost estimate to \$17M.

d) Florida Bay/Florida Keys Feasibility Study: study cost estimate is reported in 2001 price levels per the Master Implementation Sequencing Plan (MISP) with an estimated study cost of \$6.3M.

- The SFWMD project costs are reported as follows:

a) Lake Okeechobee Protection Plan – project cost estimate is reported in 2007 dollars as approximately \$1.4 billion dollars, not including the CERP Lake Okeechobee Watershed Project.

These costs include the Lake Okeechobee expedited projects being implemented as part of the Northern Everglades Project, full implementation of BMP's throughout the entire Lake Okeechobee watershed, and on going in-lake restoration activities, monitoring, research, and exotics removal. These costs are being re-evaluated and adjusted in response to the Northern Everglades Program initiative.

b) Long Term Plan Projects – project cost estimates are escalated values and are derived from construction industry-accepted cost databases and compared with similar previous SFWMD completed projects. Escalated value is defined as the value of when that component is expected to be constructed, including the estimated cost of inflation.

c) October, 2004 Expedited Projects – Project cost estimates are updated as each project progresses through the design process. Each updated cost estimate is reported as the present day value at the time the estimate is performed.

Contingencies are included in each estimate with larger contingencies (30%) used during early stages of the design phase and smaller contingencies (10%) used at the final design phase. The contingencies are intended to account for cost escalation due to inflation.

- Reporting agencies needed to presume annual levels of Congressional and State of Florida appropriations to develop project completion schedules. If the actual appropriations vary from presumed levels, then project completion schedules and estimated projects costs may change.
- Federal project execution is contingent upon Administration priorities and subject to available appropriations.
- The Project Summary Table and IFP do not include operational costs or agency programmatic costs that would be incurred regardless of the restoration initiatives. For example, the National Park Service costs to operate and maintain Everglades National Park, Fish and Wildlife Service costs to provide for Endangered Species Act consultation and South Florida Water Management District costs to operate and maintain water delivery infrastructure are not included herein.
- The Project Summary Table and IFP do not include the costs of land development and associated infrastructure as well as infrastructure improvements in existing urban areas including but not limited to redeveloping declining urban areas, wastewater and storm water management systems construction and improvements, schools, roadways, utilities, government services, and light rail.
- The Project Summary Table and IFP do not include any costs or future resource needs projected for environmental and system-wide monitoring programs (For example, the \$100 million funded over ten years for the CERP monitoring programs is not included).
- The Project Summary Table and IFP do not include any post-construction operations and maintenance costs in the total financial requirement.

HOW TO USE THE IFP PROJECT SUMMARY TABLE

The Integrated Financial Plan Summary Table provides a great deal of useful information for those interested in project details at a glance and describes how the projects link to the overall strategic goals, subgoals and objectives of the Task Force. This same table is repeated in Volume 1, Appendix A.

Each column of the table has a specific purpose to assist in finding information quickly and aggregating different information components:

Column 1	identifies the goal and subgoal the project is designed to achieve or partially achieve.	Column 4	identifies the lead agency.
Column 2	assigns a unique project number linked to the Task Force goals, subgoals, and objectives. The first digit is a goal number (1, 2, or 3). The second digit is the subgoal/objective number. For the purpose of assigning project numbers, the objectives under each goal have been numbered consecutively regardless of their subgoal. For example, project 1104 would be a project that supports objective 1-A.1. The third and fourth digits reflect the order of listing of the projects under each subgoal/objective. For example, project 1104 would be the 4th project on the list for that objective.	Columns 5 and 6	identify the reported start and Completion dates.
Column 3	is the project name. The staff strives to use the same project name used by all agencies or officially approved in joint Guidance Memorandums, although at times this is quite challenging. Some of the project names changed from year to year as projects are grouped together or split apart in the CERP adaptive management process. For example the Lake Istokpoga Project, which was a separate project in 2002, has since been included in the Lake Okeechobee Watershed Project. These types of actions affect the restoration endpoints and total outputs measured by some of the objectives, and as a result some of the restoration endpoints have changed.	Column 7	identifies the current estimated financial requirements.
		Column 8	identifies the financial resources appropriated as of June 30, 2008 unless otherwise noted.
		Column 9	identifies the measurable output (e.g., acre-feet of storage, miles modified, etc.) that collectively add up to the restoration endpoint identified for achieving the objectives of each subgoal.
		Columns 10 and 11	identify the primary and secondary objectives that the project outputs support. The staff identified the primary and secondary objectives based on input from the reporting agency. Some projects provide outputs supporting more than one objective. Thus, they are listed in more than one section with different outputs. For example, the Lake Okeechobee Watershed Project (project 1104) provides acres of stormwater treatment for Objective 1.B.1 and acre-feet of storage for Objective 1.A.1. Such projects are numbered according to the primary objective identified for the project, and the same number is maintained when the project is repeated to identify the secondary benefit.
		Column 12	identifies the page number in Volume 2 where the detailed project sheet can be located.

Goals	SP Project Number	Project Name	Lead Agency	Start	End	Financial Requirement	Appropriated thru FY08	Measurable Outputs	Primary Objective	Secondary Objective (s)	Pg#
Column 1	Column 2	Column 3	Column 4	Column 5	Column 6	Column 7	Column 8	Column 9	Column 10	Column 11	Col. 12
GOAL 1. GET THE WATER RIGHT											
1.A.1	SURFACE WATER STORAGE PROJECTS										
	1101	C&SF: CERP Indian River Lagoon-South Storage Reservoirs (UU P1 & UU P2), and C-44 Basin Storage Reservoir (B) (CERP Project WBS # 07)	USACE/ SFWMD	2002	2023	\$1,566,300,000	\$16,274,000	135,000	1.A.1	1.B.1/2.A.3	23
	1102	C&SF: CERP Everglades Agricultural Area Storage Reservoir(s) (G P1 & G P2) (CERP Project WBS # 08)	USACE/ SFWMD	2001	2015	\$615,600,000	\$20,921,000	360,000	1.A.1		28
	1104	C&SF: CERP Lake Okeechobee Watershed (A, W; OPEs: LOWQTF, LOTSD, LIRS) (CERP Project WBS # 01)	USACE/ SFWMD	2001	2015	\$669,000,000	\$23,904,000	272,823	1.A.1	1.B.1/2.A.3	32
	1105	C&SF: CERP North Lake Belt Storage Area (XX P2) (CERP Project WBS # 25)	USACE/ SFWMD	2017	2036	\$327,400,000	\$0	90,000	1.A.1		36
	1106	C&SF: CERP Palm Beach County Agriculture Reserve Reservoir -Part 1 (VV P1) (CERP Project WBS # 20)	USACE/ SFWMD	2006	2017	\$112,500,000	\$5,245,000	20,000	1.A.1		38
	1107	C&SF: CERP Site 1 Impoundment (M P1) a/k/a Site 1 Impoundment (Fran Reich Preserve) (CERP Project WBS # 40)	USACE/ SFWMD	2004	2013	\$88,800,000	\$7,621,000	13,280	1.A.1	2.A.3	39
	1109	C&SF: CERP C-43 Basin Storage Reservoir -Part 1 (D P1) [Caloosahatchee River (C-43) West Basin Storage Reservoir (PIR #1); Caloosahatchee Watershed (PIR #2)] (CERP Project WBS # 04)	USACE/ SFWMD	2001	2013	\$303,200,000	\$11,450,000	170,000	1.A.1		43
	1110	C&SF: CERP Central Lake Belt Storage Area (SP1 & SP2) (EEE) (CERP Project WBS # 26)	USACE/ SFWMD	2026	2036	\$648,469,000	\$0	190,000	1.A.1	1.B.1	46
	1111	E&SF: Critical Projects - Ten Mile Creek	USACE/ SFWMD	1997	TBD	\$39,335,000	\$39,335,000	6,000	1.A.1	2.A.3	48
	1112	Taylor Creek Reservoir – Expedited Project – The SFWMD is implementing as part of Northern Everglades Project	SFWMD	2005	2015	Footnote 2	\$3,798,000	32,000	1.A.1		50
	1113	C&SF: CERP Water Preserve Area Conveyance (XX P1) (CERP Project WBS # 49)	USACE/ SFWMD	2002	2014	\$327,104,000	\$10,170,000	90,000	1.A.1		51
	1114	C&SF: CERP Everglades National Park Seepage Management (V) (FF) (BB) (U) (CERP Projects WBS # 27 and # 43)	USACE/ SFWMD	2004	2017	\$473,500,000	\$3,797,000	11,500	1.A.1		52
	1115	C&SF: CERP North Palm Beach County-- Part 1 (X) (Y) (GGG) (K P1) (OPE) (CERP Project WBS # 17) (Formerly Project ID 1503)	USACE/ SFWMD	2001	2015	\$656,600,000	\$11,649,000	48,000	1.A.1	1.B.1	55

Goals	SP Project Number	Project Name	Lead Agency	Start	End	Financial Requirement	Appropriated Date	Measurable Outputs	Primary Objective	Secondary Objective (s)	Pg#
Column 1	Column 2	Column 3	Column 4	Column 5	Column 6	Column 7	Column 8	Column 9	Column 10	Column 11	Col. 12
	1116	C&SF: CERP Broward County (WPA) Water Preserve Areas (R) (Q) (O) [Broward County WPA - C-9 Stormwater Treatment Area/Impoundment (R) and Western C-11 Diversion Impoundment and Canal (Q) and Water Conservation Areas 3A and 3B Levee Seepage Management (O)] (CERP Project WBS # 45) (Formerly Project ID 1501)	USACE/ SFWMD	2002	2017	\$841,700,000	\$15,748,000	11,648	1.A.1	2.A.3	59
	2100	Allapattah Flats/Ranch	FDEP	1997	TBD	Footnote 1	Footnote 1	32,000			155
1.A.2.		ALTERNATIVE WATER STORAGE SYSTEMS PROJECTS									
	1200	C&SF: CERP North Palm Beach County - Part 2 (LL) (K P2) (CERP Project WBS # 18)	USACE/ SFWMD	2009	2019	\$273,000,000	\$0	0.220	1.A.2		63
	1201	C&SF: CERP Lake Okeechobee ASR (GG P1, GG P2, GG P3) (CERP Project WBS # 03)	USACE/ SFWMD	2010	2027	\$1,906,800,000	\$0	1.000	1.A.2		65
	1202	C&SF: Hillsboro ASR Phase 2 (M P2) (CERP Project WBS # 22)	USACE/ SFWMD	2014	2024	\$120,600,000	\$0	0.150	1.A.2		67
	1203	C&SF: CERP ASR Regional Study (CERP Project WBS # 44)	USACE/ SFWMD	2003	2017	\$81,200,000	\$16,003,000		1.A.2		69
	1204	C&SF: CERP PBC Agriculture Reserve Aquifer Storage & Recovery -- Part 2 (VV P2) (CERP Project WBS # 21)	USACE/ SFWMD	2010	2020	\$52,300,000	\$0	0.075	1.A.2		71
	1205	C&SF: CERP Caloosahatchee River Aquifer Storage and Recovery (ASR)-- Part 2 (D P2) (CERP Project WBS # 05)	USACE/ SFWMD	2010	2019	\$362,300,000	\$0	0.220	1.A.2		72
1.A.3		MODIFY IMPEDIMENTS TO SHEETFLOW PROJECTS									
	1300	C&SF: C-111 (South Dade)	USACE/ SFWMD	1994	2014	\$382,000,000	\$149,841,000	4.75	1.A.3	3.B.1	74
	1301	C&SF: CERP WCA -3Decomartmentalization and Sheetflow Enhancement (AA) (QQ P1 & QQ P2) (SS) (ZZ) (CERP Projects WBS # 12, # 13 and # 47)	USACE/ SFWMD	2001	2019	\$325,300,000	\$13,889,000	240	1.A.3		76
	1302	C&SF: CERP Florida Keys Tidal Restoration (OPE) (CERP Project WBS # 31)	USACE/ SFWMD	2001	2018	\$15,100,000	\$1,506,000	0.6	1.A.3		80
	1303	E&SF: Critical Projects - Southern CREW	USACE/ SFWMD	1999	2015	\$60,104,000	\$34,716,000		1.A.3	2.A.3	82
	1306	Kissimmee River Restoration Project	USACE/ SFWMD	1994	2013	\$634,000,000	\$260,363,000	31	1.A.3	2.A.3	84
	1307	Modified Water Deliveries to Everglades National Park (Footnote 3)	NPS	1990	2013	\$523,016,000	\$322,367,000	21	1.A.3	2.A.3	86
	1308	E&SF: Critical Projects-Additional Water Conveyance Structures Under Tamiami Trail (Formerly Project ID 1400)	USACE/ SFWMD	2003	2011	\$16,506,000	\$3,314,000	16			89

Goals	SP Project Number	Project Name	Lead Agency	Start	End	Financial Requirement	Appropriated Date	Measurable Outputs	Primary Objective	Secondary Objective (s)	Pg#
Column 1	Column 2	Column 3	Column 4	Column 5	Column 6	Column 7	Column 8	Column 9	Column 10	Column 11	Col. 12
	1520	Long-Term Plan for Achieving Everglades Water Quality Goals (Formerly project ID 1723)	SFWMD	2004	2016	Footnote 1	Footnote 1	8.5	1.B.1		140
	1305	Completed Projects Kissimmee Prairie	FDEP/ SFWMD	1996	1997	Footnote 1	Footnote 1	39.3	1.A.3	2.A.1	299
		OTHER RELATED HYDROLOGY PROJECTS									
	1401	Biscayne Bay Feasibility Study	USACE/ M-DADE	1996	2010	\$6,370,000	\$1,643,000				91
	1403	C&SF: CERP Broward County Secondary Canal System (CC) (CERP Project WBS # 24)	USACE/ SFWMD	2001	2016	\$19,100,000	\$62,000				92
	1408	C&SF: CERP Loxahatchee National Wildlife Refuge Internal Canal Structures (KK) (CERP Project WBS # 14)	USACE/ SFWMD	2004	2020	\$9,600,000	\$49,000				93
	1409	C&SF: CERP Seminole Tribe Big Cypress Water Conservation Plan (CERP Project WBS # 96)	USACE/ Seminole Tribe	2015	2022	\$127,700,000	\$0				94
	1411	C&SF: CERP Caloosahatchee (C-43) River Basin ASR Pilot (CERP Project WBS # 33)	USACE/ SFWMD	2001	2012	\$8,928,000	\$3,271,000				96
	1412	C&SF: CERP WCA 2B Flows to Everglades National Park (YY) (CERP Project WBS # 48)	USACE/ SFWMD	2005	2025	\$95,950,000	\$284,000				98
	1416	C&SF: CERP L-31N Seepage Management Pilot (V) (CERP Project WBS # 36)	USACE/ SFWMD	2001	2010	\$15,000,000	\$6,714,000				100
	1417	C&SF: CERP Lake Belt (In-Ground Reservoir) Technology - Pilot (CERP Project WBS # 35)	USACE/ SFWMD	2001	2017	\$27,800,000	\$1,919,000				102
	1418	C&SF: CERP Lake Okeechobee Aquifer Storage and Recovery Pilot (CERP Project WBS # 32)	USACE/ SFWMD	2001	2012	\$33,131,000	\$20,174,000				103
	1419	C&SF: CERP Lake Okeechobee Regulation Schedule (LORS)	USACE/ SFWMD	TBD	TBD	TBD	\$0				105
	1420	C&SF: CERP Modify Holey Land Wildlife Management Area Operation Plan (DD) (CERP Project WBS # 15)	USACE/ SFWMD	2007	2011	TBD	\$0				106
	1421	C&SF: CERP Modify Rotenberger Wildlife Management Area Operation Plan (EE) (CERP Project WBS # 16)	USACE/ SFWMD	2007	2011	TBD	\$0				107
	1422	C&SF: CERP CSOP Operational Modification to Southern Portion of L-31N and C-111 (OO) (CERP related Project)	USACE/ SFWMD	TBD	TBD	TBD	\$0				108
	1423	C&SF: CERP Hillsboro Aquifer Storage and Recovery Pilot (CERP Project WBS # 34)	USACE/ SFWMD	2000	2009	\$9,369,000	\$4,882,000				109

Goals	SP Project Number	Project Name	Lead Agency	Start	End	Financial Requirement	Appropriated Date	Measurable Outputs	Primary Objective	Secondary Objective (s)	Pg#
Column 1	Column 2	Column 3	Column 4	Column 5	Column 6	Column 7	Column 8	Column 9	Column 10	Column 11	Col. 12
	1425	E&SF: Critical Projects - Seminole Big Cypress	yup	1997	2011	\$59,830,942	\$39,850,000				111
	1426	C&SF: CERP Florida Bay Florida Keys Feasibility Study (CERP Study)	USACE	2001	2012	\$6,300,000	\$5,944,000				113
	1431	C&SF: CERP Southwest Florida Feasibility Study (CERP Study)	USACE/SFWMD	2001	2010	\$17,000,000	\$13,490,000				115
	1435	C&SF: CERP C-4 Control Structures (T) (CERP Project WBS # 46)	USACE/SFWMD	2004	2013	\$3,400,000	\$113,000				117
	1436	Permanent Forward Pumps – Expedited Project –The SFWMD is implementing as part of Northern Everglades Project	SFWMD	2006	2010	\$135,000,000	\$12,200,000				118
	1437	C&SF: CERP PLA/Information and Data Management	USACE/SFWMD	2000	TBD	PLA Budget	\$25,250,000				119
	1438	C&SF: CERP PLA/Interagency Modeling Center	USACE/SFWMD	2000	TBD	PLA Budget	\$30,945,000				120
	1439	C&SF: CERP PLA/Environmental and Economic Equity	USACE/SFWMD	2000	TBD	PLA Budget	\$1,200,000				121
	1440	C&SF: CERP PLA/Master Recreation Plan (MRP)	USACE/SFWMD	2000	TBD	PLA Budget	\$1,753,000				123
	1441	C&SF: CERP PLA/Restoration Coordination and Verification (RECOVER)	USACE/SFWMD	2000	TBD	PLA Budget	\$33,694,000				124
	1406	Completed Projects: E&SF: Critical Projects - East Coast Canal Structures (C-4)	USACE/SFWMD	1999	2003	\$3,683,000	\$3,683,000				300
	1428	Indian River Lagoon Restoration Feasibility Study	USACE/SFWMD	1996	2002	\$6,150,000	\$6,150,000				301
Sub-Goal 1.B GET THE WATER QUALITY RIGHT											
1.B.1		STORMWATER TREATMENT AREA (STA) PROJECTS						ACRES			
	1500	C&SF: CERP Big Cypress/L-28 Interceptor Modifications (CCC) (CERP Project WBS # 10)	USACE/SFWMD	2015	2019	\$68,300,000	0	1,900	1.B.1		126
	1502	C&SF: CERP Miccosukee Tribe Water Management Plan (OPE) (CERP Project WBS # 90)	USACE / Miccosukee Tribe	2003	2016	\$30,700,000	0	900	1.B.1		128
	1505	C&SF: CERP Caloosahatchee Backpumping with Stormwater Treatment (DDD) (CERP Project WBS # 06)	USACE/SFWMD	2011	2018	\$133,000,000	0	5,000	1.B.1		129
	1506	E&SF: Critical Projects - Lake Okeechobee Water Retention/ Phosphorus Removal	USACE/SFWMD	1997	2009	\$21,902,000	\$17,005,000	940	1.B.1		131
	1513	C&SF: West Palm Beach Canal STA-1E / C-51 West	USACE/SFWMD	1994	2013	\$319,800,000	\$300,521,000	6,500	1.B.1		133

Goals	SP Project Number	Project Name	Lead Agency	Start	End	Financial Requirement	Appropriated Date	Measurable Outputs	Primary Objective	Secondary Objective (s)	Pg#
Column 1	Column 2	Column 3	Column 4	Column 5	Column 6	Column 7	Column 8	Column 9	Column 10	Column 11	Col. 12
	1514A	State Expedited project includes Agricultural Area (EAA) Stormwater Treatment Areas (STAs) Expansion	SFWMD	2009	2011	Footnote 2	\$94,362,923	18,000	1.B.1		135
	1515	Lakeside Ranch STA - Expedited Project - The SFWMD is implementing as part of Northern Everglades Project	SFWMD	2005	2012	\$140,683,688	\$7,730,000	27,000	1.B.1		136
	1518	C&SF: CERP Henderson Creek/Belle Meade Restoration (OPE) (CERP Project WBS # 93)	USACE/ FDEP	2002	2018	\$7,000,000	\$128,000	10	1.B.1		137
	1519	C-43 Water Quality Treatment Area	SFWMD	2007	2012	\$163,980,000	\$3,090,000	1,200	1.B.1		139
	1520	Long-Term Plan for Achieving Everglades Water Quality Goals (Formerly project ID 1723)	SFWMD	2004	2016	\$749,800,000	\$168,465,422	36,070	1.B.1		140
	1101	C&SF: CERP Indian River Lagoon-South [C-23/C-24/C-25/North Fork and South Fork Storage Reservoirs (UU P1 & UU P2), and C-44 Basin Storage Reservoir (B)] (CERP Project WBS # 07)	USACE/ SFWMD	2002	2023	Footnote 1	Footnote 1	9,000	1.A.1	1.B.1	23
	1104	C&SF: CERP Lake Okeechobee Watershed (A, W; OPEs: LOWQTF, LOTSD, LIRS) (CERP Project WBS # 01)	USACE/ SFWMD	2001	2015	Footnote 1	Footnote 1	12,000	1.A.1	1.B.1	32
	1110	C&SF: CERP Central Lake Belt Storage Area (SP1 & SP2) (EEE) (CERP Project WBS # 26)	USACE/ SFWMD	2026	2036	Footnote 1	Footnote 1	640	1.A.1	1.B.1	46
	1115	C&SF: CERP North Palm Beach County -- Part 1 (X) (Y) (GGG) (K P1) (OPE) (CERP Project WBS # 17) (Formerly Project ID 1503)	USACE/ SFWMD	2001	2015	Footnote 1	Footnote 1	1,150	1.B.1	1.A.1	55
1.B.2		TOTAL MAXIMUM DAILY LOAD (TMDL) PLAN DEVELOPMENT					COMPLETED PLANS				
	1600	Total Maximum Daily Load (TMDL) for South Florida	FDEP	2000	2011	Footnote 2	\$5,660,000		1.B.2		142
		OTHER RELATED WATER QUALITY PROJECTS									
	1701	C&SF: CERP Comprehensive Integrated Water Quality Feasibility Study (CERP Study)	USACE/ FDEP	2001	2014	\$8,884,000	\$735,000				143
	1702	E&SF: Critical Projects - Lake Trafford Restoration	USACE/ SFWMD	1999	2011	\$15,408,000	\$7,987,000				145
	1706	Everglades Regulation Division	SFWMD	1998	TBD	Footnote 2	\$27,351,000				146
	1707	Floridan Aquifer Restoration	NRCS	2002	TBD	\$900,000	\$900,000				147
	1714	Seminole Tribe Best Management Practices for the Big Cypress Reservation	Seminole	1996	2010	\$4,779,000	\$2,389,500				148
	1715	Seminole Tribe Best Management Practices for the Brighton Reservation	Seminole	1998	2010	\$338,000	\$240,000				149

Goals	SP Project Number	Project Name	Lead Agency	Start	End	Financial Requirement	Appropriated Date	Measurable Outputs	Primary Objective	Secondary Objective (s)	Pg#
Column 1	Column 2	Column 3	Column 4	Column 5	Column 6	Column 7	Column 8	Column 9	Column 10	Column 11	Col. 12
	1716	Seminole Tribe Comprehensive Surface Water Management System for the Brighton Reservation	Seminole	1999	2013	\$15,818,000	\$13,710,000				150
	1717	Seminole Tribe Water Conservation Project for Big Cypress Reservation	Seminole	2002	2012	\$60,000,000	\$22,000,000				151
	1722	Lake Okeechobee Protection Plan	SFWMD	1999	2015	Footnote 2	\$285,917,000				152
	1700	Completed Projects: Chapter 298 Districts/Lease 3420 Improvements	SFWMD	1994	2005	\$24,115,521	\$24,115,521				302
	1703	E&SF: Critical Projects - Western C-11 Water Quality Treatment	USACE	1997	2006	\$18,066,000	\$18,066,000				303
	1705	Everglades National Park Water & Wastewater	NPS	1997	2006	\$18,965,000	\$17,365,000				304
	1708	Lake Okeechobee Sediment Removal Feasibility Study and Pilot	SFWMD	2000	2003	\$955,069	\$955,069				305
	1709	Lake Okeechobee Tributary Sediment Removal Pilot	SFWMD	2000	2004	\$440,000	\$440,000				306
	1713	S-5A Basin Runoff Diversion Works	SFWMD	1994	2005	\$14,233,758	\$13,536,252				307
	1719	STA-1 Inflow and Distribution Works	SFWMD	1994	2005	\$12,679,955	\$12,679,955				308

GOAL 2. RESTORE PRESERVE AND PROTECT NATURAL HABITATS AND SPECIES

Sub-Goal 2.A. RESTORE, PRESERVE AND PROTECT NATURAL HABITATS												
2.A.1	HABITAT PROTECTION LAND ACQUISITION PROJECTS											
		State Acquisitions										
	2100	Allapattah Flats/Ranch	FDEP	1997	TBD	TBD	\$63,031,278					155
	2101	Atlantic Ridge Ecosystem	FDEP/ SFWMD	1995	TBD	TBD	\$41,897,324					156
	2104	Belle Meade	FDEP	1993	TBD	TBD	\$39,412,158					157
	2105	Big Bend Swamp/Holopaw Ranch	FDEP	2000	TBD	TBD	\$6,829,000					158
	2106	Biscayne Coastal Wetlands	SFWMD/ M-DADE	1998	TBD	TBD	\$7,238,714					159
	2107	Bombing Range Ridge	FDEP	1998	TBD	TBD	\$15,003,388					160
	2108	Caloosahatchee Ecoscape	FDEP	1998	TBD	TBD	\$1,948,038					161
	2109	Calfish Creek	FDEP	1990	TBD	TBD	\$47,444,266					162
	2111	Charlotte Harbor Estuary/ Flatwoods/ Cape Haze	FDEP	1986	TBD	TBD	\$17,781,504					163
	2112	Corkscrew Regional Ecosystem Watershed	FDEP	1991	TBD	TBD	\$45,312,713					164
	2114	Coupon Bight/ Key Deer/ Big Pine Key	FDEP	1985	TBD	TBD	\$30,650,827					165
	2172	Cypress Creek/Loxahatchee	SFWMD	2002	2007	TBD	\$76,992,058					166
	2115	Cypress Creek/Trail Ridge	SFWMD	1997	TBD	TBD	\$23,760,859					167

Goals	SP Project Number	Project Name	Lead Agency	Start	End	Financial Requirement	Appropriated Date	Measurable Outputs	Primary Objective	Secondary Objective (s)	Pg#
Column 1	Column 2	Column 3	Column 4	Column 5	Column 6	Column 7	Column 8	Column 9	Column 10	Column 11	Col. 12
	2183	Devils Garden	FDEP	2002	TBD	TBD	\$0	82,508	2.A.1		168
	2117	East Coast Buffer	FDEP/ SFWMD	1994	TBD	TBD	\$142,460,890	49,643	2.A.1		169
	2118	Estero Bay	FDEP	1985	TBD	TBD	\$59,220,290	14,378	2.A.1		170
	2120	Fakahatchee Strand	FDEP	1980	TBD	TBD	\$24,894,138	80,332	2.A.1		171
	2121	Fisheating Creek	SFWMD/ FDEP	1999	TBD	TBD	\$101,928,563	176,876	2.A.1		172
	2122	Florida Keys Ecosystem	FDEP	1992	TBD	TBD	\$94,623,804	15,336	2.A.1		173
	2185	Half Circle L Ranch	SFWMD	2003	TBD	TBD	\$0	11,269	2.A.1		174
	2124	Indian River Lagoon Blueway	FDEP	1998	TBD	TBD	\$17,846,530	1,385	2.A.1		175
	2125	Juno Hills /Dunes	FDEP	1994	TBD	TBD	\$41,892,718	590	2.A.1		176
	2176	Jupiter Ridge	FDEP	1991	TBD	TBD	\$23,099,950	287	2.A.1		177
	2126	Kissimmee - St. John Connector	FDEP	2001	TBD	TBD	\$0	9,463	2.A.1		178
	2127	Kissimmee River (Lower Basin)	SFWMD	1985	2005	TBD	\$181,530,258	75,617	2.A.1		179
	2128	Kissimmee River (Upper Basin)	SFWMD	1990	2005	TBD	\$100,011,311	38,273	2.A.1		180
	2129	Lake Wales Ridge Ecosystem	FDEP	1992	TBD	TBD	\$31,737,827	16,455	2.A.1		181
	2132	Loxahatchee Slough	SFWMD	1996	TBD	TBD	\$35,920,793	13,099	2.A.1		182
	2134	Miami-Dade County Archipelago	FDEP	1994	TBD	TBD	\$23,524,235	884	2.A.1		183
	2135	Model Lands	SFWMD/ M-DADE	1994	2007	TBD	\$28,750,981	54,458	2.A.1		184
	2138	North Fork St Lucie River	FDEP/ SFWMD	1988	TBD	TBD	\$5,109,620	3,714	2.A.1		185
	2139	North Key Largo Hammocks	FDEP	1983	TBD	TBD	\$76,542,140	5,048	2.A.1		186
	2141	Okaloacoochee Slough	FDEP/ SFWMD	1996	TBD	TBD	\$20,570,673	35,201	2.A.1		187
	2142	Okeechobee Battlefield	FDEP	2001	TBD	TBD	\$3,217,250	211	2.A.1		188
	2143	Osceola Pine Savannas	FDEP	1995	TBD	TBD	\$310,000	6,357	2.A.1		189
	2144	Pal-Mar	FDEP/ SFWMD	1992	TBD	TBD	\$102,051,457	35,760	2.A.1		190
	2145	Panther Glades	FDEP	2001	TBD	TBD	\$75,049,836	57,604	2.A.1		191
	2146	Paradise Run	SFWMD	1998	TBD	TBD	\$4,908,582	3,841	2.A.1		192
	2147	Lake Hatchineha Watershed/ Parker-Poinciana	SFWMD	1996	TBD	TBD	\$0	6,437	2.A.1		193
	2186	Pine Island Slough Ecosystem	FDEP	2005	TBD	TBD	\$0	21,583	2.A.1		194
	2148	Pineland Site Complex	FDEP	1996	TBD	TBD	\$1,751,874	206	2.A.1		195
	2178	Ranch Reserve	SFWMD	1997	TBD	TBD	\$39,286	2,217	2.A.1		196
	2149	Rookery Bay	FDEP	1980	TBD	TBD	\$45,500,833	18,721	2.A.1		197
	2150	Rotenberger/Holey Land Tract	FDEP	1984	TBD	TBD	\$20,114,395	79,170	2.A.1		198
	2151	Shingle Creek	SFWMD	1987	TBD	TBD	\$4,372,344	7,673	2.A.1		199
	2152	Six Mile Cypress	SFWMD	1987	2007	TBD	\$3,455,474	2,083	2.A.1		200

Goals	SP Project Number	Project Name	Lead Agency	Start	End	Financial Requirement	Appropriated Date	Measurable Outputs	Primary Objective	Secondary Objective (s)	Pg#
Column 1	Column 2	Column 3	Column 4	Column 5	Column 6	Column 7	Column 8	Column 9	Column 10	Column 11	Col. 12
	2154	South Savannas	FDEP/ SFWMD	1981	TBD	TBD	20,902,290	6,046	2.A.2		201
	2155	Southern Glades	SFWMD/ M-DADE	1964	TBD	TBD	15,363,259	37,620	2.A.1		202
	2156	Southern Golden Gate Estates (Save Our Everglades) - Picayune Strand	FDEP	1984	TBD	TBD	130,838,450	55,247	2.A.1		203
	2180	Ten Mile Creek	SFWMD	1990	TBD	TBD	338,644	240	2.A.1		204
	2158	Twelve Mile Slough	SFWMD	1998	TBD	TBD	11,000,000	15,653	2.A.1		205
	2159	Lake Marion Creek and Reedy Creek Management Area	SFWMD	1995	TBD	TBD	12,343,957	39,323	2.A.1		206
	2160	Water Conservation Areas 2, and 3	SFWMD	1948	TBD	TBD	10,572,395	721,433	2.A.1		207
		Completed Projects:									
	2102	Babcock Ranch	FDEP	2001	2007	\$350,000,000	\$350,000,000	73,542	2.A.1		309
	2110	Cayo Costa	FDEP	1980	2004	\$28,807,346	\$28,807,346	1,955	2.A.1		310
	2116	Dupuis Reserve	SFWMD	1985	1986	\$23,016,601	\$23,016,601	21,875	2.A.1		311
	2123	Frog Pond	FDEP/ SFWMD	1982	2007	\$19,997,038	\$19,997,038	2,484	2.A.1		312
	1305	Kissimmee Prairie	FDEP	1996	1997	\$21,953,790	\$21,953,790	38,284	2.A.1		299
	2130	Sumica (previously Lake Walk-In-Water)	SFWMD	1995	1998	\$3,950,000	\$3,950,000	4,009	2.A.1		313
	2131	Loxahatchee River Land Acquisition	SFWMD	1984	2001	\$13,074,703	\$13,074,703	1,912	2.A.1		314
	2137	Nicodemus Slough	SFWMD	1981	1988	\$1,894,501	\$1,894,501	2,231	2.A.1		315
	2153	South Fork St. Lucie River Land Acquisition	SFWMD	1995	1995	\$2,480,000	\$2,480,000	184	2.A.1		316
	2157	Tibet-Butler Preserve	SFWMD	1988	1999	\$3,601,900	\$3,601,900	439	2.A.1		317
	2161	Yamato Scrub	FDEP	1992	1996	\$25,932,850	\$25,932,850	207	2.A.1		318
		Federal Acquisitions									
	2161	A.R. M. Loxahatchee National Wildlife Refuge	USFWS	1955	2005	\$30,119,000	\$119,000	145,567	2.A.1		208
	2163	Big Cypress National Preserve Addition	NPS	1989	2005	\$75,466,000	\$73,662,737	146,117	2.A.1		209
	2164	Big Cypress National Preserve Private Inholdings (Footnote 3)	NPS	1974	TBD	\$243,982,000	\$222,105,000	574,449	2.A.1		210
	2165	Biscayne National Park	NPS	1968	TBD	\$33,699,000	\$31,850,735	172,924	2.A.1		211
	2166	Crocodile Lake National Wildlife Refuge	USFWS	1979	2005	\$14,319,000	\$13,093,000	7,100	2.A.1		212
	2167	Everglades National Park Expansion	NPS	1990	2005	\$109,892,000	\$97,669,000	109,504	2.A.1		213
	2169	Florida Panther National Wildlife Refuge	USFWS	1989	TBD	\$10,692,000	\$10,682,000	61,573	2.A.1		214
	2168	Florida Keys National Wildlife Refuge Complex	USFWS	1960	2005	\$35,028,000	\$31,753,000	415,433	2.A.1		215
	2170	Hobe Sound National Wildlife Refuge	USFWS	1968	2004	\$5,818,000	\$18,000	1,130	2.A.1		216
	2171	J.N. "Ding" Darling National Wildlife Refuge	USFWS	1945	2005	\$12,885,000	\$9,785,000	10,275	10,275		217

Goals	SP Project Number	Project Name	Lead Agency	Start	End	Financial Requirement	Appropriated Date	Measurable Outputs	Primary Objective	Secondary Objective (s)	Pg#
Column 1	Column 2	Column 3	Column 4	Column 5	Column 6	Column 7	Column 8	Column 9	Column 10	Column 11	Col. 12
2.A.2		CORAL REEF PROTECTION PROJECTS						% Reef Protected			
	2200	Planning and Implementation of the Tortugas Ecological Reserve	NOAA	1997	TBD	Footnote 2	\$49,119,000	20	2.A.2		218
2.A.3		IMPROVE NATURAL AREAS HABITAT QUALITY PROJECTS						ACRES			
<p>Note – The April 1999 USACE C&SF Project Comprehensive Review Study Final Integrated Feasibility Report and Programmatic Environmental Impact Statement included an extensive environmental evaluation of habitat units that would be improved through implementation of the CERP projects. Table 7-18 in this publication identifies in detail which projects are anticipated to achieve this objective. However, appropriate measures by project are currently being developed through the establishment of interim goals. There are some projects included in our tracking matrix that exemplify how this objective will be achieved.</p>											
	2300	C&SF: CERP Strazulla Wetlands (OPE) (CERP Project WBS # 39)	USACE/ SFWMD	2002	2010	\$76,555,000	\$498,000	3,335	2.A.3		219
	2301	C&SF: CERP Winsberg Farms Wetland Restoration (OPE) (CERP Project WBS # 91)	USACE/ PBDWJD	2000	2010	\$23,700,000	\$4,207,000	114	2.A.3	3.C.2	221
	2302	C&SF: CERP Lakes Park Restoration (CERP Project WBS # 94)	USACE/ Lee Co.	1999	TBD	\$6,700,000	\$836,000	60	2.A.3		223
	2303	C&SF: CERP Restoration of Pineland and Hardwood Hammocks in C-111 Basin (OPE) (CERP Project WBS # 92)	USACE	2016	2022	\$1,000,000	\$0	50	2.A.3		224
	2304	A.R.M. Loxahatchee NWR Prescribed Fire program	USFWS	2002	TBD	Footnote 2	\$1,240,100	TBD	2.A.3		225
	2306	C&SF: CERP Acme Basin B Discharge (OPE) (CERP Project WBS # 38)	USACE/ SFWMD	2002	2009	\$28,800,000	\$2,908,000	365	2.A.3	3.C.2	226
	2307	C&SF: CERP Picayune Strand Restoration (f/k/a Southern Golden Gate Estates Hydrologic Restoration) (OPE) (CERP Project WBS # 30)	USACE/ SFWMD	2001	2015	\$416,234,000	\$17,263,000	55,000	2.A.3		229
	2308	C&SF: CERP PLA /Adaptive Assessment and Monitoring	USACE/ SFWMD	ongoing	N/A	\$555,513,000	\$49,552,000	TBD			232
	2309	C&SF: CERP Biscayne Bay Coastal Wetlands (FFF) (OPE) (CERP Project WBS # 28) (Formerly project ID 1410)	USACE/ SFWMD	2001	2015	\$449,898,000	\$12,454,000	1,695	2.A.3		233
	2310	C&SF: CERP C-111 Spreader Canal (WW) (Formerly Project ID 1517)	USACE/ SFWMD	2000	2011	\$147,000,000	\$10,824,000	TBD	2.A.3		236
	1101	C&SF: CERP Indian River Lagoon-- South [C-23/C-24/C-25/North Fork and South Fork Storage Reservoirs (UU P1 & UU P2), and C-44 Basin Storage Reservoir (B)] (CERP Project WBS # 29)	USACE/ SFWMD	2002	2023	Footnote 1	Footnote 1	97,880	1.A.1	2.A.3	23
	1104	C&SF: CERP Lake Okeechobee Watershed (A) (W) (OPEs: LOWQTF, LOTSD, LIRS) (CERP Project WBS # 01)	USACE/ SFWMD	2001	2015	Footnote 1	Footnote 1	3,730	1.A.1	2.A.3	32

Goals	SP Project Number	Project Name	Lead Agency	Start	End	Financial Requirement	Appropriated Date	Measurable Outputs	Primary Objective	Secondary Objective (s)	Pg#
Column 1	Column 2	Column 3	Column 4	Column 5	Column 6	Column 7	Column 8	Column 9	Column 10	Column 11	Col. 12
	1107	C&SF: CERP Site 1 Impoundment (MP1) [a/k/a Site 1 Impoundment (Frian Reich Preserve)] (CERP Project WBS # 40)	USACE/ SFWMD	2002	2013	Footnote 1	Footnote 1	114	1.A.1	2.A.3	39
	1111	E&SF: Critical Projects - Ten Mile Creek	USACE/ SFWMD	1997	TBD	Footnote 1	Footnote 1	2,740	1.A.1	2.A.3	48
	1116	C&SF: CERP Broward County (WPA) Water Preserve Areas (R) (Q) (O) [Broward County WPA - C-9 Stormwater Treatment Area/Impoundment (R) and Western C-11 Diversion Impoundment and Canal (Q) and Water Conservation Areas 3A and 3B Levee Seepage Management (O)] (CERP Project WBS 45) (Formerly Project ID 1501)	USACE/ SFWMD	2002	2017	Footnote 1	Footnote 1	4,633	1.A.1	2.A.3	59
	1303	E&SF: Critical Projects - Southern CREW	USACE	1999	2015	Footnote 1	Footnote 1	4,090	1.A.3	2.A.3	82
	1306	Kissimmee River Restoration Project	USACE/ SFWMD	1994	2013	Footnote 1	Footnote 1	27,000	1.A.3	2.A.3	84
	1307	Modified Water Deliveries to Everglades National Park (Footnote 3)	NPS	1990	2013	Footnote 1	Footnote 1	190,000	1.A.3	2.A.3	86
	3902	C&SF: CERP Wastewater Reuse Technology Pilot (CERP Project WBS # 37) (Formerly Project ID 3802)	USACE/ SFWMD	2001	2016	Footnote 1	Footnote 1	3,500	3.C.2	2.A.3	287
	OTHER NATURAL HABITAT AND SPECIES PROJECTS										
	2402	South Florida Multi-Species Recovery Plan	USFWS	1994	TBD	\$386,112,000	\$11,567,539				239
	2403	WCA-2A Regulation Schedule Review	USACE	TBD	TBD	TBD	0				241
	2404	C&SF: Manatee Pass Gates	USACE/ SFWMD	2001	2010	\$15,800,000	\$12,624,000				242
	2305	Loxahatchee Impoundment Landscape Assessment (LILA)	USFWS	2002	2012	Footnote 2	\$4,482,500				244
	Sub-Goal 2.B. CONTROL INVASIVE PLANT AND ANIMAL SPECIES										
	2.B.1 EXOTIC PLANT SPECIES MANAGEMENT PLAN CONTROL PROJECTS										
	2501	Monitoring the Effects of Repeated Aerial Herbicide Application on Lygodium microphyllum and Native Vegetation	USFWS	2005	2009	\$220,000	\$190,000				245
	2502	Invasive exotic plants control in terrestrial and aquatic natural systems	SFWMD	2007	TBD	Footnote 2	\$11,819,000				246
	2503	Invasive Species Research and Information Exchange	SFWMD	2007	TBD	Footnote 2	\$90,000				247

Goals	SP Project Number	Project Name	Lead Agency	Start	End	Financial Requirement	Appropriated Date	Measurable Outputs	Primary Objective	Secondary Objective (s)	Pg#
Column 1	Column 2	Column 3	Column 4	Column 5	Column 6	Column 7	Column 8	Column 9	Column 10	Column 11	Col. 12
	2504	Develop and implement a FWS Florida Invasive Species Strike Team	USFWS	2003	TBD	\$4,940,000	\$2,470,000				249
	2505	C&SF-CERP Melaleuca Eradication and Other Exotic Plants (OPE) (Formerly Project ID 2602) (CERP Project WBS # 95)	USACE	2003	2026	\$8,242,000	\$2,027,000		2.B.2		250
	2506	Everglades National Park Exotic Control Program (Formerly Project ID 2604)	NPS	2002	TBD	\$11,834,000	\$10,488,520		2.B.2		252
	2507	Hole-in-the-Donut (Formerly Project ID 2606)	NPS	1994	2017	\$123,750,000	\$61,006,000		2.B.2	2.A.3	253
	2508	Aquatic and Upland Invasive Plant Management	FDEP	TBD	TBD	Footnote 2	\$223,080,247		2.B.2		254
	2509	Exotic Species Removal (Formerly Project ID 2605)	Seminole	1998	2014	\$988,000	\$504,000		2.B.2		255
2.B.2		CONTROL OF INVASIVE EXOTIC PLANT									
	2601	Casuarina Biological Control Agents	USDA/ARS	2004	TBD	TBD	TBD				256
	2602	Melaleuca Biological Control Agents	USDA/ARS	1986	TBD	TBD	TBD				257
	2603	Lygodium Biological Control Agents	USDA/ARS	1996	TBD	TBD	TBD				258
2.B.3		ERADICATION OF THE GAMBIAN POUCH RAT									
	2700	Eradication of Gambian Pouch Rat	FDACS	2006	2011	\$75,000	\$45,000				259
	2604	Completed Projects Estero Bay Aquatic Preserve and Buffer Reserve Enhancement and Exotic Removal Project	FDEP	1998	2004	\$587,600	\$587,600				319
GOAL 3. FOSTER COMPATIBILITY OF THE BUILT AND NATURAL SYSTEM											
Sub-Goal 3.A. USE AND MANAGE LAND COMPATIBLE WITH RESTORATION											
3.A.1	LAND USE ANALYSIS										
		Analysis of Land Use Patterns Surrounding CERP Projects	FDCA	2008	2010	TBD	TBD		3.A.1		263

Goals	SP Project Number	Project Name	Lead Agency	Start	End	Financial Requirement	Appropriated Date	Measurable Outputs	Primary Objective	Secondary Objective (s)	Pg#
Column 1	Column 2	Column 3	Column 4	Column 5	Column 6	Column 7	Column 8	Column 9	Column 10	Column 11	Col. 12
3.A.2		FLORIDA PARK, RECREATION AND OPEN SPACE LANDS PROJECTS									
	3200	Florida Keys Overseas Heritage Trail (Formerly Project ID 3301)	FDEP	TBD	TBD	\$40,000,000	\$28,000,000	TBD	3.A.2		264
	3201	Lake Okeechobee Scenic Trail (Formerly Project ID 3102)	FDEP	2003	TBD	\$25,000,000	\$14,500,000	TBD	3.A.1		268
	3202	Florida Greenways and Trails Program (Formerly Project ID 3100)	FDEP/OGT	2000	2009	\$4,500,000	\$951,372	10,000	3.A.1		269
3.A.3		AGRICULTURE LANDS CONSERVATION MANAGEMENT PROJECTS									
	3300	Technical Assistance to Seminole and Miccosukee Indian Reservations (Formerly Project ID 3201)	NRCS	1998	2011	\$15,000,000	\$478,000	107,000	3.A.3		270
	3301	2002 Farm Bill (Formerly Project ID 3202)	NRCS	2002	2007	\$97,436,000	\$37,877,000	1,315,592	3.A.3		271
3.A.4		COMPATIBLE ECOSYSTEM RESTORATION CONCEPTS IN COMPREHENSIVE PLANS									
	3400	Consideration of Land Use Policies and Planning by Local Governments with CERP	FDCA	2008	2010	TBD	TBD		3.A.4		272
3.A.5		INCREASE COMMUNITY UNDERSTANDING OF RESTORATION PROJECTS									
	3502	C&SF: CERP PLA/Public Outreach	USACE	2000	TBD	Footnote 2	\$15,470,000		3.A.5		273
	3503	SFWMD Outreach Program	SFWMD	TBD	TBD	Footnote 2	\$4,391,157		3.A.5		276
Sub-Goal 3.B		FLOOD PROTECTION COMPATIBLE WITH ECOSYSTEM RESTORATION									
3.B.1		FLOOD PROTECTION COMPATIBLE WITH ECOSYSTEM RESTORATION PROJECTS									
	3600	C-4 Flood Mitigation Projects	SFWMD	2005	2013	\$37,668,000	\$4,868,000	3.B.1	3.B.1		277
	1300	C&SF: C-111 (South Dade)	USACE/SFWMD	1994	2014	Footnote 1	Footnote 1	1.A.3	1.A.3	3.B.1	74
3.A.2		HERBERT HOOVER DIKE REHABILITATION									
	3700	Herbert Hoover Dike Rehabilitation	USACE	2006	2025	\$991,100,000	\$94,684,000				279
Sub-Goal 3.C		PROVIDE SUFFICIENT WATER RESOURCES FOR BUILT AND NATURAL SYSTEMS									
3.C.1		WATER RESOURCE DEVELOPMENT PROJECTS									
	3800	Regional Water Supply Plans (Formerly Project ID 3704)	SFWMD	2004	2008	\$17,542,000	0	MG	3.C.1		282
3.C.2		INCREASE VOLUME OF WATER RESOURCE PROJECTS									
	3900	C&SF: CERP South Miami-Dade County Reuse (BBB) (CERP Project WBS # 98) (Formerly Project ID 3800)	USACE/M-DADE	2013	2023	\$454,800,000	0	MGD	3.C.2		283

Goals	SP Project Number	Project Name	Lead Agency	Start	End	Financial Requirement	Appropriated Date	Measurable Outputs	Primary Objective	Secondary Objective (s)	Pg#
Column 1	Column 2	Column 3	Column 4	Column 5	Column 6	Column 7	Column 8	Column 9	Column 10	Column 11	Col. 12
	3901	C&SF: CERP West Miami-Dade County Reuse (HHH) (CERP Project WBS # 97) (Formerly Project ID 3801)	SFWMD/ M-DADE	2013	2023	\$547,250,000	\$0	100	3.C.2		285
	3902	C&SF: CERP Wastewater Reuse Technology Pilot (CERP Project WBS # 37) (Formerly Project ID 3802)	USACE/ SFWMD	2001	2016	\$38,000,000	\$1,876,000		3.C.2	2.A.3	287
3.C.3		ALTERNATIVE WATER SUPPLY PROJECTS						MGD			
	4000	Alternative Water Supply Grant (Formerly Project ID 3900)	SFWMD	1996	TBD	Footnote 1	\$156,956,000	172			289
OTHER BUILT AND NATURAL SYSTEM COMPATIBILITY PROJECTS											
	4101	BMPs for Agriculture	NRCS	1997	2011	\$160,278,000	\$114,158,000				290
	4102	Monitoring of Organic Soils in the Everglades	NRCS	1998	2017	\$1,236,000	\$136,000				291
	4103	Soil Survey Update for the Everglades Agricultural Area	NRCS	2004	2012	\$2,100,000	\$0				292
	4104	Soil Survey Update for Everglades National Park, Big Cypress National Preserve and Water Conservation Areas	NRCS	2007	2013	\$6,000,000	\$0				293
	4105	C&SF: CERP Flow to Northwest and Central WCA -3A (II) (RR) (CERP Project WBS # 11)	USACE/ SFWMD	2002	2018	\$38,200,000	\$66,000				294
	4100	Completed Projects E&SF: Critical Projects - Keys Carrying Capacity Study	FDCV/ USACE	1997	2003	\$6,000,000	\$6,000,000				320

Project specific footnotes:

The following information is project specific and is provided in reference to its appearance as a numbered notation on the project summary table:

- 1 This is a multiple objective project, funding is listed in other objective.
- 2 Available funding through project completion is not provided on the project sheet, due to the uncertainty of the annual Federal and State appropriations process. For the purposes of calculating Goal subtotals for all projects, only the dollars appropriated to date have been used for this project.
- 3 Consistent with authorizing Big Cypress legislation.

Changes from 2007 IFFP:

- C&SF: CERP Flows to Eastern Water Conservation Area (EEE) (CERP Project WBS # 23) is now part of Project ID 1110.
- Project ID 2400 Big Cypress National Preserve Mineral Rights was deleted due to no prospect of Congress authorizing another buyout.
- Project ID 1508 STA-1 West Works and Outflow Pump Station (G-310) is now part of 1723.
- Project ID 1509 STA-2 Works and Outflow Pump Station (G-335) is now part of 1723.
- Project ID 1510 STA-3/4 Works is now part of 1723.
- Project ID 1511 STA-5 Works is now part of 1723.
- Project ID 1512 STA-6 (includes sections 1 and 2) is now part of 1723.
- Project ID 1413 C&SF: CERP Everglades Rain Driven Operations was closed.
- Project ID 1430 Rotenberger Restoration is now part of 1723.
- Project ID 1432 WCA-2A Hydropattern Restoration is now part of 1723.
- Project ID 1433 West WCA-3A Hydropattern Restoration is now part of 1723.
- Project ID 1304 East WCA-3A Hydropattern Restoration is now part of 1723.
- Project ID 1516 LOFT (identified under LOER)- Nubbin Slough STA Expansion was stopped as it was determined to not provide cost effective benefits.
- Project ID 1720LOFT - Rerouting of flows from S-133 Basin was stopped as it was determined to not provide cost effective benefits.
- Project ID 1721 LOFT (identified under LOER)- Rerouting of flows from S-154 Basin was stopped as it was determined to not provide cost effective benefits.
- Project ID 2701 Melaleuca Quarantine Facility was deleted as full staffing has not been realized due to a lack of O&M funds (\$350K/yr estimated need).
- Project ID 1704 Development of Best Management Practices Related to the Land Application of Residuals and Chicken Manure in the Lake Okeechobee Watershed - Project terminated due to project site land use change.

STRATEGIC GOALS AND OBJECTIVES OF THE SOUTH FLORIDA ECOSYSTEM RESTORATION TASK FORCE

GOAL 1: GET THE WATER RIGHT

Subgoal 1-A: Get the hydrology right

Objective 1-A.1: Provide 1.8 million acre-feet of surface water storage by 2036

Objective 1-A.2: Develop alternative water storage systems capable of storing 1.7 billion gallons per day by 2030

Objective 1-A.3: Modify 361 miles of impediments to flow by 2020

Subgoal 1-B: Get the water quality right

Objective 1-B.1: Construct 96,010 acres of stormwater treatment areas by 2035

Objective 1-B.2: Prepare locally-based plans to reduce pollutants as determined necessary by the total maximum daily loads by 2011

GOAL 2: RESTORE, PRESERVE, AND PROTECT NATURAL HABITATS & SPECIES

Subgoal 2-A: Restore, preserve, and protect natural habitats

Objective 2-A.1: Complete acquisition of 5.7 million acres of land identified for habitat protection by 2020

Objective 2-A.2: Protect 20 percent of the coral reefs by 2010

Objective 2-A.3: Improve habitat quality for 2.4 million acres of natural areas in south Florida

Subgoal 2-B: Control invasive exotic plants and animals

Objective 2-B.1: Achieve maintenance control of Brazilian pepper, melaleuca, Australian pine, and Old World climbing fern on south Florida's public conservation lands by 2020

Objective 2-B.2: Release 2 biological control insects per year for the control of invasive exotic plants

Objective 2-B.3: Achieve eradication of Gambian pouch rat by 2012

GOAL 3: FOSTER COMPATIBILITY OF THE BUILT AND NATURAL SYSTEMS

Subgoal 3-A: Use and manage land in a manner compatible with ecosystem restoration

Objective 3-A.1: Prepare a land use analysis for selected restoration projects

Objective 3-A.2: Designate or acquire an additional 10,000 acres of lands needed for parks, recreation, and open space to complement South Florida Ecosystem Restoration through local, state, and federal programs by 2015

Objective 3-A.3: Increase participation by 350,000 acres in the Grassland Reserve Program, Wetland Reserve Program, Farm and Ranch Land Protection Program, and the Environmental Quality Incentive Program to promote compatibility between agricultural production and South Florida Ecosystem Restoration by 2014

Objective 3-A.4: Increase the number of local governments that adopt into their comprehensive plans (goals, objectives, policies, and related strategies) - concepts compatible with South Florida Ecosystem Restoration

Objective 3-A.5: Increase the use of educational programs and initiatives to further the public's and local governments' understanding of the benefits of South Florida Ecosystem Restoration

Subgoal 3-B: Maintain or improve flood protection in a manner compatible with ecosystem restoration

Objective 3-B.1: Maintain or improve existing levels of flood protection for the urban, agricultural, and natural environments

Objective 3-B.2: Rehabilitate the Herbert Hoover Dike to provide adequate levels of flood protection to the communities and lands surrounding Lake Okeechobee

Subgoal 3-C: Provide sufficient water resources for built and natural systems

Objective 3-C.1: Plan for regional water supply needs

Objective 3-C.2: Increase volumes of reuse on a regional basis

Objective 3-C.3: Increase water made available through the State's Water Protection and Sustainability Program and the SFWMD Alternative Water Supply Development Program

APPENDIX B: Total Cost Estimate

I. Purpose

The 2008 Total Cost Estimate (TCE) provides an updated estimate of the total cost to restore the South Florida Ecosystem as directed by Congress in 1999. The Task Force's 2008 Strategy, Biennial Report, and Integrated Financial Plan (IFP) are the primary sources of information. This approach links the Total Cost Estimate with the project cost information reported by the Task Force members and reflects their individual procedures for reporting project costs. It includes project costs funded by federal, state, tribal, and local government sources both individually and in partnerships.

The TCE addresses the estimated cost for achieving all three of the Task Force's strategic goals and generally covers the period from 1994 to 2040. The estimate includes the actual cost of work accomplished to date, as well as estimates for work to be completed in the future. As with all estimates of future work, these projected costs are based on a variety of assumptions, uncertainties, and levels of planning and design (from the conceptual to the detailed).

II. 2008 Estimate of the total costs to restore the South Florida Ecosystem

For this update the Total Cost Estimate is generally defined as the sum of the financial requirements for

the completion of all Comprehensive Everglades Restoration Plan (CERP) and non-CERP restoration projects reported by the Task Force members and compiled in the 2008 Task Force Strategy and Biennial Report (Volume 1, Appendix A) and the IFP (Volume 2) plus an estimated range of costs for future state land acquisitions under Goal 2.

The total cost of the projects reported in the 2008 IFP is estimated to be \$22.2 billion of which the federal share is \$9.8 billion. Including future state land acquisitions for Goal 2, the total cost to restore the South Florida Ecosystem is estimated to range between \$33.6 and \$34.2 billion (see table 1). The total CERP cost is \$14 billion and the non-CERP cost is \$20.2 Billion (see table 2).

The State of Florida manages the world's largest conservation land buying program. As a matter of policy the Florida Department of Environmental Protection (FDEP) and the South Florida Water Management District (SFWMD) do not make individual project cost projections on future Goal 2 land acquisitions for habitat preservation and conservation purposes. These costs (estimated at \$11.4 to \$12 billion) are funded exclusively by the State of Florida and are not reported for inclusion in the IFP, but are estimated separately.

Table 1
2008 COST SUMMARY TABLE (BILLIONS)

COSTS BY STRATEGIC GOAL	FEDERAL SHARE	STATE SHARE	FINANCIAL REQUIREMENT
Goal 1	\$6.8	\$7.6	\$14.4
Goal 2	\$2.2	\$3.9	\$6.1
Goal 3	\$0.8	\$0.9	\$1.7
TOTAL IFP COSTS	\$9.8	\$12.4	\$22.2
NON-IFP COSTS			
Future Goal 2 state land acquisitions		\$11.4 - \$12.0	\$11.4 - \$12.0
TOTAL COST ESTIMATE	\$9.8	\$23.8 - \$24.4	\$33.6 - \$34.2

Table 2
2008 CERP AND NON-CERP COSTS (BILLIONS)

COSTS	CERP	NON-CERP	2008 FINANCIAL REQUIREMENT
Goal 1	\$10.5	\$3.9	\$14.4
Goal 2	\$1.7	\$4.4	\$6.1
Goal 3	\$1.1	\$0.6	\$1.7
TOTAL IFP COSTS	\$13.3	\$8.9	\$22.2
NON-IFP COSTS			
Future Goal 2 state land acquisitions	0	\$12	\$12
TOTAL COST ESTIMATE	\$13.3	\$20.9	\$34.2

III. Changes since 2006

Generally the same approach was used to prepare the TCE in 2006 and 2008. The total cost of the projects reported in the 2006 IFP was estimated to be \$ 18.9 billion. Including the estimated costs of between \$7.4 and \$12.8 billion for 890,048 acres of future state land acquisitions for Goal 2, the Total Cost Estimate in 2006 was reported to range from \$ 26.3 to \$31.7 billion (see table 3). While individual members are responsible for addressing the specific costs, budgeting, and appropriations for their respective projects and programs, in general the following factors have contributed to the cost increases since 2006.

The project costs summarized in the 2008 IFP include two additional years of actual costs as well as updated estimates for future work. The updated project estimates may reflect higher costs for a number of reasons including a revised scope of work with improved performance, a more detailed design that incorporates new information based on science or experience, and rising costs due to inflation and other factors.

While yearly inflation as measured by the Consumer Price Index (CPI) averaged around 3.0% from 2006 to 2007 some project component costs, including land prices and construction costs, continued to increase at a rate higher than inflation as measured by the CPI. Although costs generally continued to rise from 2006 to 2008, this upward trend is dramatically lower than the increase from 2004 to 2006. This trend in part is a result of the significant downturn in the real estate market in South Florida.

From 2006 to 2008 the low end of the TCE increased at a much higher rate than the high end of the range. The single largest contributing factor to this increase was the low end of the range for future Goal 2 land acquisitions. This increase is almost exclusively due to much higher land costs associated with the Florida Keys Ecosystem project. If this project was not included, the low end average cost of land would be comparable with the 2006 estimate.

Table 3
2006 AND 2008 TOTAL COST ESTIMATES (BILLIONS)

COSTS	2006 FINANCIAL REQUIREMENT	2008 FINANCIAL REQUIREMENT	DELTA
Goal 1	\$12.7	\$14.4	\$1.7
Goal 2	\$4.7	\$6.1	\$1.4
Goal 3	\$1.5	\$1.7	\$0.2
TOTAL IFP COSTS	\$18.9	\$22.2	\$3.3
NON-IFP COSTS			
Future Goal 2 state land acquisitions	\$12.8	\$12	\$-0.8
TOTAL COST ESTIMATE	\$31.7	\$34.2	\$2.5

IV. Criteria and assumptions for the total cost estimate

Except for the future state land acquisitions costs for Goal 2, the TCE is based on the Task Force's 2008 Integrated Financial Plan which reflects the criteria and assumptions used by the various agencies and entities to report individual project costs. These specific criteria and assumptions are noted in the 2008 Integrated Financial Plan.

In general, individual Task Force member cost estimating protocols, fiscal year cycles, and methodologies vary both in approach and in the time period for reporting financial information. Federal agencies and the SFWMD, for example, operate and report financial activities on an October 1 to September 30 fiscal year, while other State of Florida agencies operate on a July 1 to June 30 fiscal year. Agencies use a variety of methods for updating costs due to inflation.

The TCE does not include operational costs or agency programmatic costs that would be incurred regardless of the restoration initiatives. For example, the National Park Service costs to operate and maintain Everglades National Park, Fish and Wildlife Service costs to provide for Endangered Species Act consultation, and SFWMD costs to operate and maintain water delivery infrastructure are not included in the TCE.

Reporting agencies needed to assume annual levels of Congressional and State of Florida appropriations to develop project completion schedules as noted in the Integrated Financial Plan. If the actual appropriations vary from the assumed levels, then project completion schedules and estimated projects costs may change. Project priorities and execution are contingent upon Administration priorities and subject to available appropriations.

Goal 1 CERP projects include actual and estimated costs for land. For project lands not yet acquired, the Corps estimates real estate costs using national averages. The cost of Goal 2 land for habitat preservation and conservation purposes is the actual cost of acquired land. Future Goal 2 land costs are estimated separately. The \$11.4 to \$12.0 billion range for future land acquisitions in Goal 2 is derived by using the FDEP forecast of 784,973 acres remaining to be acquired as of June 2008 and an approximate value for land ranging between \$14,582-\$15,243 per acre. The \$14,582 estimate is the average cost per acre of land, including associated costs, acquired by FDEP between July 2007 and June 2008. The \$15,243 estimate is the average cost per acre of land, including associated costs, acquired by SFWMD between October 2007 and June 2008. The FDEP average cost per acre increased significantly from last year due to the high cost of acquiring land within the Florida Keys Ecosystem (FKE) Project. The average cost per acre without the FKE acquisition is \$8,398.

The goals and objectives of the Strategic Plan were revised in December 2006 to include a new objective under Goal 3. The new objective 3.B.2, Rehabilitate the Herbert Hoover Dike to provide adequate levels of flood protection to the communities and lands surrounding Lake Okeechobee, includes the Herbert Hoover Dike Rehabilitation project with estimated costs of \$991 million. The estimated cost of this project was not included in the TCE because the funding is provided separately from an account used to fund major rehabilitation projects.

The majority report was approved by all the members of the intergovernmental Task Force except for the representative of the Miccosukee Tribe of Indians. In accordance with the Task Force protocol regarding consensus and voting, the following minority report was provided by the Miccosukee Tribe of Indians and expresses their thoughts and positions. It was not reviewed by the members of the Task Force and may contain issues that were not raised with the members while discussing the majority report or that exceed the scope or reporting period of the majority report. To help produce the best possible report, all members of the Task Force and Working Group were given multiple opportunities to provide comments on the Strategic Plan and Biennial report during the editing process. During this process the representatives of the Miccosukee Tribe provided no comments. While the information in this document had a June 30, 2008 deadline some of the issues discussed in the minority report occurred after the cut off date. Additionally, the Miccosukee Tribe of Indians are in litigation with several members of the Task Force over some of the issues raised in the minority report. Accordingly, resolution of these matters is the subject of judicial review.

APPENDIX C: An Additional View of the Miccosukee Tribe of Indians of Florida **The Myth of Everglades Restoration**

Supplement to Coordinating Success 2008:
Strategy for Restoration of the South
Florida Ecosystem

Submitted to the U.S. Congress, Florida Legislature,
Seminole Tribe of Florida and All Interested Parties

By Dexter W. Lehtinen, Task Force Member,
October 2008.

*“The Everglades is our mother
and she is dying.”*

- Billy Cypress, Chairman of the
Miccosukee Tribe of Indians

I. EXECUTIVE SUMMARY

The Miccosukee Tribe of Indians of Florida is submitting this *Additional View to the South Florida Ecosystem Restoration Task Force Biennial Report, Coordinating Success 2008*, to inform Congress, and the public, about the irreversible damage to Tribal Everglades being caused by misguided agency policies and the delay of vital restoration projects. Everglades Restoration is a myth. Since the Comprehensive Everglades Restoration Plan (CERP) was adopted eight years ago, no CERP projects have been completed; Pre-CERP projects have yet to be completed; and the agencies are moving farther away from restoration goals. The Tribe has long warned the Task Force that vast areas of Tribal Everglades are being destroyed by disastrous water management policies and restoration delay. These warnings have fallen on deaf ears.

Major problems with Everglades Restoration continue to exist. These problems include: a lack of commitment to water quality; the continued delay of the Modified Water Deliveries Project (Mod Waters); the rapidly escalating costs of projects; single-species management policies that are moving us farther away from restoration goals; a lack of a comprehensive approach to restoration; the *pro forma* use of the Task Force; the lack of meaningful Tribal and public input on restoration decisions; a failure of federal agencies to abide by their Trust Responsibility; and the fact that the Everglades is being left out of the *Everglades* Restoration process.

The Task Force preaches *environmental justice*, while it ignores compelling scientific evidence that current water management policies are destroying the homeland of an Indian Tribe. The observation of Chairman Cypress that: "The Everglades is our mother and she is dying," is now supported by abundant science. The *Biennial Report* touts *progress*, but the Tribe sees *none*. Instead, the Tribe sees scientific evidence that: soil phosphorous in the Everglades is spreading, Tribal Everglades in Water Conservation Area 3A (WCA 3A) is being rapidly degraded, and the endangered Snail Kite population has suffered an alarming 50% decline.

The Miccosukee Tribe, whose members have lived in the Everglades since time immemorial, wants its traditional homeland to be restored. Its entire culture and way of life depend on a healthy Everglades. However, the Tribe does not believe that restoration benefits from claims that progress has been made where none exists. The National Research Council (NRC) of the National Academy of Sciences (NAS) echoed many of the Tribe's concerns in its 2006 and 2008 *Biennial Reviews*. The 2006 *Biennial Review* warned that: "CERP progress in the Water Conservation Areas (WCAs) and Everglades National Park appears to be lagging behind the production of natural system benefits in other portions of the South Florida ecosystem." The 2008 *Biennial Review* warns that: "Ongoing delay to South Florida ecosystem restoration not only has postponed improvements to the hydrological condition but has also allowed ecological decline to continue." [3]. The *Review* further finds that: "It is too early to evaluate the response of the ecosystem to CERP Projects because none have been implemented." [4]

Congress can no longer be fooled into believing that progress is being made in Everglades Restoration. The Task Force must work to resolve the problems that threaten restoration before Congressional, and public, support is lost. The Tribe has been pushing the Army Corps of Engineers (Corps) for more than a decade to implement the Mod Waters Project, so that CERP Decomp can move forward. Instead, the Corps has once again embarked on a *dead end excursion* that will further delay Mod Waters and result in more irreversible damage to Tribal Everglades. The health

of the Everglades, and the prospects for its restoration, has never looked more bleak. Yet, there is still time to save both the Everglades, and Everglades Restoration, if the Task Force embraces its leadership position and works to resolve the problems that exist.

II. GETTING THE WATER RIGHT IN THE EVERGLADES

"The Indians, before anyone else, knew the Everglades were being destroyed "

- Marjory Stoneman Douglas
The Everglades: River of Grass

A. THE EVERGLADES CANNOT BE RESTORED WITH DIRTY WATER

"As for Everglades water, everything has changed... We cannot just say that the water is no good ... and turn our back on that. "

- Buffalo Tiger, Tribal Elder in:
A Life in the Everglades

1. 1988 Landmark Everglades Lawsuit Is Still Protecting Water Quality

The Miccosukee Tribe knows that the Everglades cannot be restored with dirty water. The Tribe will not turn its back on the fact that "the water is no good." The Tribe disagrees with the Task Force statement in the Report that, "litigation may divert resources away from restoration efforts." The Tribe will not ignore the water quality problems that exist in the Everglades. It believes that litigation has been, and continues to be, a vital force for protecting the Everglades from pollution. It was a lawsuit the federal government brought against the state in 1988 for not enforcing pollution laws that brought the plight of the Everglades, and the need to restore it, to national attention. This landmark Everglades lawsuit is the reason that over 40,000 acres of Stormwater Treatment Areas (STAs) have been constructed to treat phosphorous laden water before it flows into the Everglades. To this day, the Miccosukee Tribe has a Memorandum of Agreement that allows it to seek enforcement of the Settlement Agreement entered in the case if its provisions are being violated. As a result of a

motion seeking such enforcement filed by the Tribe a few years ago, the State agreed to construct an additional 18,000 acres of STAs.

2. 2008 Federal Court Ruling in Favor of the Tribe and Clean Water

The *Biennial Report* continues to rely on the State's 2003 Amended Everglades Forever Act (Amended EFA), and the Phosphorus Rule, as tools for its sub-goal of getting the water quality right. The *Report* fails to acknowledge that a 2008 federal court ruling in favor of the Tribe found that the Amended EFA, and major portions of the Phosphorus Rule, does not comply with the Clean Water Act. The ruling resulted from a 2003 lawsuit (*Case No. 04-21448-CIV-Gold*) filed by the Tribe against the Environmental Protection Agency (EPA) that contended both the Amended EFA, and the Phosphorus Rule, violated the requirements of the Clean Water Act; and that the moderating provisions (i.e. Long Term Plan), authorized by the Amended EFA allowed water quality in the Everglades Protection Area not to be met until at least 2016.

On July 29, 2008, Judge Gold issued a 101 page ruling in favor of the Tribe agreeing that the Amendments to the EFA, and the majority of the Phosphorus Rule, violated the Clean Water Act. Some of the findings in Judge Gold's Order include:

- "[T]he Florida legislature...violated its fundamental commitment and promise to protect the Everglades... " [2]
- "The effect of the Amended EFA is to replace the ...phosphorus criterion with an escape clause that allows non-compliance... " [46]
- "The EFA has condoned...a de facto moratorium on compliance... " [76]
- "There is no longer a date certain when the phosphorus criterion will even be met. " [78]

A Congressional Appropriation Committee expressed concern about the Amended EFA while it was a bill. An April 29, 2003 statement issued by Congressmen Young, Regula, Hobson, Taylor, Shaw, and Goss questioned whether water quality would be met: "The earlier agreed upon deadline for achieving

compliance is December 2006, which is the foundation for implementing the \$8 billion equally cost shared and congressionally authorized Comprehensive Everglades restoration Plan or CERP." The statement further addressed the Long Term Plan: "The bill directs that the Long Term Plan be implemented over 23 years. This makes uncertain the time period for compliance. This is inconsistent not only with the Everglades Forever Act, but also with the 1992 Consent Decree that settled the federal and state water quality litigation."

Despite Judge Gold's ruling, and Congressional concerns about the 2006 deadline not being met, the Task Force continues to turn a blind eye to this issue. Although the *Report* admits that final water quality standards have not been met, it fails to discuss the impact on restoration of not meeting the deadline. There is much reason to be concerned about the water quality delay wrought by the discredited Amended EFA and its Long Term Plan. In its 2008 *Biennial Review*, the NAS recommends: "[r]estoration planners should consider the consequences of the likely failure to achieve phosphorus goals and develop alternative approaches." [150]. The Task Force has a duty to advise Congress about Judge Gold's ruling, and how the State's failure to meet the water quality deadline in the Everglades impacts CERP, but has not done so.

3. Judge Gold's Ruling and the Tragedy of the Long Term Plan

The *Biennial Report* continues to rely on the Long Term Plan as a strategy for improving the performance of the STAs despite Judge Gold's ruling. A review of the Plan shows that the 10 ppb phosphorus criterion will not be met in all basins analyzed even by 2056. Both the 1992 federal Consent Decree, and the 1994 Everglades Forever Act, required water discharged to the Everglades to meet the final phosphorus criterion by December 31, 2006. This deadline was also the base condition for CERP. The *Biennial Report* does not discuss the impact of Judge Gold's finding that the Long Term Plan moderating provision is contrary to the Clean Water Act has on its continued acceptability as a tool by the Task Force. Nor does the *Report* analyze the impact of not meeting this water quality deadline in terms of the continued degradation of the Everglades, the spread of cattail, and the delay of vital restoration projects that require clean water to operate.

4. NPDES Permits and Enforcement Should be Water Quality Tools

The Tribe is concerned that National Pollutant Discharge Elimination System (NPDES) permits, regulation, and enforcement are not listed as tools to Get the Water Quality Right Subgoal in Section 1-B of the *Biennial Report*. The *Report* appears to heavily rely on Total Maximum Daily Loads (TMDLs), which will not be attained until at least 2015. [The NAS *Biennial Review* finds that water quality initiatives are not likely to achieve the TMDL by 2015.] The *Yellow Book* presented to Congress requires CERP implementation to comply with the Clean Water Act and its NPDES permit requirements. (PEIS at pp. 5-5 to 5-6.) It also states that pursuant to the CWA, "NPDES permits are required for all new and existing point sources from which pollutants are to be discharged to navigable waters." (*Id.* at App. H-12). Both the CWA and NPDES permitting should be listed, along with regulatory and enforcement action, as tools to achieve the water quality Subgoal. The *Biennial Report* does not discuss the significant federal court ruling in favor of the Tribe and environmental groups in (*Case No. 02-80309-CIV-Altonaga*), which required the SFWMD to obtain NPDES permits for its discharge of pollutants into Lake Okeechobee. Nor does it mention the lawsuits that the Tribe and environmental groups have brought against the EPA Water Transfer Rule in federal court (*Case No. 08-21785-Civ-Altonaga*) (*Case No. 08-13652-C*) contending that the Rule is contrary to the Clean Water Act.

5. Lake Okeechobee Water Quality: The Elephant in the Restoration Room

The *Biennial Report* discusses the Lake Okeechobee Protection Program, and its goal of attaining a TMDL of a long term rolling average of 140 metric tons phosphorus by 2015, as a way to meet the water quality Subgoal. It fails to acknowledge the TMDL has no regulatory enforcement, and that scientists acknowledge the 40 ppb phosphorus concentration goal may not be met until hundreds of years after the TMDL is attained. The 2008 *South Florida Environmental Report* shows that the average phosphorus load to the Lake for WY 1998-2007 was a whopping 584 metric tons with an average phosphorus concentration of 238 ppb for WY 2007 alone. The NAS 2008 *Biennial Review* predicts:

"given the uncertainties associated with current management measures, this committee judges it unlikely that the current TMDL of 140 mt of phosphorous input to the lake will be met by the year 2015." [9] Without tools such as NPDES permits, compliance, and enforcement deadlines, there is no assurance that water quality will ever be met in Lake Okeechobee or in its discharges to the Everglades and the estuaries.

Recent concerns about the integrity of the Herbert Hoover Dike have lead the Corps to adopt a lower lake regulation schedule, which will cause more phosphorus laden lake water to be discharged to the Everglades and the estuaries. Despite 30 years of state initiatives to allegedly to address Lake Okeechobee's pollution problem, phosphorus concentrations into, and in, the Lake continue to be extremely high. As the Special Master in the Everglades case noted in his July 5, 2006 Report, "The Lake's woes have been with us for a while and if history is a guide, they are not going away any time soon." Even though Lake Okeechobee is the *liquid heart of the Everglades*, and its water will be used for restoration, the entities implementing CERP continue to ignore this *Elephant in the Restoration Room*. The Task Force must take a leadership role in addressing the Lake Okeechobee water quality problem, which is jeopardizing Everglades Restoration.

6. December 31, 2006, Water Quality Deadline Was Not Met

The *Biennial Report* provides an overly rosy report of the Everglades Construction Project and water quality. It provides a meaningless average of 58 ppb for all the STAs when it should report that the outflow from STA 1 West (which discharges into the Loxahatchee National Wildlife Refuge) was 119 ppb, and that the outflow from STA 5 was a whopping 192 ppb. Even using the 58 ppb figure, the State did not meet the final limit of 10 ppb at discharge, nor even the interim Settlement Agreement requirement of 50 ppb. While the *Report* blames hurricanes for poor STA performance, the Tribe has long warned that the STAs are not designed to treat all the water and phosphorus loads that need to be treated before entering the Everglades. The *Report* does not discuss the implications of the State not meeting the Class III phosphorus limit (10ppb) or long term limit of the Settlement Agreement by December 31, 2006. The

Yellow Book expected the Everglades Construction Project to treat the water delivered to the Everglades, to meet either the adopted criterion or the default numeric criterion of 10ppb phosphorus, by December 31, 2006, as a base condition for CERP. (PEIS at p. H-F-17). The NAS *2008 Biennial Review* warns restoration planners to "consider the consequences of the likely failure to achieve phosphorus goals on the South Florida ecosystem restoration and develop alternatives." The Task Force must address the implications for restoration of the State not meeting the December 31, 2006 deadline.

7. EPA REMAP Report Shows Impacted Areas in the Everglades Spreading

The failure to meet the 10 ppb phosphorous criterion at discharge to the Everglades Protection Area has had deleterious impacts. A 2007 Report by the Environmental Protection Agency entitled *Monitoring for Adaptive Management: A REMAP Status Report* shows that in the last ten years, areas of phosphorus impacted soil in the Everglades have continued to grow. The EPA REMAP Report shows that in 2005 the areas of the Everglades that had soil phosphorus exceeding the CERP goal of 400 mg/kg had grown to 49.3% as compared to the 33.7% that existed in 1995-96, despite a decade of Settlement Agreement mandated improvements. Like a cancer, impacted areas will continue to spread until the phosphorus concentration in water discharged to the Everglades Protection Area is reduced to 10 ppb or less.

8. 10 ppb is Protective of the Everglades; It is Not the Holy Grail

Concerned that the State was dragging its feet on water quality, the Tribe took action to establish water quality standards to protect the Everglades on its Federal Reservation long ago. In 1999, the EPA approved the Tribe's water quality standards, which included a 10 ppb phosphorus criterion, as *scientifically defensible* and *protective* of the Everglades. With the Tribe leading the way, the State had no choice but to adopt a 10 ppb, which it did in 2004. Recently, questions have been raised about whether 10 ppb should be sacrificed to flow. In a recent discussion about 10 ppb, SFWMD Governing Board members made startling statements such as: "Ten parts per billion is the holy grail around here..."; "we can't get to that...can't we just change that to

20? "; "...I'm not sure we are going to do as well as God with this system." Incredibly, one Board member, apparently unaware the State had adopted 10 ppb, asked: "Who set this 10 ppb...?" Abundant science shows that 10 ppb is necessary to protect against an imbalance of flora and fauna in the Everglades. 10 ppb is *scientifically defensible* and *protective*. It is not the *holy grail*. If water delivered by CERP does not meet 10 ppb, it will hurt, not help, the Everglades.

9. The *Must Do* Water Quality Feasibility Study Still *Undone*

The Water Quality Feasibility Study (WQFS) has been on the Task Force *must do* list since 1999. A June 17, 1999, letter from then Task Force Chair, Patricia Beneki, to Secretary of the Army stated: "The Task Force recommends that important water quality improvements have been added to the plan that will when combined with the follow-on-feasibility study provide the water quality capability necessary for restoration. We believe that these features are essential to restoration and should be cost shared with the non-federal sponsor. It is vitally important that the follow-on-feasibility study and detailed component designs continue to focus on this requirement." The July 1999 CERP *Yellow Book* presented to Congress states: "To ensure that the South Florida Ecosystem restoration objectives are achieved, a Comprehensive Integrated Water Quality plan that links water quality restoration remediation programs to the hydrologic restoration objectives of the recommended plan must be developed for the entire study area...Development of a comprehensive integrated water quality plan for South Florida is consistent with the recommendations of the South Florida Ecosystem Restoration Task Force and the Florida Governor's Commission for a Sustainable South Florida." (PEIS pp. 9-52 to 9-53.)

Concerned that no progress on the WQFS had been made, the Tribe asked the Task Force to reiterate support in its 2006 *Biennial Report*, which urged: "the USACE and other agencies to undertake and complete the Comprehensive Water Quality Feasibility Study for the restoration of the Florida Everglades." Two years later, the Report states that the Corps and DEP are still working on a *draft design agreement* for the WQFS. The Task Force should be

expressing chagrin that the WQFS, which it described as *must do* in 1999, continues to be seriously delayed. The Tribe contends that the ten year delay on the WQFS is indicative of the overall lack of priority that has been given to water quality in the restoration process. The NAS 2008 *Biennial Review* stressed that: "An integrated, system-wide view of water quality management is essential to the achievement of restoration goals for the South Florida ecosystem." [149]. The Task Force needs to make the WQFS essential for restoration a *must do*, so that it will finally be implemented.

B. REALITY: MOVING FARTHER AWAY FROM RESTORATION

1. White Elephant Bridge = More Mod Waters Delay and Destruction

The most glaring example of the problems that plague restoration is the dismal failure to complete the Pre-CERP Modified Water Deliveries Project. Authorized by Congress in 1989, the Corps told Congress it could complete this simple project by 1997. The purpose of Mod Waters is to restore more natural flows to the Everglades and the Park "to the extent practicable." Doing so will benefit more than 900,000 acres of Everglades wetlands. Implementation of this Pre-Cerp project has been seriously delayed by a lack of leadership and constantly changing plans. This delay has been recognized by Congress, the Department of the Interior (DOI) Inspector General, and the National Research Council of NAS. Originally priced at \$76 million dollars for both construction and land costs, the cost has sky-rocketed to more than *half a billion dollars* just for construction. In 2008, the Corps hastily adopted yet another *dead end excursion* plan that will further delay Mod Waters implementation and cause more Everglades destruction.

After the Tribe submitted its *Additional View* in April 1999, Congress held hearings on the failure to complete Mod Waters. Congress was so concerned about its delay that the law authorizing CERP, WRDA 2000, contained language to ensure Mod Waters completion. WRDA 2000 mandated that CERP components important to restoring natural flows to the historic Everglades, such as Decompartmentalization, could not move forward until Mod Waters was completed. Yet, rather than

complete Mod Waters and move onto Decomp, the agencies cleverly pushed CERP projects located outside the historic Everglades forward for authorization and funding. Rather than bridge Tamiami Trail under CERP Decomp, as envisioned by WRDA 2000, the Corps rubber stamped a politically expedient and expensive two bridge plan for Mod Waters that was rejected by Congress. After this plan was rejected, a group worked behind closed doors to hastily put together another plan, which was then rubber stamped by the Corps. Under the new plan, the federal government will give away land in Everglades National Park to the State of Florida to build an expensive one mile bridge that is unnecessary to pass Mod Waters flows.

The Tribe contends that the quickest, and least expensive, way to pass Mod Waters flows "to the extent practicable" is to clean out the sediment and vegetation built up downstream of the existing culverts and structures. Corps documents show that the current culvert system has the capacity to pass Mod Waters flows. Yet, bowing to political pressure from those who insist that Tamiami Trail should be bridged under Mod Waters, rather than wait for CERP Decomp, the Corps rubber stamped a plan that will delay Mod Waters completion for at least four more years. The Tribe, who believes compliance with federal laws is vital to restoration, was forced to file a lawsuit against the Corps (*Case No. 08-21747-CIV-Ungaro*) for its failure to conduct the Supplemental Environmental Impact Statement (SEIS) required under the National Environmental Policy Act (NEPA) and for violations of the Federal Advisory Committee Act (FACA). The Tribe is disturbed by the recent attempts to bypass federal law, and the Tribe's lawsuit, through legislation. Such attempts will not stop the Tribe from pursuing its claims in federal court. The Tribe contends that the Corps can not possibly know whether its Tamiami Trail plan will help or harm the Everglades, flood Miami-Dade County, or even pollute the Park, because the agency did not conduct the required analysis. The Tribe further contends that FACA does not allow an advisory group to meet behind closed-doors to select a plan for the Corps to rubber stamp. The Tribe believes that if the Corps is forced to do the analysis required by law, it will show that this hastily put together plan is a *White Elephant Bridge to Nowhere*.

2. Pushing Up Daisies and the Losing 246 Acres of Tree Islands a Year

The operational plan to be created for the Mod Waters and C-111 Projects is called the Combined Structural and Operational Plan (CSOP). The Task Force created a CSOP Advisory Team that met in 2005 to analyze the plan and report back. Now that the Corps has once again changed the plan for Mod Waters, the advice of the CSOP team that met for over a year, is unusable. Moreover, the 2010 implementation date for CSOP has now been delayed to 2013. Today, the comment that Congressman Hansen made at the 1999 Congressional hearing on Mod Waters that, "we will all be pushing up daisies before you fully get it resolved" still rings true.

The *Biennial Report* fails to mention the important study on the delay of Mod Waters conducted by the Inspector General of the U.S. Department of Interior (DOI). Report No. C-IN-MOA-0006-2005 entitled: *Modified Water Deliveries to Everglades National Park AUDIT REPORT* was released in March 2006. The IG *Audit Report* found that DOI's failure to communicate a comprehensive and unified restoration strategy, and clearly define its consultation role, has contributed to project delays and cost increases. It found that DOI's participation in Mod Waters has been *ineffective*, and that it has not effectively communicated with stakeholders to build consensus. *The Audit Report* acknowledged the *cost of delay*: "The Corps estimates that damage to tree islands resulting from current high water levels could be as much as 246 acres per year and the cost to restore the islands ranges from \$12.3 million to \$123 million per year." [This is based on a 2000 Corps estimate each year Mod Waters is delayed, 8.4 tree islands in WCA 3A are lost.]

3. The Everglades Is Being Left Out of Everglades Restoration

The Biennial Report does not emphasize the impact that the delay of Mod Waters has had on restoration of the historic Everglades. This Pre-CERP project, necessary to restore a more natural flow through the Everglades, has been delayed, while other projects that merely attach themselves to the name Everglades have been expedited. The Tribe agrees that all ecosystem projects are important, but it does not

believe that Congress, or the public, intended for the Everglades to be left out of Everglades Restoration. It appears that many are starting to realize that the Everglades is not being restored. The NAS 2008 Biennial Review acknowledges: "The current planning process also appears to reward the least contentious projects, regardless of their potential contribution to ecosystem restoration. Without clear priorities for project planning and funding, projects with large potential restoration benefits may see lengthy restoration delays." [6]

The NAS 2006 *Biennial Review* recognized: "anticipated restoration progress in the Water Conservation Areas and Everglades National Park appears to be lagging behind the production of natural system benefits in other portions of the South Florida ecosystem." It echoed previous Tribe warnings that: "Since the Mod Waters project is an assumed precursor for the WCA 3A Decompartmentalization and Sheet Flow Enhancement Part 1 (Decomp) project, further delays in the project's completion may ultimately delay funding appropriations for Decomp." It recommended: "[M]od Waters should be completed without further delay. The NAS 2008 *Biennial Review* warns: "If this relatively modest restoration project cannot proceed and provide some restoration benefits, the outlook for CERP is dismal."

If the Corps had not constantly bowed to political pressure to expand the scope of this modest Pre-CERP project, Mod Waters would be completed and benefiting the Everglades today, and CERP Decomp would be well underway. Instead, constant changes to the plan have resulted in delay and a draconian water management actions that backed water up on Tribal Everglades causing excessive tree island loss and environmental damage; contributed to high water in Lake Okeechobee and damaging releases to the St. Lucie and Caloosahatchee estuaries; and resulted in a 50% decline in the endangered Snail Kite population. Until Mod Waters is operational, the natural flow of water through the Everglades and the Park will not be restored, and the historic Everglades, no matter how much progress is touted, will continue to be destroyed.

While some look at another new plan for Mod Waters as progress, the Tribe sees it as more of the same. Once again, the Corps has chosen political expediency over a simple plan that would allow the

project to be completed quickly. The result of the Corps capitulation will be at least a four year delay in Mod Waters, and a bridge that may never be operated for its intended purpose. The delay in Mod Waters will also mean a delay in CERP Decomp. This in turn means that the historic Everglades will continue to suffer irreparable harm. While federal agencies could take immediate steps to help prevent the serious environmental damage that is occurring, they continue to be unwilling to take simple steps on behalf of the Everglades. As a result, not only is the historic Everglades being left out of restoration, the agencies are taking anti-restoration actions that are actually moving the Everglades farther away from restoration goals.

4. So-Called *Short-Term or Interim* Actions Are Anti-Restoration

a. Destroying the Everglades of a Native People Is Not Environmental Justice

The Tribe strenuously objects to the pronouncement in the *Biennial Report* that, "The Task Force recognizes that it may on occasion be appropriate to take *short-term* or *interim* management actions that are not immediately consistent with long range strategic goals." This statement has been used by certain agencies to condone *short-term* actions that have caused *long-term* irreversible damage to the Tribal Everglades and the endangered Snail Kite. The Tribe is disturbed that this statement remains in the *Report* even though scientific evidence shows how harmful these actions have been. While the *Biennial Report* touts environmental justice, the *short-term* or *interim* actions this statement supports are devastating the homeland of a *native people*. The Tribe, and the Everglades, have suffered greatly from *short-term* actions that have turned out to be *long-term* both in duration and damage. Since 1998, the FWS has forced the Corps to take *interim* water management actions that close massive gates that allow water to flow through the Everglades nine months a year, allegedly to protect the Cape Sable seaside sparrow, that flood Tribal lands. A decade of *short-sighted actions* have not helped subpopulation A of the sparrow; resulted in a 50% decline in the endangered Snail Kite population; devastated vast areas of the Everglades; and caused high water in the WCAs and Lake Okeechobee, which in turn resulted in damaging water releases to the St. Lucie and Caloosahatchee estuaries.

These *short-term* actions, including the Interim Operational Plan (IOP), have caused severe man-made flooding of the Tribal Everglades in WCA 3A, which is also the designated critical habitat for the endangered Snail Kite. They have also moved the Everglades farther away from strategic restoration goals. The Corps keeps the water in the area of subpopulation A of the sparrow unnaturally low (well below CERP levels), while the water levels in WCA 3A, Snail Kite critical habitat, are kept unnaturally high (above CERP levels). Even though the scientists studying the impact of IOP on the Snail Kite and its critical habitat have expressed alarm at the *rapid* decline of the WCA 3A habitat, and the *precipitous* decline of the Snail Kite, the agencies continue to turn a blind eye to the damage they are perpetrating on the Everglades and the Tribe. It is extremely disconcerting to the Tribe that the Task Force continues to support actions that are causing irreversible harm to the Miccosukee Tribe's culture and way of life.

b. Turning a Blind Eye to Scientific Evidence of Irreversible Harm

Scientific evidence shows that a decade of closing flood control gates for nine months of the year has caused the number of Sparrows in subpopulation A to decline, rather than increase as predicted by FWS. The 2008 NAS Report finds that: "Emergency water management for Cape Sable Seaside Sparrows under the Interim Operational Plan (IOP) illustrates the failure of species by species management. The resulting water management regimes have led to the unwanted flooding of tribal lands and probably have contributed to declines of snail kites and tree islands in WCA 3A." It appears to be obvious to everybody, except the agencies perpetrating the harm, and apparently the Task Force, that these so-called *short-term* actions have not helped the Sparrow and have harmed Tribal Everglades and the Snail Kite.

Snail Kite Demography Annual Reports prepared for FWS show that the Snail Kite population has declined an alarming 50% during IOP operations, and that no young Kites fledged out of WCA 3A both in 2005 and 2007. The scientists studying the impact of IOP on the Snail Kite also expressed concern that water levels in WCA 3A have been kept at *alarmingly high* levels. Despite this, the FWS reached the incredible

conclusion in its 2006 Biological Opinion, that it is acceptable for IOP to degrade 184,320 acres of Snail Kite critical habitat a year in WCA 3A! To the Tribe, this is proof that the Tribal Everglades, and the endangered species that live there, are given *second class status* by agencies that have a *Trust Responsibility* to protect them.

Environmental justice demands that the Task Force refuse to support *short-term* actions that are devastating Tribal lands and moving the Everglades farther away from restoration goals. These actions harm restoration. Tree islands, once destroyed by high water take geological time frames to return, if they ever do. A Corps employee testified that it would cost more than the entire CERP to restore all the tree islands that have been lost in WCA 3. If these damaging water management actions are not stopped soon, there will be no tree islands in WCA 3 left to restore. The impact these actions are having on the culture and way of life of the Miccosukee Tribe, and its ancestral homeland, is a tragedy. If the Task Force truly cares about *environmental justice*, it will denounce these *short-term actions* and adopt the oath of the physician: *First do no harm*.

5. The FWS Rule Furthers Multi-Species Management and Restoration

The Cape Sable seaside sparrow is one of more than 60 threatened and endangered species in South Florida. As described herein, since 1998 natural flows of water into the western side of the Park have been stopped for nine months a year allegedly to help one of six Sparrow subpopulations. By all measures, the unnatural dry-out of this portion of the Park has not helped the Sparrow and has flooded WCA 3A, the critical habitat of the Snail Kite and homeland of the Miccosukee Tribe. As a result, the Snail Kite population declined from over 4,000 birds in 2001 to about a 1,000 today, while nearly 200,000 acres of critical habitat a year is being degraded.

Regardless of the facts, some pushed the FWS to make this area of the Park critical habitat for the Sparrow, even though doing so would have perpetuated damage to the Tribal Everglades and prevented Everglades Restoration. The FWS held an Avian Workshop, weighed the facts, and wisely rejected this idea. Reasons that warranted rejection included:

- Everglades Restoration calls for the Sparrow subpopulation A area to be considerably wetter than it is being artificially kept now... the critical habitat designation would have forced water managers to dry-out this area in perpetuity, thus preventing restoration.
- Unnaturally drying out areas for the Sparrow causes much harm to the Snail Kite and its critical habitat in WCA 3A...the success of Everglades Restoration demands that single-species management be jettisoned in favor of a true, multi-species approach.
- A panel of scientists agreed that Sparrow survival rates, freedom of movement, and interaction of subpopulations are all much greater than originally thought, which led to the conclusion that subpopulation A is not critical to the continued existence of the Sparrow.
- The dry-out policy that has been demanded for over 10 years simply has not worked ... institutionalizing a disproven hypothesis would not have made sense.

The FWS Rule is an example of how when an agency leader solicits, and listens to, all the evidence, and has the courage to stand up for what is right, the Everglades benefits. The FWS Rule was a bold action that will allow restoration to move forward. The 2008 NAS *Biennial Review* acknowledges: "The recent revised critical habitat designation for the Cape Sable seaside sparrow (USFWS 2007) shows that the FWS and other parties can and are willing to make such difficult decisions, in this case trading off possible increased risk for sparrow subpopulation A to improve restoration prospects for several other species including wood storks and snail kites."

6. Cost and Progress of Projects Should Be Fully Reported

The Tribe is concerned that the *Biennial Report* does not fully and accurately inform Congress about the full cost, and progress, of restoration projects. The *Report* should contain a summary of the full cost of each project from the time it was authorized to the present. It should also discuss whether the project is subject to Section 902 cost constraints. Without such information, there is no way for Congress to know from the *Report* that the Modified Water Deliveries

Project has experienced significant cost overruns. This project was initially estimated to cost \$76 million dollars for both construction and land costs. The 1994 Project Cooperation Agreement (PCA) with the local partner estimated \$114 million dollars in construction costs, which included a Section 902 cap at 20% above the estimated cost. Under Section 902, the agencies would be forced to go back to Congress if the cap was exceeded, but the agencies later determined that Section 902 did not apply to Mod Waters. Removal of the 902 cap has caused the cost of the Mod Waters Project to now escalate to \$509 million dollars. The *Report* should give Congress the information it needs to ensure that similar unrestrained cost escalations do not occur on other restoration projects. It should also accurately report the progress of all restoration projects. For example, the EAA Reservoir Project is reported as currently being under construction in the *Report*, when construction on this project was halted many months ago.

7. Cost of Delay to the Everglades Should Be Fully Assessed

The Tribe believes that the *Biennial Report* should include an estimate of environmental damage caused by the delay of restoration projects. For instance, it is well known that from the time the C&SF Project went into operation in the 1940s through 1995, Water Conservation Area 3A (WCA 3A) has lost 45% of its tree islands and 68% of the tree island acreage. The Corps used this data to calculate the cost of delay of the Mod Waters Project in its General Reevaluation Report (GRR) on the 8.5 Square Mile Area. The Corps estimated that each year of delay of the Mod Waters Project would result in the loss of 8.4 tree islands [246 acres] per year in WCA 3 alone. (8.5 SMA GRR, July 2000 at Table 7.) The NAS 2008 *Biennial Review* recognizes: "Tree islands have undergone a multi-decadal decline in both number and surface area – a trend that appears likely to continue until significant CERP and non-CERP restoration progress has been made." [3] Assessing the cost of delay in the *Biennial Report* would help Congress decide whether plans are reasonable in light of the environmental cost to the Everglades. The *Report* should also assess the spread of soil phosphorus and cattail in the Everglades for each reporting period.

8. Hydrologic Performance Measures Should Be Used for Restoration

The Tribe does not agree with the use of the ecological performance indicators contained in the *Report*. The Tribe continues to support the use of hydrological performance measures for restoration. It believes that if proper water quantity and quality are achieved, the biology will follow. The Tribe urges that any performance measures developed by the Science Coordination Group of the Task Force be consistent with, and not conflict with, those of RECOVER for CERP.

9. No Mention of the SFWMD Proposed Land Deal Game Changer

The *Biennial Report* makes no mention of the SFWMD proposal to spend \$1.75 billion dollars to purchase land and assets from U.S. Sugar. If this proposal is implemented, farming will continue for at least six years; and SFWMD Executive Director stated that water quality projects associated with the purchase "could take 15 to 20 years to build." The Everglades is dying today, not 15 or 20 years from now. While acquiring the land could be useful, the Tribe is concerned that funds might be diverted from essential restoration projects, and immediate clean-up efforts, that are needed now. Construction on the EAA Reservoir Project has already been halted, and may be abandoned, along with the Caloosahatchee and St. Lucie Reservoir projects. While the acquisition of the land may be positive, if existing restoration projects are abandoned to pay for the land, it could interfere with restoration goals. Federal lawmakers have criticized the secrecy surrounding the proposed deal and lack of federal input. There are also many questions about the proposal that still need to be answered such as: how the land will be used; how many restoration projects might be abandoned to provide the funding; how the purchase will impact ACCELER8 and CERP; whether CERP will have to be reformulated and reauthorized by Congress; what delay caused by the change of course will mean to the health of the Everglades; and the *environmental justice* impacts on certain communities. The Tribe believes that it is vital that specific planned restoration projects be carried out. While there is still no detailed plan on how restoration will be impacted by the SFWMD proposal, the *Biennial Report*, should have at least alerted Congress about what may be a major CERP game changer.

11. Current Restoration Process, If There Still is One, Should Be Defined

The current restoration process (i.e. project construction, funding, and sequencing implementation) has changed from that adopted by Congress in the *Yellow Book*. The state's ACCELER8 program changed the priority of certain CERP projects and shifted construction responsibility for those projects from the Secretary of the Army to the State. The *Biennial Report* claims certain ACCELER8 projects will be complete by 2011. Yet, the construction of the EAA Reservoir Project has been halted, and it has been reported that the EAA Reservoir Project, and the St. Lucie and Caloosahatchee Reservoir Projects, will be delayed or perhaps never completed. The ACCELER8 program, and the recent SFWMD proposed land purchase, call into question whether the CERP described in the *Yellow Book* is still viable. Congress should be fully advised of the status of the current process, so that it can ensure that changes in sequencing and authority do not adversely impact restoration goals. Federal agencies must ensure that any acceleration does not result in legally inadequate NEPA documents or disregard for federal law. Congress must ensure that federal funds are only spent on projects that are consistent with the CERP *Yellow Book* and comply with all applicable federal laws.

III. TRUST RESPONSIBILITY NOT BEING MET IN THE RESTORATION PROCESS

"The River of Grass is a world of beauty and life...and the world and life of the Miccosukee"

- Houston Cypress,
Miccosukee Tribal member and writer

These words of Houston Cypress illustrate the importance of the Everglades to the Miccosukee. The Miccosukee Tribe not only has a unique relationship with the Everglades, it has a unique relationship with the federal government. Congress recognized the fact that federal agencies have a solemn Trust Responsibility to the Tribe in the Water Resources Development Act of 2000 that authorized CERP. WRDA 2000 mandates: "In carrying out his responsibilities under this subsection with respect to the restoration of the South Florida ecosystem, the Secretary of the Interior shall fulfill his obligations to

the Indian tribes in South Florida under the Indian trust doctrine." While this language is included in the Biennial Report, the reality is that any meaningful adherence to these Congressional mandates is a rare exception.

The law mandates that federal agencies must consult with the Tribe, whose members live in the Everglades, before restoration decisions are made. Yet, these agencies continue to conduct perfunctory meetings with the Tribe after restoration decisions have been made. A recent example, are meetings that were held without the Tribe behind closed doors to select a plan for Tamiami Trail, even though Tribal Trust resources would be adversely impacted. Although these agencies have a *solemn duty* to protect the Tribe and their land in the restoration process, they either do not understand, or care, that the Everglades is the "*world and life of the Miccosukee*." Indeed, these same agencies have engaged in actions that are destroying Tribal natural resources.

IV. CONGRESSIONAL OVERSIGHT AND PUBLIC SCRUTINY - NOT CLOSED DOOR MEETINGS - ARE CRITICAL TO RESTORATION ACCOUNTABILITY

President Thomas Jefferson said: "Information is the currency of democracy." Information, and Congressional scrutiny, are also necessary for agency accountability in Everglades Restoration. WRDA 1996 and WRDA 2000 dictate an open public process as an important element of the restoration process. Unfortunately, the public process, much like the Task Force process, is often used *pro forma* to give an appearance of public involvement where none exists. Instead, the Corps utilizes teams and/or advisory groups, comprised of federal and non-federal members, to make recommendations without complying with the Federal Advisory Committee Act ("FACA"). Restoration plans, arrived at behind closed doors, are brought to the public only after the decision has been made. The Task Force must insist that Everglades Restoration decisions be made in an open public process, as directed by Congress. Such an open public process requires bringing restoration proposals before the Task Force and the public before decisions are made. Full public scrutiny and input is the only way that citizens,

and Congress, will ensure accountability in Everglades Restoration.

V. THE COMPREHENSIVE EVERGLADES RESTORATION PLAN MUST BE COMPREHENSIVE AND INCLUDE RESTORATION OF THE EVERGLADES

Federal agencies charged with restoration do not treat all parts of the Everglades equally. The Tribal Everglades, and its endangered species, are given second *class status*. In its 2004 and 2006 *Additional View*, the Tribe warned that the historic Everglades itself was being left out of the Everglades Restoration process, and that in the eagerness to push CERP forward, the need to restore more natural flows to the Everglades was being left behind. The reason is simple. WRDA 2000 directed the agencies to complete the long delayed Mod Waters Project before funds would be authorized for the CERP projects designed to restore the natural flow of water through the historic Everglades. The failure to complete Mod Waters has resulted in the agencies pushing CERP projects on the periphery of the Everglades forward while the Everglades is left behind. Both Congress, and the public, have expressed concern about the lack of progress.

In a July 22, 2004, news release, Congressman John J. Duncan, Jr. (R-TN), Chairman, reminded us, "The principal goal of this effort is to restore water to the Everglades, but at the same time recognizing the water supply needs of agricultural and urban areas." He warned, "And, even if we focus on Everglades restoration alone, we have to recognize that doing expensive projects early in the process will effect how other Everglades projects can be implemented." He emphasized the importance of taking "a logical, system-wide approach" to restoration. The 1999 *Yellow Book* adopted by Congress took a comprehensive approach and promised that project implementation and sequencing would be an open process, subject to public and scientific review. The selection of ACCELER8 projects did not go through a prior public process. Some are priority projects that benefit the Everglades, others have been moved up based on a state decision to construct them on its own. The multi-billion dollar question is: How much will the Everglades actually benefit from the plan that benefits from its name?

Progress in Everglades Restoration will only be made when restoring the Everglades once again becomes the overarching purpose of the Comprehensive Everglades Restoration Plan. The concern that the historic Everglades is being left out of restoration was echoed in the NAS 2006 *Biennial Review*, which finds that important projects necessary to re-establish sheet flow in the Everglades are "far behind the original schedule." The NAS 2008 *Biennial Review* observes: "The current planning process also appears to award the least contentious projects, regardless of their potential contribution to ecosystem restoration." [6] The Tribe agrees with the NAS that the "Completion of Mod Waters is crucial to the success of Everglades Restoration and the CERP Projects that follow." [8]. It also agrees with the observation that: "If this relatively modest restoration project can not proceed and provide some restoration benefits, the outlook for CERP is dismal." *Id.* The Tribe continues to contend that Mod Waters must be implemented expeditiously. The current plan to build a *White Elephant Bridge to Nowhere* will only cause more delay and Everglades destruction. The Tribe supports the quick and simple solution of cleaning out the areas of downstream of the culverts and structures to pass Mod Waters flows, so that we can move on to CERP Decomp and put the historic Everglades back into Restoration.

VI. WITH NO LEADERSHIP, RESTORATION STANDS STILL

"In periods where there is no leadership, society stands still. Progress occurs when courageous, skillful leaders seize the opportunity to change things for the better."

- Harry S. Truman,

This Week, February 22, 1959

The South Florida Ecosystem Restoration Task Force was created in 1993, so that federal agencies with a role in Everglades restoration could work together to resolve issues, integrate resources, and be a catalyst for progress. In WRDA 1996, Congress formalized the Task Force under federal law and added representatives from the State of Florida, Miccosukee Tribe, and Seminole Tribe. In the 1990s, the Task Force assumed a leadership role, and worked through its sub-organizations (the Working Group and the Science Coordination Team), to attempt to resolve

controversial issues through public debate. Although often uncomfortable, resolving conflict was necessary to advance the Everglades Restoration process.

In the 2000s, the Task Force began to reflect the *process that has replaced progress* in Everglades Restoration. Significant resources are spent preparing reports on the progress of the restoration process even though no progress is being made in the Everglades itself, where it counts. Task Force meetings, now scheduled about four times a year, and often at fancy hotels, have done little to advance the restoration process. Instead, they are dominated by *show-and-tell* briefings, which are often preceded by unnecessary and expensive field trips. Meaningful debate on controversial Everglades issues is discouraged. Once the meeting ends, there is no follow-up to ensure that actual progress is being made on the ground. An example of this is that the Task Force *Biennial Report* informs Congress that the EAA Reservoir Project is currently under construction when construction on that project was halted many months ago.

The NAS 2008 Biennial Review recognized the leadership vacuum that exists. It states: "Strong leadership, focused on building and maintaining support among stakeholders and overcoming conflicts, is essential for Everglades restoration projects to achieve their restoration goals." This is the type of leadership role envisioned for the Task Force in WRDA 1996. The Task Force must once again embrace its leadership role in the restoration process if any meaningful progress is to be made. Leadership in any endeavor is essential for success. Without talented, decisive, bold leadership, there will be no progress in Everglades Restoration.

VII. TURNING THE MYTH OF RESTORATION INTO REALITY

"Perhaps even in this last hour, in a new relation of usefulness and beauty, the vast, magnificent, subtle and unique region of the Everglades may not be utterly lost."

- Marjory Stoneman Douglas in

The Everglades: River of Grass

Today, more than 60 years after Marjory Stoneman Douglas wrote her book, the last hour for the

Everglades has moved closer to midnight, and the chances for restoration are slipping away. Those who love the Everglades must act quickly to turn the myth of Everglades Restoration into a reality. Doing so, will require a *unity of effort* and *unity of ecosystem* in which all parts of the Everglades are treated equally. There can be no second class status. People must work together to agree on what must be done, the priorities for doing it, and see that goals are accomplished. Leadership must emerge to inspire agreement and teamwork; execution of programs and projects must be coordinated and relentless; those in charge of executing projects must be held accountable for progress and resources. If the Everglades Restoration process

continues to be a gaggle of disparate interests, each with its own pet project, it will ultimately fail. The Everglades cannot afford to have restoration fail. Each day that restoration is delayed, irreversible damage occurs, and our opportunity to make Everglades Restoration a reality fades farther away. No great challenge has ever been met without *leadership* and *unity of effort*. Everglades Restoration, an immense challenge, demands both. Leadership that instills *unity of effort* must be the top priority of the Task Force if it is serious about accomplishing restoration. The time to act is now, before it's too late. The Everglades, "a world of beauty and life...and the world and life of the Miccosukee," is rapidly running out of time.

APPENDIX D: Water Resources Development Act of 2000, Title VI, Section 601

Comprehensive Everglades Restoration Plan

TITLE VI--COMPREHENSIVE EVERGLADES RESTORATION

Sec. 601. Comprehensive Everglades Restoration Plan.
Sec. 602. Sense of Congress concerning Homestead
Air Force Base.

SEC. 601. COMPREHENSIVE EVERGLADES RESTORATION PLAN.

(a) DEFINITIONS- In this section, the following definitions apply:

(1) CENTRAL AND SOUTHERN FLORIDA PROJECT-

(A) IN GENERAL- The term 'Central and Southern Florida Project' means the project for Central and Southern Florida authorized under the heading 'CENTRAL AND SOUTHERN FLORIDA' in section 203 of the Flood Control Act of 1948 (62 Stat. 1176).

(B) INCLUSION- The term 'Central and Southern Florida Project' includes any modification to the project authorized by this section or any other provision of law.

(2) GOVERNOR- The term 'Governor' means the Governor of the State of Florida.

(3) NATURAL SYSTEM-

(A) IN GENERAL- The term 'natural system' means all land and water managed by the Federal Government or the State within the South Florida ecosystem.

(B) INCLUSIONS- The term 'natural system' includes--

- (i) water conservation areas;
- (ii) sovereign submerged land;
- (iii) Everglades National Park;
- (iv) Biscayne National Park;
- (v) Big Cypress National Preserve;
- (vi) other Federal or State (including a political subdivision of a State) land that is designated and managed for conservation purposes; and
- (vii) any tribal land that is designated and managed for conservation purposes, as approved by the tribe.

(4) PLAN- The term 'Plan' means the

Comprehensive Everglades Restoration Plan contained in the 'Final Integrated Feasibility Report and Programmatic Environmental Impact Statement', dated April 1, 1999, as modified by this section.

(5) SOUTH FLORIDA ECOSYSTEM-

(A) IN GENERAL- The term 'South Florida ecosystem' means the area consisting of the land and water within the boundary of the South Florida Water Management District in effect on July 1, 1999.

(B) INCLUSIONS- The term 'South Florida ecosystem' includes--

- (i) the Everglades;
- (ii) the Florida Keys; and
- (iii) the contiguous near-shore coastal water of South Florida.

(6) STATE- The term 'State' means the State of Florida.

(b) COMPREHENSIVE EVERGLADES RESTORATION PLAN-

(1) APPROVAL-

(A) IN GENERAL- Except as modified by this section, the Plan is approved as a framework for modifications and operational changes to the Central and Southern Florida Project that are needed to restore, preserve, and protect the South Florida ecosystem while providing for other water-related needs of the region, including water supply and flood protection. The Plan shall be implemented to ensure the protection of water quality in, the reduction of the loss of fresh water from, and the improvement of the environment of the South Florida ecosystem and to achieve and maintain the benefits to the natural system and human environment described in the Plan, and required pursuant to this section, for as long as the project is authorized.

(B) INTEGRATION- In carrying out the Plan, the Secretary shall integrate the activities described in subparagraph (A) with ongoing Federal and State projects and activities in accordance with section 528(c) of the Water Resources Development Act of 1996 (110 Stat.

3769). Unless specifically provided herein, nothing in this section shall be construed to modify any existing cost share or responsibility for projects as listed in subsection (c) or (e) of section 528 of the Water Resources Development Act of 1996 (110 Stat. 3769).

(2) SPECIFIC AUTHORIZATIONS-

(A) IN GENERAL-

(i) PROJECTS- The Secretary shall carry out the projects included in the Plan in accordance with subparagraphs (B), (C), (D), and (E).

(ii) CONSIDERATIONS- In carrying out activities described in the Plan, the Secretary shall--

(I) take into account the protection of water quality by considering applicable State water quality standards; and

(II) include such features as the Secretary determines are necessary to ensure that all ground water and surface water discharges from any project feature authorized by this subsection will meet all applicable water quality standards and applicable water quality permitting requirements.

(iii) REVIEW AND COMMENT- In developing the projects authorized under subparagraph (B), the Secretary shall provide for public review and comment in accordance with applicable Federal law.

(B) PILOT PROJECTS- The following pilot projects are authorized for implementation, after review and approval by the Secretary, at a total cost of \$69,000,000, with an estimated Federal cost of \$34,500,000 and an estimated non-Federal cost of \$34,500,000:

(i) Caloosahatchee River (C-43) Basin ASR, at a total cost of \$6,000,000, with an estimated Federal cost of \$3,000,000 and an estimated non-Federal cost of \$3,000,000.

(ii) Lake Belt In-Ground Reservoir Technology, at a total cost of \$23,000,000, with an estimated Federal cost of \$11,500,000 and an estimated non-Federal cost of \$11,500,000.

(iii) L-31N Seepage Management, at a total cost of \$10,000,000, with an estimated Federal cost of \$5,000,000 and an estimated non-Federal cost of \$5,000,000.

(iv) Wastewater Reuse Technology, at a

total cost of \$30,000,000, with an estimated Federal cost of \$15,000,000 and an estimated non-Federal cost of \$15,000,000.

(C) INITIAL PROJECTS- The following projects are authorized for implementation, after review and approval by the Secretary, subject to the conditions stated in subparagraph (D), at a total cost of \$1,100,918,000, with an estimated Federal cost of \$550,459,000 and an estimated non-Federal cost of \$550,459,000:

(i) C-44 Basin Storage Reservoir, at a total cost of \$112,562,000, with an estimated Federal cost of \$56,281,000 and an estimated non-Federal cost of \$56,281,000.

(ii) Everglades Agricultural Area Storage Reservoirs--Phase I, at a total cost of \$233,408,000, with an estimated Federal cost of \$116,704,000 and an estimated non-Federal cost of \$116,704,000.

(iii) Site 1 Impoundment, at a total cost of \$38,535,000, with an estimated Federal cost of \$19,267,500 and an estimated non-Federal cost of \$19,267,500.

(iv) Water Conservation Areas 3A/3B Levee Seepage Management, at a total cost of \$100,335,000, with an estimated Federal cost of \$50,167,500 and an estimated non-Federal cost of \$50,167,500.

(v) C-11 Impoundment and Stormwater Treatment Area, at a total cost of \$124,837,000, with an estimated Federal cost of \$62,418,500 and an estimated non-Federal cost of \$62,418,500.

(vi) C-9 Impoundment and Stormwater Treatment Area, at a total cost of \$89,146,000, with an estimated Federal cost of \$44,573,000 and an estimated non-Federal cost of \$44,573,000.

(vii) Taylor Creek/Nubbin Slough Storage and Treatment Area, at a total cost of \$104,027,000, with an estimated Federal cost of \$52,013,500 and an estimated non-Federal cost of \$52,013,500.

(viii) Raise and Bridge East Portion of Tamiami Trail and Fill Miami Canal within Water Conservation Area 3, at a total cost of \$26,946,000, with an estimated Federal cost of \$13,473,000 and an estimated non-Federal cost of \$13,473,000.

(ix) North New River Improvements, at a

total cost of \$77,087,000, with an estimated Federal cost of \$38,543,500 and an estimated non-Federal cost of \$38,543,500.

(x) C-111 Spreader Canal, at a total cost of \$94,035,000, with an estimated Federal cost of \$47,017,500 and an estimated non-Federal cost of \$47,017,500.

(xi) Adaptive Assessment and Monitoring Program, at a total cost of \$100,000,000, with an estimated Federal cost of \$50,000,000 and an estimated non-Federal cost of \$50,000,000.

(D) CONDITIONS-

(i) PROJECT IMPLEMENTATION

REPORTS- Before implementation of a project described in any of clauses (i) through (x) of subparagraph (C), the Secretary shall review and approve for the project a project implementation report prepared in accordance with subsections (f) and (h).

(ii) SUBMISSION OF REPORT- The Secretary shall submit to the Committee on Transportation and Infrastructure of the House of Representatives and the Committee on Environment and Public Works of the Senate the project implementation report required by subsections (f) and (h) for each project under this paragraph (including all relevant data and information on all costs).

(iii) FUNDING CONTINGENT ON APPROVAL- No appropriation shall be made to construct any project under this paragraph if the project implementation report for the project has not been approved by resolutions adopted by the Committee on Transportation and Infrastructure of the House of Representatives and the Committee on Environment and Public Works of the Senate.

(iv) MODIFIED WATER DELIVERY- No appropriation shall be made to construct the Water Conservation Area 3

Decomartmentalization and Sheetflow Enhancement Project (including component AA, Additional S-345 Structures; component QQ Phase 1, Raise and Bridge East Portion of Tamiami Trail and Fill Miami Canal within WCA 3; component QQ Phase 2, WCA 3

Decomartmentalization and Sheetflow Enhancement; and component SS, North New River Improvements) or the Central Lakebelt Storage Project (including components S and EEE, Central Lake Belt Storage Area) until the completion of the project to improve water deliveries to Everglades National Park authorized by section 104 of the Everglades National Park Protection and Expansion Act of 1989 (16 U.S.C. 410r-8).

(E) MAXIMUM COST OF PROJECTS-

Section 902 of the Water Resources Development Act of 1986 (33 U.S.C. 2280) shall apply to each project feature authorized under this subsection.

(c) ADDITIONAL PROGRAM AUTHORITY

(1) IN GENERAL- To expedite implementation of the Plan, the Secretary may implement modifications to the Central and Southern Florida Project that--

(A) are described in the Plan; and

(B) will produce a substantial benefit to the restoration, preservation and protection of the South Florida ecosystem.

(2) PROJECT IMPLEMENTATION REPORTS- Before implementation of any project feature authorized under this subsection, the Secretary shall review and approve for the project feature a project implementation report prepared in accordance with subsections (f) and (h).

(3) FUNDING-

(A) INDIVIDUAL PROJECT FUNDING-

(i) FEDERAL COST- The total Federal cost of each project carried out under this subsection shall not exceed \$12,500,000.

(ii) OVERALL COST- The total cost of each project carried out under this subsection shall not exceed \$25,000,000.

(B) AGGREGATE COST- The total cost of all projects carried out under this subsection shall not exceed \$206,000,000, with an estimated Federal cost of \$103,000,000 and an estimated non-Federal cost of \$103,000,000.

(d) AUTHORIZATION OF FUTURE PROJECTS-

(1) IN GENERAL- Except for a project authorized by subsection (b) or (c), any project included in the Plan shall require a specific authorization by Congress.

(2) SUBMISSION OF REPORT- Before seeking congressional authorization for a project under

paragraph (1), the Secretary shall submit to Congress--

- (A) a description of the project; and
- (B) a project implementation report for the project prepared in accordance with subsections (f) and (h).

(e) COST SHARING-

(1) FEDERAL SHARE- The Federal share of the cost of carrying out a project authorized by subsection (b), (c), or (d) shall be 50 percent.

(2) NON-FEDERAL RESPONSIBILITIES- The non-Federal sponsor with respect to a project described in subsection (b), (c), or (d), shall be--

- (A) responsible for all land, easements, rights-of-way, and relocations necessary to implement the Plan; and
- (B) afforded credit toward the non-Federal share of the cost of carrying out the project in accordance with paragraph (5)(A).

(3) FEDERAL ASSISTANCE-

(A) IN GENERAL- The non-Federal sponsor with respect to a project authorized by subsection (b), (c), or (d) may use Federal funds for the purchase of any land, easement, rights-of-way, or relocation that is necessary to carry out the project if any funds so used are credited toward the Federal share of the cost of the project.

(B) AGRICULTURE FUNDS- Funds provided to the non-Federal sponsor under the Conservation Restoration and Enhancement Program (CREP) and the Wetlands Reserve Program (WRP) for projects in the Plan shall be credited toward the non-Federal share of the cost of the Plan if the Secretary of Agriculture certifies that the funds provided may be used for that purpose. Funds to be credited do not include funds provided under section 390 of the Federal Agriculture Improvement and Reform Act of 1996 (110 Stat. 1022).

(4) OPERATION AND MAINTENANCE-

Notwithstanding section 528(e)(3) of the Water Resources Development Act of 1996 (110 Stat. 3770), the non-Federal sponsor shall be responsible for 50 percent of the cost of operation, maintenance, repair, replacement, and rehabilitation activities authorized under this section. Furthermore, the Seminole Tribe of Florida shall be responsible for 50 percent of the cost of operation, maintenance, repair, replacement, and rehabilitation activities for the

Big Cypress Seminole Reservation Water Conservation Plan Project.

(5) CREDIT-

(A) IN GENERAL- Notwithstanding section 528(e)(4) of the Water Resources Development Act of 1996 (110 Stat. 3770) and regardless of the date of acquisition, the value of lands or interests in lands and incidental costs for land acquired by a non-Federal sponsor in accordance with a project implementation report for any project included in the Plan and authorized by Congress shall be--

- (i) included in the total cost of the project; and
- (ii) credited toward the non-Federal share of the cost of the project.

(B) WORK- The Secretary may provide credit, including in-kind credit, toward the non-Federal share for the reasonable cost of any work performed in connection with a study, preconstruction engineering and design, or construction that is necessary for the implementation of the Plan if--

- (i) (I) the credit is provided for work completed during the period of design, as defined in a design agreement between the Secretary and the non-Federal sponsor; or (II) the credit is provided for work completed during the period of construction, as defined in a project cooperation agreement for an authorized project between the Secretary and the non-Federal sponsor;
- (ii) the design agreement or the project cooperation agreement prescribes the terms and conditions of the credit; and
- (iii) the Secretary determines that the work performed by the non-Federal sponsor is integral to the project.

(C) TREATMENT OF CREDIT BETWEEN PROJECTS- Any credit provided under this paragraph may be carried over between authorized projects in accordance with subparagraph (D).

(D) PERIODIC MONITORING-

- (i) IN GENERAL- To ensure that the contributions of the non-Federal sponsor equal 50 percent proportionate share for projects in the Plan, during each 5-year period, beginning with commencement of

design of the Plan, the Secretary shall, for each project--

(I) monitor the non-Federal provision of cash, in-kind services, and land; and

(II) manage, to the maximum extent practicable, the requirement of the non-Federal sponsor to provide cash, in-kind services, and land.

(ii) OTHER MONITORING- The Secretary shall conduct monitoring under clause (i) separately for the preconstruction engineering and design phase and the construction phase.

(E) AUDITS- Credit for land (including land value and incidental costs) or work provided under this subsection shall be subject to audit by the Secretary.

(f) EVALUATION OF PROJECTS-

(1) IN GENERAL- Before implementation of a project authorized by subsection (c) or (d) or any of clauses (i) through (x) of subsection (b)(2)(C), the Secretary, in cooperation with the non-Federal sponsor, shall complete, after notice and opportunity for public comment and in accordance with subsection (h), a project implementation report for the project.

(2) PROJECT JUSTIFICATION-

(A) IN GENERAL- Notwithstanding section 209 of the Flood Control Act of 1970 (42 U.S.C. 1962-2) or any other provision of law, in carrying out any activity authorized under this section or any other provision of law to restore, preserve, or protect the South Florida ecosystem, the Secretary may determine that--

(i) the activity is justified by the environmental benefits derived by the South Florida ecosystem; and

(ii) no further economic justification for the activity is required, if the Secretary determines that the activity is cost-effective.

(B) APPLICABILITY- Subparagraph (A) shall not apply to any separable element intended to produce benefits that are predominantly unrelated to the restoration, preservation, and protection of the natural system.

(g) EXCLUSIONS AND LIMITATIONS- The following Plan components are not approved for implementation:

(1) WATER INCLUDED IN THE PLAN-

(A) IN GENERAL- Any project that is designed to implement the capture and use of

the approximately 245,000 acre-feet of water described in section 7.7.2 of the Plan shall not be implemented until such time as--

- (i) the project-specific feasibility study described in subparagraph (B) on the need for and physical delivery of the approximately 245,000 acre-feet of water, conducted by the Secretary, in cooperation with the non-Federal sponsor, is completed;
- (ii) the project is favorably recommended in a final report of the Chief of Engineers; and
- (iii) the project is authorized by Act of Congress.

(B) PROJECT-SPECIFIC FEASIBILITY STUDY- The project-specific feasibility study referred to in subparagraph (A) shall include--

- (i) a comprehensive analysis of the structural facilities proposed to deliver the approximately 245,000 acre-feet of water to the natural system;
- (ii) an assessment of the requirements to divert and treat the water;
- (iii) an assessment of delivery alternatives;
- (iv) an assessment of the feasibility of delivering the water downstream while maintaining current levels of flood protection to affected property; and
- (v) any other assessments that are determined by the Secretary to be necessary to complete the study.

(2) WASTEWATER REUSE-

(A) IN GENERAL- On completion and evaluation of the wastewater reuse pilot project described in subsection (b)(2)(B)(iv), the Secretary, in an appropriately timed 5-year report, shall describe the results of the evaluation of advanced wastewater reuse in meeting, in a cost-effective manner, the requirements of restoration of the natural system.

(B) SUBMISSION- The Secretary shall submit to Congress the report described in subparagraph (A) before congressional authorization for advanced wastewater reuse is sought.

(3) PROJECTS APPROVED WITH LIMITATIONS- The following projects in the Plan are approved for implementation with limitations:

(A) LOXAHATCHEE NATIONAL WILDLIFE REFUGE- The Federal share for

land acquisition in the project to enhance existing wetland systems along the Loxahatchee National Wildlife Refuge, including the Strazzulla tract, should be funded through the budget of the Department of the Interior.

(B) SOUTHERN CORKSCREW REGIONAL ECOSYSTEM- The Southern Corkscrew regional ecosystem watershed addition should be accomplished outside the scope of the Plan.

(h) ASSURANCE OF PROJECT BENEFITS-

(1) IN GENERAL- The overarching objective of the Plan is the restoration, preservation, and protection of the South Florida Ecosystem while providing for other water-related needs of the region, including water supply and flood protection. The Plan shall be implemented to ensure the protection of water quality in, the reduction of the loss of fresh water from, the improvement of the environment of the South Florida Ecosystem and to achieve and maintain the benefits to the natural system and human environment described in the Plan, and required pursuant to this section, for as long as the project is authorized.

(2) AGREEMENT-

(A) IN GENERAL- In order to ensure that water generated by the Plan will be made available for the restoration of the natural system, no appropriations, except for any pilot project described in subsection (b)(2)(B), shall be made for the construction of a project contained in the Plan until the President and the Governor enter into a binding agreement under which the State shall ensure, by regulation or other appropriate means, that water made available by each project in the Plan shall not be permitted for a consumptive use or otherwise made unavailable by the State until such time as sufficient reservations of water for the restoration of the natural system are made under State law in accordance with the project implementation report for that project and consistent with the Plan.

(B) ENFORCEMENT-

(i) IN GENERAL- Any person or entity that is aggrieved by a failure of the United States or any other Federal Government instrumentality or agency, or the Governor or any other officer. of a State instrumentality or agency, to comply with

any provision of the agreement entered into under subparagraph (A) may bring a civil action in United States district court for an injunction directing the United States or any other Federal Government instrumentality or agency or the Governor or any other officer of a State instrumentality or agency, as the case may be, to comply with the agreement.

(ii) LIMITATIONS ON

COMMENCEMENT OF CIVIL ACTION-

No civil action may be commenced under clause (i)—

(I) before the date that is 60 days after the Secretary and the Governor receive written notice of a failure to comply with the agreement; or

(II) if the United States has commenced and is diligently prosecuting an action in a court of the United States or a State to redress a failure to comply with the agreement.

(C) TRUST RESPONSIBILITIES- In carrying out his responsibilities under this subsection with respect to the restoration of the South Florida ecosystem, the Secretary of the Interior shall fulfill his obligations to the Indian tribes in South Florida under the Indian trust doctrine as well as other applicable legal obligations.

(3) PROGRAMMATIC REGULATIONS-

(A) ISSUANCE- Not later than 2 years after the date of enactment of this Act, the Secretary shall, after notice and opportunity for public comment, with the concurrence of the Governor and the Secretary of the Interior, and in consultation with the Seminole Tribe of Florida, the Miccosukee Tribe of Indians of Florida, the Administrator of the Environmental Protection Agency, the Secretary of Commerce, and other Federal, State, and local agencies, promulgate programmatic regulations to ensure that the goals and purposes of the Plan are achieved.

(B) CONCURRENCY STATEMENT- The Secretary of the Interior and the Governor shall, not later than 180 days from the end of the public comment period on proposed programmatic regulations, provide the Secretary with a written statement of concurrence or nonconcurrence. A failure to provide a written statement of concurrence or nonconcurrence within such time frame will be

deemed as meeting the concurrency requirements of subparagraph (A)(i). A copy of any concurrency or nonconcurrency statements shall be made a part of the administrative record and referenced in the final programmatic regulations. Any nonconcurrency statement shall specifically detail the reason or reasons for the nonconcurrency.

(C) CONTENT OF REGULATIONS-

(i) IN GENERAL- Programmatic regulations promulgated under this paragraph shall establish a process--

(I) for the development of project implementation reports, project cooperation agreements, and operating manuals that ensure that the goals and objectives of the Plan are achieved;

(II) to ensure that new information resulting from changed or unforeseen circumstances, new scientific or technical information or information that is developed through the principles of adaptive management contained in the Plan, or future authorized changes to the Plan are integrated into the implementation of the Plan; and

(III) to ensure the protection of the natural system consistent with the goals and purposes of the Plan, including the establishment of interim goals to provide a means by which the restoration success of the Plan may be evaluated throughout the implementation process.

(ii) LIMITATION ON APPLICABILITY OF PROGRAMMATIC REGULATIONS- Programmatic regulations promulgated under this paragraph shall expressly prohibit the requirement for concurrence by the Secretary of the Interior or the Governor on project implementation reports, project cooperation agreements, operating manuals for individual projects undertaken in the Plan, and any other documents relating to the development, implementation, and management of individual features of the Plan, unless such concurrence is provided for in other Federal or State laws.

(D) SCHEDULE AND TRANSITION RULE-

(i) IN GENERAL- All project implementation reports approved before the

date of promulgation of the programmatic regulations shall be consistent with the Plan.

(ii) PREAMBLE- The preamble of the programmatic regulations shall include a statement concerning the consistency with the programmatic regulations of any project implementation reports that were approved before the date of promulgation of the regulations.

(E) REVIEW OF PROGRAMMATIC

REGULATIONS- Whenever necessary to attain Plan goals and purposes, but not less often than every 5 years, the Secretary, in accordance with subparagraph (A), shall review the programmatic regulations promulgated under this paragraph.

(4) PROJECT-SPECIFIC ASSURANCES-

(A) PROJECT IMPLEMENTATION REPORTS-

(i) IN GENERAL- The Secretary and the non-Federal sponsor shall develop project implementation reports in accordance with section 10.3.1 of the Plan.

(ii) COORDINATION- In developing a project implementation report, the Secretary and the non-Federal sponsor shall coordinate with appropriate Federal, State, tribal, and local governments.

(iii) REQUIREMENTS- A project implementation report shall--

(I) be consistent with the Plan and the programmatic regulations promulgated under paragraph (3);

(II) describe how each of the requirements stated in paragraph (3)(B) is satisfied;

(III) comply with the National Environmental Policy Act of 1969 (42 U.S.C. 4321 et seq.);

(IV) identify the appropriate quantity, timing, and distribution of water dedicated and managed for the natural system;

(V) identify the amount of water to be reserved or allocated for the natural system necessary to implement, under State law, subclauses (IV) and (VI);

(VI) comply with applicable water quality standards and applicable water quality permitting requirements under subsection (b)(2)(A)(ii);

(VII) be based on the best available science; and

(VIII) include an analysis concerning the cost-effectiveness and engineering feasibility of the project.

(B) PROJECT COOPERATION

AGREEMENTS-

(i) **IN GENERAL-** The Secretary and the non-Federal sponsor shall execute project cooperation agreements in accordance with section 10 of the Plan.

(ii) **CONDITION-** The Secretary shall not execute a project cooperation agreement until any reservation or allocation of water for the natural system identified in the project implementation report is executed under State law.

(C) OPERATING MANUALS-

(i) **IN GENERAL-** The Secretary and the non-Federal sponsor shall develop and issue, for each project or group of projects, an operating manual that is consistent with the water reservation or allocation for the natural system described in the project implementation report and the project cooperation agreement for the project or group of projects.

(ii) **MODIFICATIONS-** Any significant modification by the Secretary and the non-Federal sponsor to an operating manual after the operating manual is issued shall only be carried out subject to notice and opportunity for public comment.

(5) SAVINGS CLAUSE-

(A) NO ELIMINATION OR TRANSFER- Until a new source of water supply of comparable quantity and quality as that available on the date of enactment of this Act is available to replace the water to be lost as a result of implementation of the Plan, the Secretary and the non-Federal sponsor shall not eliminate or transfer existing legal sources of water, including those for--

- (i) an agricultural or urban water supply;
- (ii) allocation or entitlement to the Seminole Indian Tribe of Florida under section 7 of the Seminole Indian Land Claims Settlement Act of 1987 (25 U.S.C. 1772e);
- (iii) the Miccosukee Tribe of Indians of Florida;
- (iv) water supply for Everglades National Park; or
- (v) water supply for fish and wildlife.

(B) MAINTENANCE OF FLOOD PROTECTION- Implementation of the Plan shall not reduce levels of service for flood protection that are--

- (i) in existence on the date of enactment of this Act; and
- (ii) in accordance with applicable law.

(C) NO EFFECT ON TRIBAL COMPACT-

Nothing in this section amends, alters, prevents, or otherwise abrogates rights of the Seminole Indian Tribe of Florida under the compact among the Seminole Tribe of Florida, the State, and the South Florida Water Management District, defining the scope and use of water rights of the Seminole Tribe of Florida, as codified by section 7 of the Seminole Indian Land Claims Settlement Act of 1987 (25 U.S.C. 1772e).

(i) DISPUTE RESOLUTION-

(1) IN GENERAL- The Secretary and the Governor shall within 180 days from the date of enactment of this Act develop an agreement for resolving disputes between the Corps of Engineers and the State associated with the implementation of the Plan. Such agreement shall establish a mechanism for the timely and efficient resolution of disputes, including--

- (A)** a preference for the resolution of disputes between the Jacksonville District of the Corps of Engineers and the South Florida Water Management District;
- (B)** a mechanism for the Jacksonville District of the Corps of Engineers or the South Florida Water Management District to initiate the dispute resolution process for unresolved issues;
- (C)** the establishment of appropriate timeframes and intermediate steps for the elevation of disputes to the Governor and the Secretary; and
- (D)** a mechanism for the final resolution of disputes, within 180 days from the date that the dispute resolution process is initiated under subparagraph (B).

(2) CONDITION FOR REPORT APPROVAL-

The Secretary shall not approve a project Implementation report under this section until the agreement established under this subsection has been executed.

(3) NO EFFECT ON LAW- Nothing in the agreement established under this subsection shall alter or amend any existing Federal or State law,

or the responsibility of any party to the agreement to comply with any Federal or State law.

(j) INDEPENDENT SCIENTIFIC REVIEW-

(1) IN GENERAL- The Secretary, the Secretary of the Interior, and the Governor, in consultation with the South Florida Ecosystem Restoration Task Force, shall establish an independent scientific review panel convened by a body, such as the National Academy of Sciences, to review the Plan's progress toward achieving the natural system restoration goals of the Plan.

(2) REPORT- The panel described in paragraph (1) shall produce a biennial report to Congress, the Secretary, the Secretary of the Interior, and the Governor that includes an assessment of ecological indicators and other measures of progress in restoring the ecology of the natural system, based on the Plan.

(k) OUTREACH AND ASSISTANCE-

(1) SMALL BUSINESS CONCERNS OWNED AND OPERATED BY SOCIALLY AND ECONOMICALLY DISADVANTAGED INDIVIDUALS- In executing the Plan, the Secretary shall ensure that small business concerns owned and controlled by socially and economically disadvantaged individuals are provided opportunities to participate under section 15(g) of the Small Business Act (15 U.S.C. 644(g)).

(2) COMMUNITY OUTREACH AND EDUCATION-

(A) IN GENERAL- The Secretary shall ensure that impacts on socially and economically disadvantaged individuals, including individuals with limited English proficiency, and communities are considered during implementation of the Plan, and that such individuals have opportunities to review and comment on its implementation.

(B) PROVISION OF OPPORTUNITIES- The Secretary shall ensure, to the maximum extent practicable, that public outreach and educational opportunities are provided, during implementation of the Plan, to the individuals of South Florida, including individuals with limited English proficiency, and in particular for socially and economically disadvantaged communities.

(l) REPORT TO CONGRESS- Beginning on October 1, 2005, and periodically thereafter until

October 1, 2036, the Secretary and the Secretary of the Interior, in consultation with the Environmental Protection Agency, the Department of Commerce, and the State of Florida, shall jointly submit to Congress a report on the implementation of the Plan. Such reports shall be completed not less often than every 5 years. Such reports shall include a description of planning, design, and construction work completed, the amount of funds expended during the period covered by the report (including a detailed analysis of the funds expended for adaptive assessment under subsection (b)(2)(C)(xi)), and the work anticipated over the next 5-year period. In addition, each report shall include--

(1) the determination of each Secretary, and the Administrator of the Environmental Protection Agency, concerning the benefits to the natural system and the human environment achieved as of the date of the report and whether the completed projects of the Plan are being operated in a manner that is consistent with the requirements of subsection (h);

(2) progress toward interim goals established in accordance with subsection (h)(3)(B); and

(3) a review of the activities performed by the Secretary under subsection (k) as they relate to socially and economically disadvantaged individuals and individuals with limited English proficiency.

(m) REPORT ON AQUIFER STORAGE AND RECOVERY PROJECT- Not later than 180 days after the date of enactment of this Act, the Secretary shall transmit to Congress a report containing a determination as to whether the ongoing Biscayne Aquifer Storage and Recovery Program located in Miami-Dade County has a substantial benefit to the restoration, preservation, and protection of the South Florida ecosystem.

(n) FULL DISCLOSURE OF PROPOSED FUNDING-

(1) FUNDING FROM ALL SOURCES- The President, as part of the annual budget of the United States Government, shall display under the heading 'Everglades Restoration' all proposed funding for the Plan for all agency programs.

(2) FUNDING FROM CORPS OF ENGINEERS CIVIL WORKS PROGRAM- The President, as part of the annual budget of the United States Government, shall display under the accounts

'Construction, General' and 'Operation and Maintenance, General' of the title 'Department of Defense--Civil, Department of the Army, Corps of Engineers--Civil', the total proposed funding level for each account for the Plan and the percentage such level represents of the overall levels in such accounts. The President shall also include an assessment of the impact such funding levels for the Plan would have on the budget year and long-term funding levels for the overall Corps of Engineers civil works program.

(o) SURPLUS FEDERAL LANDS- Section

390(f)(2)(A)(i) of the Federal Agriculture Improvement and Reform Act of 1996 (110 Stat. 1023) is amended by inserting after 'on or after the date of enactment of this Act' the following: 'and before the date of enactment of the Water Resources Development Act of 2000'.

(p) SEVERABILITY- If any provision or remedy provided by this section is found to be unconstitutional or unenforceable by any court of competent jurisdiction, any remaining provisions in this section shall remain valid and enforceable.

APPENDIX E: Water Resources Development Act of 2007

Title VI – Florida Everglades

SEC. 6001.

HILLSBORO AND OKEECHOBEE AQUIFER, FLORIDA.

(a) Modification- The project for Hillsboro and Okeechobee Aquifer, Florida, authorized by section 101(a)(16) of the Water Resources Development Act of 1999 (113 Stat. 276), is modified to authorize the Secretary to carry out the project at a total cost of \$42,500,000.

(b) Treatment- Section 601(b)(2)(A) of the Water Resources Development Act of 2000 (114 Stat. 2681) is amended--

- (1) in clause (i) by adding at the end the following: 'The project for aquifer storage and recovery, Hillsboro and Okeechobee Aquifer, Florida, authorized by section 101(a)(16) of the Water Resources Development Act of 1999 (113 Stat. 276), shall be treated for purposes of this section as being in the Plan, except that operation and maintenance costs of the project shall remain a non-Federal responsibility.'; and
- (2) in clause (iii) by inserting after 'subparagraph (B)' the following: 'and the project for aquifer storage and recovery, Hillsboro and Okeechobee Aquifer'.

SEC. 6002.

PILOT PROJECTS.

Section 601(b)(2)(B) of the Water Resources Development Act of 2000 (114 Stat. 2681) is amended--

- (1) in the matter preceding clause (i)--
- (A) by striking '\$69,000,000' and inserting '\$71,200,000'; and
- (B) by striking '\$34,500,000' each place it appears and inserting '\$35,600,000'; and
- (2) in clause (i)--
- (A) by striking '\$6,000,000' and inserting '\$8,200,000'; and
- (B) by striking '\$3,000,000' each place it appears and inserting '\$4,100,000'.

SEC. 6003.

MAXIMUM COSTS.

(a) Maximum Cost of Projects- Section 601(b)(2)(E) of the Water Resources Development Act of 2000 (114 Stat. 2683) is amended by inserting 'and section (d)' before the period at the end.

(b) Maximum Cost of Program Authority- Section 601(c)(3) of such Act (114 Stat. 2684) is amended by adding at the end the following:

'(C) MAXIMUM COST OF PROGRAM AUTHORITY- Section 902 of the Water Resources Development Act of 1986 (33 U.S.C. 2280) shall apply to the individual project funding limits in subparagraph (A) and the aggregate cost limits in subparagraph (B).'

SEC. 6004. CREDIT.

Section 601(e)(5)(B) of the Water Resources Development Act of 2000 (114 Stat. 2685) is amended--

- (1) in clause (i)--
- (A) by striking 'or' at the end of subclause (I);
- (B) by adding 'or' at the end of subclause (II); and
- (C) by adding at the end the following: '(III) the credit is provided for work carried out before the date of the partnership agreement between the Secretary and the non-Federal sponsor, as defined in an agreement between the Secretary and the non-Federal sponsor providing for such credit;'; and
- (2) in clause (ii)--
- (A) by striking 'design agreement or the project cooperation'; and
- (B) by inserting before the semicolon the following: ', including in the case of credit provided under clause (i)(III) conditions relating to design and construction'.

SEC. 6005.

OUTREACH AND ASSISTANCE.

Section 601(k) of the Water Resources Development Act of 2000 (114 Stat. 2691) is amended by adding at the end the following:

`(3) MAXIMUM EXPENDITURES- The Secretary may expend up to \$3,000,000 per fiscal year for fiscal years beginning after September 30, 2004, to carry out this subsection.'.

SEC. 6006.

CRITICAL RESTORATION PROJECTS.

Section 528(b)(3)(C) of the Water Resources Development Act of 1996 (110 Stat. 3769) is amended--

(1) in clause (i) by striking '\$75,000,000' and all that follows and inserting '\$95,000,000'; and
(2) by striking clause (ii) and inserting the following:

`(ii) FEDERAL SHARE-

`(I) IN GENERAL- Except as provided in subclause (II), the Federal

share of the cost of carrying out a project under subparagraph (A) shall not exceed \$25,000,000.

`(II) SEMINOLE WATER

CONSERVATION PLAN- The Federal share of the cost of carrying out the Seminole water conservation plan shall not exceed \$30,000,000.'.

SEC. 6007.

REGIONAL ENGINEERING MODEL FOR ENVIRONMENTAL RESTORATION.

(a) In General- The Secretary shall complete the development and testing of the regional engineering model for environmental restoration as expeditiously as practicable.

(b) Usage- The Secretary shall consider using, as appropriate, the regional engineering model for environmental restoration in the development of future water resource projects, including projects developed pursuant to section 601 of the Water Resources Development Act of 2000 (114 Stat. 2680).

APPENDIX F: South Florida Ecosystem Restoration Task Force Charter

SOUTH FLORIDA ECOSYSTEM RESTORATION TASK FORCE

Task Force Charter August 1, 1997

1. AUTHORIZATION. The South Florida Ecosystem Restoration Task Force was established by section 528(f) of Public Law 104-303, the Water Resources Development Act of 1996 (hereinafter referred to as the Act), enacted October 12, 1996.

2. DUTIES. The Task Force was established to:

a. Consult with, and provide recommendations to, the Secretary of the Army and the non-Federal project sponsor in developing a comprehensive plan for the purpose of restoring, preserving, and protecting the South Florida ecosystem, in accordance with sections 528(b)(1) and 528(f)(2)(A) of the Act.

b. Coordinate the development of consistent policies, strategies, plans, programs, projects, activities, and priorities for addressing the restoration, preservation, and protection of the South Florida ecosystem, as provided in section 528(f)(2)(B) of the Act. Such coordination shall include cooperation with the Secretary of the Army and the non-Federal project sponsor in determining whether a critical restoration project for the South Florida ecosystem will produce independent, immediate, and substantial restoration, preservation, and protection benefits, and will be generally consistent with the "Conceptual Plan for the Central and Southern Florida Project Restudy" prepared by the Governor's Commission for a Sustainable South Florida, in accordance with section 528(b)(3)(A) of the Act.

c. Exchange information regarding programs, projects, and activities of the agencies and entities represented on the Task Force to promote ecosystem restoration and maintenance, as provided in section 528(f)(2)(C) of the Act.

d. Establish a Florida-based working group to formulate, recommend, coordinate, and implement the policies, strategies, plans, programs, projects, activities, and priorities of the Task Force, in accordance with section 528(f)(2)(D) of the Act.

e. Facilitate the resolution of interagency and intergovernmental conflicts associated with the restoration of the South Florida ecosystem among agencies and entities represented on the Task Force, as provided in section 528(f)(2)(F) of the Act.

f. Coordinate scientific and other research associated with the restoration of the South Florida ecosystem, as provided in section 528(f)(2)(G) of the Act.

g. Provide assistance and support to agencies and entities represented on the Task Force in their restoration activities, as provided in section 528(f)(2)(H) of the Act.

h. Prepare an integrated financial plan and recommendations for coordinated budget requests for the funds proposed to be expended by agencies and entities represented on the Task Force for the restoration, preservation, and protection of the South Florida ecosystem, as provided in section 528(f)(2)(I) of the Act.

i. Submit a biennial report to Congress that summarizes the activities of the Task Force; the policies, strategies, plans, programs, projects, activities, and priorities planned, developed, or implemented for the restoration of the South Florida ecosystem; and progress made toward the restoration, as provided in section 528(f)(2)(J) of the Act.

3. POWERS. The Task Force may –

a. Establish advisory bodies as it deems necessary to assist the Task Force in its duties, including advisory bodies on public policy and scientific issues, in accordance with section 528(f)(2)(E)(i) of the Act.

b. Select as an advisory body any entity, such as the Governor's Commission for a Sustainable South Florida, that represents a broad variety of public and private interests, as provided in section 528(f)(2)(E)(ii) of the Act.

c. Seek advice and input from any interested, knowledgeable, or affected party as it determines necessary to perform its duties, as provided in section 528(f)(3)(B).

4. MEMBERSHIP.

a. The Task Force consists of 14 members, as follows, pursuant to section 528(f)(1) of the Act:

(1) Seven Federal members, each of whom may be represented by a designee at the level of assistant secretary or the equivalent:

(i) The Secretary of the Interior, who shall serve as chairperson.

(ii) The Secretary of Commerce.

(iii) The Secretary of the Army.

(iv) The Attorney General.

(v) The Administrator of the Environmental Protection Agency.

(vi) The Secretary of Agriculture.

(vii) The Secretary of Transportation.

(2) One member from each the following Indian Tribes, each of whom shall be appointed by the Secretary of the Interior based on the recommendations of the respective tribal chairman:

(i) The Seminole Tribe of Florida.

(ii) The Miccosukee Tribe of Indians of Florida.

(3) Two representatives of the State of Florida appointed by the Secretary of the Interior based on the recommendations of the Governor.

(4) One representative of the South Florida Water Management District appointed by the Secretary of the Interior based on the recommendations of the Governor.

(5) Two representatives of local government in the State of Florida to be appointed by the Secretary of the Interior based on the recommendations of the Governor.

b. There is no time limit for the term of any member. A person's membership shall terminate after leaving the office from which that member was appointed or designated. Any of the federal officials listed in subparagraph 4.a. (1), above, may at any time designate a substitute member at the level of assistant secretary or the equivalent. Any member appointed by the Secretary of the Interior based on the recommendation of the Governor may be removed or replaced by the Secretary of the Interior based on the recommendation of the Governor. Any member appointed by the Secretary of the Interior based on the recommendation of a tribal chairman may be removed or replaced by the Secretary of the Interior based on the recommendation of the chairman of the same Tribe.

c. Any vacancy on the Task Force shall be filled in the same manner in which the original appointment was made.

d. A member shall receive no additional compensation for service on the Task Force, in accordance with section 528(f) (4) of the Act.

5. ADMINISTRATION.

a. An Executive Director shall assist the Secretary of the Interior and the Task Force in carrying out their administrative and procedural duties, including the requirements in section 528(f)(3)(ii) of the Act. The Executive Director shall be appointed by the Secretary of the Interior, and shall be an employee of the United States Department of the Interior.

b. The Task Force will meet at the call of the Chairperson or of a majority of the members, but not less often than semi-annually.

c. A majority of the members then serving will constitute a quorum.

d. Travel expenses incurred by a member of the Task Force in the performance of services for the Task Force shall be paid by the agency, tribe, or government that the member represents, as provided in section 528(f)(5) of the Act.

e. The Task Force is not considered an advisory committee subject to the Federal Advisory Committee Act, and it may seek advice or input from interested, knowledgeable, or affected parties without being subject to the Federal Advisory Committee Act, pursuant to section 528(f)(3)(C) of the Water Resources Development Act of 1996.

f. The Task Force shall implement procedures to facilitate public participation in its functions. Those procedures shall include providing advance notice of meetings, providing adequate opportunity for public input and comment, maintaining appropriate records, and making a record of the proceedings of meetings available for public inspection, as required by section 528(f)(3)(A)(i) of the Act.

g. The Task Force may adopt principles and operational guidelines to set forth the required procedures for public participation and for any other purpose necessary or convenient for the accomplishment of the duties of the Task Force.

h. In the absence of procedures adopted by the Task Force, the Executive Director may establish protocols for accomplishment of the duties of the Task Force. The Executive Director will promptly notify all members of the protocols. Such protocols may be amended by the Task Force.

i. Nothing in this Charter shall be construed to prejudice the appointments of members already made pursuant to the Act, or the activities of the Task Force since October 12, 1996.

6. PERSONNEL.

a. The Executive Director shall provide staff support to the Task Force.

b. The Executive Director may be assisted by a permanent staff of the executive directorate;

personnel on temporary assignment to the executive directorate from agencies, governments, or tribes represented on the Task Force or the Working Group; by members of the Task Force or Working Group or the staffs of such members; or by contractors. The Task Force may authorize the Executive Director to request, from the head of any Federal agency not represented on the Task Force, personnel to be detailed to assist the Executive Director or the Task Force.

7. TERMINATION. The Task Force shall continue to exist only for so long as it is authorized by Federal law.

Signed By:
Secretary of the Interior - Bruce Babbitt



Coordinating Success and Tracking Success

For further information on this document please contact:

**South Florida Restoration Task Force
Office of the Executive Director
c/o Florida International University
OE Building, Room 165, University Park Campus
Miami, Florida 33199**

Phone: (305) 348-1665 Fax: (305) 348-1667

Marsha Bansee Lee

**For more information on the
South Florida Ecosystem Restoration Program
or to view this document on-line, please visit
<http://www.sfrestore.org>**



Coordinating and Tracking Success

Coordinating Success

Strategy for Restoration of the South Florida Ecosystem

Tracking Success

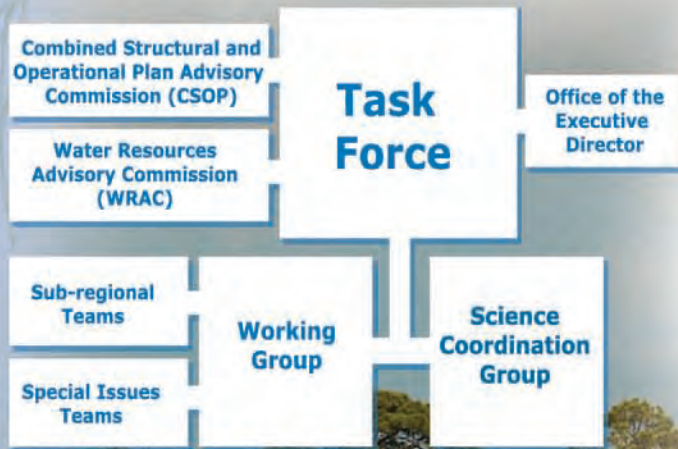
Biennial Report for FY 2006-2008 of the
South Florida Ecosystem Restoration Task Force
Integrated Financial Plan

to the
U.S. Congress,
Florida Legislature,
Seminole Tribe of Florida
and Miccosukee Tribe
of Indians of Florida

Volume 2
of 2



South Florida Ecosystem Restoration Organization



Task Force

- U.S. Department of the Interior (Chair)
- U.S. Department of Agriculture
- U.S. Department of the Army
- U.S. Department of Commerce
- U.S. Department of Justice
- U.S. Department of Transportation
- U.S. Environmental Protection Agency
- Miccosukee Tribe of Indians of Florida
- Seminole Tribe of Florida
- Florida Department of Environmental Protection
- South Florida Water Management District
- Florida Governor's Office
- Two Local Governments - Cities of Sweetwater and South Bay

Working Group

- U.S. Department of the Interior: National Park Service, Bureau of Indian Affairs, U.S. Fish & Wildlife, U.S. Geological Survey; U.S. Department of Agriculture: Natural Resources Conservation Service; U.S. Department of the Army: U.S. Army Corps of Engineers; U.S. Department of Commerce: National Oceanic and Atmospheric Administration, National Marine Fisheries Service, National Ocean Service; Florida Keys National Marine Sanctuary; U.S. Department of Justice; U.S. Environmental Protection Agency; U.S. Department of Transportation; Miccosukee Tribe of Indians of Florida; Seminole Tribe of Florida;
- State of Florida: Florida Office of the Governor, Florida Department of Environmental Protection, South Florida Water Management District, Florida Fish and Wildlife Conservation Commission, Florida Department of Community Affairs, Florida Department of Agriculture and Consumer Services, Florida Department of Transportation.
- No more than five representatives of local governments or regional planning councils.

Science Coordination Group

- U.S. Department of the Interior: National Park Service, U.S. Fish and Wildlife, U.S. Geological Survey; U.S. Department of Agriculture: Natural Resources Conservation Service, Agricultural Research Service; U.S. Department of Commerce: National Oceanic and Atmospheric Administration, National Marine Fisheries Service - SEFSC, Ocean and Atmospheric Research - AOML; U.S. Department of the Army: U.S. Army Corps of Engineers; U.S. Environmental Protection Agency; Miccosukee Tribe of Indians of Florida; Seminole Tribe of Florida; Florida Fish and Wildlife Conservation Commission; Florida Department of Agriculture and Consumer Services; Florida Department of Environmental Protection; South Florida Water Management District; Miami-Dade Department of Environmental Resource Management; Palm Beach County; Florida Atlantic University.

South Florida Ecosystem Restoration Task Force

Volume 2

COORDINATING SUCCESS 2008:

Strategy for Restoration of the South Florida Ecosystem

and

TRACKING SUCCESS:

Biennial Report of the South Florida Ecosystem Restoration Task Force for

July 2006 – June 2008

To the U.S. Congress, Florida Legislature,
Seminole Tribe of Florida, and
Miccosukee Tribe of Indians of Florida

*This is Volume 1 of a two-volume report.
Volume 1 contains the coordination strategy and biennial report of
the South Florida Ecosystem Restoration Task Force.
Volume 2 contains the Integrated Financial Plan,
including descriptions of all the individual projects that
participating entities have identified as
supporting ecosystem restoration.*

*Both volumes combine information from federal, state, tribal, and
local agencies and therefore do not strictly follow any single agency's format*

THIS PAGE INTENTIONALLY LEFT BLANK

Volume I — Table of Contents

xv EXECUTIVE SUMMARY

COORDINATING SUCCESS 2008: Strategy for Restoration of the South Florida Ecosystem

2 STRATEGY PURPOSE AND BACKGROUND

2 Purpose

2 Who Is Involved: The South Florida Ecosystem Restoration Task Force

4 Brief History of South Florida Ecosystem Management

8 What Is at Stake

RESTORATION STRATEGY

9 Guiding Principles

11 Task Force Roles in the Coordination of the Restoration Effort

VISION AND INDICATORS OF SUCCESS

13 Vision

13 Indicators of Success

STRATEGIC GOALS AND OBJECTIVES

22 GOAL 1: Get the Water Right

32 GOAL 2: Restore, Preserve, and Protect Natural Habitats and Species

43 GOAL 3: Foster Compatibility of the Built and Natural Systems

57 Linkages between Strategic Work Efforts and Ecosystem Restoration

TRACKING SUCCESS: Biennial Report of the South Florida Ecosystem Restoration Task Force

62 BIENNIAL REPORT BACKGROUND AND PURPOSE

62 Background

63 Purpose

64 ACTIVITIES, PRIORITIES, POLICIES, STRATEGIES, PLANS, PROGRAMS, AND PROJECTS:

JULY 2006 THROUGH JUNE 2008

64 Intergovernmental Coordination

65 Coordination of Strategic Science Issues

66 Exchange of Information

67 Facilitation and Conflict Resolution

68 Public Participation and Access

69 CERP Programs and Projects

77 GOAL 1: Accomplishments: Getting the Water Right

93 GOAL 2: Accomplishments: Restoring, Preserving, and Protecting Natural Habitats and Species

105 GOAL 3: Accomplishments: Fostering Compatibility of the Built and Natural Systems

121 MEASURING PROGRESS TOWARD RESTORATION

APPENDICES

149 Appendix A: Integrated Financial Plan

167 Appendix B: Total Cost Estimate

171 Appendix C: An Additional View of the Miccosukee Tribe of Indians of Florida

185 Appendix D: Water Resources Development Act of 2000, Title VI, Section 601
Comprehensive Everglades Restoration Plan

195 Appendix E: Water Resources Development Act of 2007
Title VI – Florida Everglades

197 Appendix F: South Florida Ecosystem Restoration Task Force Charter

Volume I — Tables

COORDINATING SUCCESS 2008: Strategy for Restoration of the South Florida Ecosystem

- 6 Strategic Plan Table 1 – Significant Events in South Florida Ecosystem Management
- 14 Strategic Plan Table 2 – Task Force System-wide Indicators for 2008
- 26 Strategic Plan Table 3 – Subgoal 1-A: Get the Hydrology Right
- 31 Strategic Plan Table 4 – Subgoal 1-B: Get the Water Quality Right
- 35 Strategic Plan Table 5 – Subgoal 2-A: Restore, Preserve, and Protect Natural Habitats
- 43 Strategic Plan Table 6 – Subgoal 2-B: Control Invasive Exotic Plants and Animals
- 51 Strategic Plan Table 7 – Subgoal 3-A: Use and Manage Land in a Manner
Compatible with Ecosystem Restoration
- 54 Strategic Plan Table 8 – Subgoal 3-B: Maintain or Improve Flood Protection in a Manner
Compatible with Ecosystem Restoration
- 56 Strategic Plan Table 9 – Subgoal 3-C: Provide Sufficient Water Resources for Built and Natural Systems

TRACKING SUCCESS: Biennial Report 2006 – 2008

- 81 Biennial Report Table 1 – Surface Water Storage
- 83 Biennial Report Table 2 – Research conducted at LILA
- 84 Biennial Report Table 3 – ASR Water Storage
- 86 Biennial Report Table 4 – Impediments to Flow
- 90 Biennial Report Table 5 – Acres of Stormwater Treatment Areas
- 91 Biennial Report Table 6 – Plans for Impaired Waters to Comply with TMDLs
- 94 Biennial Report Table 7 – Land Acquisition for Habitat Protection
- 96 Biennial Report Table 8 – Land Acquisition Expenditures Summary
- 97 Biennial Report Table 9 – Protect Coral Reefs
- 99 Biennial Report Table 10 – Improve Habitat Quality
- 102 Biennial Report Table 11 – Maintenance Control of Invasive Species on Public Lands
- 103 Biennial Report Table 12 – Biological Control of Invasive Species
- 104 Biennial Report Table 13 – Achieving Eradication of Gambian Pouch Rat
- 107 Biennial Report Table 14 – Florida Greenways and Trails Program
- 108 Biennial Report Table 15 – Additional Park, Recreation, and Open Space Land
- 109 Biennial Report Table 16 – Participation in Voluntary Farm Bill Conservation Programs
- 109 Biennial Report Table 17 – Farm Bill Accomplishments
- 110 Biennial Report Table 18 – Comprehensive Plan Compatibility
- 111 Biennial Report Table 19 – Increase Community Understanding
- 116 Biennial Report Table 20 – Flood Protection
- 117 Biennial Report Table 21 – Herbert Hoover Dike
- 118 Biennial Report Table 22 – Regional Water Supply
- 119 Biennial Report Table 23 – Water Reuse
- 119 Biennial Report Table 24 – SFWMD Water Reuse, 2006
- 120 Biennial Report Table 25 – Alternative Water Supplies
- 120 Biennial Report Table 26 – SFWMD Alternative Water Supply Program Achievements, 2007
- 123 Biennial Report Table 27 – Task Force System-wide Indicators for 2008

All photos in this document are provided courtesy the South Florida Water Management District, U.S. Army Corps of Engineers or U.S. Department of the Interior.

Volume 2 — Table of Contents

TRACKING SUCCESS: 2008 Integrated Financial Plan (IFP)

1	Purpose
1	Background
1	Criteria and Assumptions
3	How to Use the IFP Project Summary Table
4	2008 Integrated Financial Plan Summary
18	Strategic Goals and Objectives Reference Guide
21	Goal 1 Project Data Sheets
153	Goal 2 Project Data Sheets
261	Goal 3 Project Data Sheets
297	Completed Projects

Integrated Financial Plan

2008 Integrated Financial Plan

Purpose

In 1996 Congress directed the Task Force to prepare an Integrated Financial Plan (IFP) for the restoration, preservation and protection of the South Florida Ecosystem. The IFP is updated annually and posted on the South Florida Ecosystem Restoration Task Force website. Every two years it is published along with the Task Force Strategy and Biennial Report.

The purpose of the IFP is to provide detailed information about the federal, state, tribal and local restoration projects that contribute to the accomplishment of the vision, goals, subgoals, and objectives of the Task Force Strategy for restoration of the South Florida Ecosystem.

Background

The overall premise of restoration is that the ecosystem must be managed from a systemwide perspective. Rather than dealing with issues independently, the challenge is to seek out the interrelationships that exist between all the components of the ecosystem. The same issues that are critical to the natural environment — getting the water right and restoring, preserving, and protecting diverse habitats and species — are equally critical to maintaining a quality built environment and lifestyle for South Florida's residents and visitors.

The success of this comprehensive approach will depend upon the coordination and integration of hundreds of individual restoration projects carried out by various agencies at all levels of government, and with input from many stakeholders. Each agency brings its own authority, jurisdiction, capabilities, and expertise to this initiative and applies them through its individual programs, projects, and activities.

Criteria and Assumptions

The IFP is a compilation of project specific information provided by the members of the Task Force. The cost estimating protocols, fiscal year cycles, time frames and methodologies used by the members vary widely. As such, the IFP reflects the criteria and assumptions used by the reporting Task Force entities and do not follow a single format.

Specific criteria and assumptions for each project are annotated with footnotes.

For policy reasons, the Florida Department of Environmental Protection (FDEP) and SFWMD do not make individual project cost projections on future non-CERP land acquisitions for habitat preservation and conservation purposes listed under Goal 2. The cost of lands already purchased for habitat preservation and conservation purposes are the actual costs. An estimate of future land costs for non-CERP Goal 2 land acquisition is provided in the Total Cost Estimate in Appendix B of the 2008 edition of the Coordinating Success Volume 1 document.

The following criteria and assumptions apply to all of the project financial information as provided in the Task Force's 2008 Integrated Financial Plan:

- Federal agencies and the South Florida Water Management District (SFWMD) operate and report financial activities on an October 1 to September 30 fiscal year, while other State of Florida agencies operate on a July 1 to June 30 fiscal year.
- Generally the U.S. Army Corps of Engineers (USACE), in seeking project authorizations, uses current year dollars to develop cost estimates, as provided in appropriate authorizing documents. Once a project is authorized, the USACE uses OMB inflation indices to price level estimated project costs to current year dollars, and then inflates to mid-point of construction based on the current schedule to produce a fully funded project cost estimate. Estimated project costs are updated annually using the OMB directed inflation indices (prepared each October) and current schedules.
- USACE project costs are reported as follows:
 - a) CERP: The Project Implementation Report (PIR) is the decision document used to obtain approval and/or authorization of CERP projects and completion of the final PIR is normally the time when all costs are updated. Prior to the development of a final PIR, project cost estimates assume a 50% Federal and 50 % Non-Federal cost share and are reported in 2007 dollars that have been updated using the OMB inflation indices. None of the CERP projects are fully funded.

b) Central & Southern Florida (C&SF) C-111 (South Dade), C&SF West Palm Beach STA 1 East/ C-51 West, Kissimmee River Restoration, Everglades and South Florida Ecosystem Restoration Critical Projects costs are reported in 2007 dollars, fully funded.

c) Southwest Florida Feasibility Study: Study cost estimate is reported based on amended Feasibility Cost Sharing Agreement (FCSA) increasing the total study cost estimate to \$17M.

d) Florida Bay/Florida Keys Feasibility Study: study cost estimate is reported in 2001 price levels per the Master Implementation Sequencing Plan (MISP) with an estimated study cost of \$6.3M.

- The SFWMD project costs are reported as follows:

a) Lake Okeechobee Protection Plan – project cost estimate is reported in 2007 dollars as approximately \$1.4 billion dollars, not including the CERP Lake Okeechobee Watershed Project.

These costs include the Lake Okeechobee expedited projects being implemented as part of the Northern Everglades Project, full implementation of BMP's throughout the entire Lake Okeechobee watershed, and on going in-lake restoration activities, monitoring, research, and exotics removal. These costs are being re-evaluated and adjusted in response to the Northern Everglades Program initiative.

b) Long Term Plan Projects – project cost estimates are escalated values and are derived from construction industry-accepted cost databases and compared with similar previous SFWMD completed projects. Escalated value is defined as the value of when that component is expected to be constructed, including the estimated cost of inflation.

c) October, 2004 Expedited Projects – Project cost estimates are updated as each project progresses through the design process. Each updated cost estimate is reported as the present day value at the time the estimate is performed.

Contingencies are included in each estimate with larger contingencies (30%) used during early stages of the design phase and smaller contingencies (10%) used at the final design phase. The contingencies are intended to account for cost escalation due to inflation.

- Reporting agencies needed to presume annual levels of Congressional and State of Florida appropriations to develop project completion schedules. If the actual appropriations vary from presumed levels, then project completion schedules and estimated projects costs may change.
- Federal project execution is contingent upon Administration priorities and subject to available appropriations.
- The Project Summary Table and IFP do not include operational costs or agency programmatic costs that would be incurred regardless of the restoration initiatives. For example, the National Park Service costs to operate and maintain Everglades National Park, Fish and Wildlife Service costs to provide for Endangered Species Act consultation and South Florida Water Management District costs to operate and maintain water delivery infrastructure are not included herein.
- The Project Summary Table and IFP do not include the costs of land development and associated infrastructure as well as infrastructure improvements in existing urban areas including but not limited to redeveloping declining urban areas, wastewater and storm water management systems construction and improvements, schools, roadways, utilities, government services, and light rail.
- The Project Summary Table and IFP do not include any costs or future resource needs projected for environmental and system-wide monitoring programs (For example, the \$100 million funded over ten years for the CERP monitoring programs is not included).
- The Project Summary Table and IFP do not include any post-construction operations and maintenance costs in the total financial requirement.

HOW TO USE THE IFP PROJECT SUMMARY TABLE

The Integrated Financial Plan Summary Table provides a great deal of useful information for those interested in project details at a glance and describes how the projects link to the overall strategic goals, subgoals and objectives of the Task Force. This same table is repeated in Volume 1, Appendix A.

Each column of the table has a specific purpose to assist in finding information quickly and aggregating different information components:

Column 1	identifies the goal and subgoal the project is designed to achieve or partially achieve.	Column 4	identifies the lead agency.
Column 2	assigns a unique project number linked to the Task Force goals, subgoals, and objectives. The first digit is a goal number (1, 2, or 3). The second digit is the subgoal/objective number. For the purpose of assigning project numbers, the objectives under each goal have been numbered consecutively regardless of their subgoal. For example, project 1104 would be a project that supports objective 1-A.1. The third and fourth digits reflect the order of listing of the projects under each subgoal/objective. For example, project 1104 would be the 4th project on the list for that objective.	Columns 5 and 6	identify the reported start and Completion dates.
Column 3	is the project name. The staff strives to use the same project name used by all agencies or officially approved in joint Guidance Memorandums, although at times this is quite challenging. Some of the project names changed from year to year as projects are grouped together or split apart in the CERP adaptive management process. For example the Lake Istokpoga Project, which was a separate project in 2002, has since been included in the Lake Okeechobee Watershed Project. These types of actions affect the restoration endpoints and total outputs measured by some of the objectives, and as a result some of the restoration endpoints have changed.	Column 7	identifies the current estimated financial requirements.
		Column 8	identifies the financial resources appropriated as of June 30, 2008 unless otherwise noted.
		Column 9	identifies the measurable output (e.g., acre-feet of storage, miles modified, etc.) that collectively add up to the restoration endpoint identified for achieving the objectives of each subgoal.
		Columns 10 and 11	identify the primary and secondary objectives that the project outputs support. The staff identified the primary and secondary objectives based on input from the reporting agency. Some projects provide outputs supporting more than one objective. Thus, they are listed in more than one section with different outputs. For example, the Lake Okeechobee Watershed Project (project 1104) provides acres of stormwater treatment for Objective 1.B.1 and acre-feet of storage for Objective 1.A.1. Such projects are numbered according to the primary objective identified for the project, and the same number is maintained when the project is repeated to identify the secondary benefit.
		Column 12	identifies the page number in Volume 2 where the detailed project sheet can be located.

Goals	SP Project Number	Project Name	Lead Agency	Start	End	Financial Requirement	Appropriated thru FY08	Measurable Outputs	Primary Objective	Secondary Objective (s)	Pg#
Column 1	Column 2	Column 3	Column 4	Column 5	Column 6	Column 7	Column 8	Column 9	Column 10	Column 11	Col. 12
GOAL 1. GET THE WATER RIGHT											
1.A.1	SURFACE WATER STORAGE PROJECTS										
	1101	C&SF: CERP Indian River Lagoon-South Storage Reservoirs (UU P1 & UU P2), and C-44 Basin Storage Reservoir (B) (CERP Project WBS # 07)	USACE/ SFWMD	2002	2023	\$1,566,300,000	\$16,274,000	135,000	1.A.1	1.B.1/2.A.3	23
	1102	C&SF: CERP Everglades Agricultural Area Storage Reservoir(s) (G P1 & G P2) (CERP Project WBS # 08)	USACE/ SFWMD	2001	2015	\$615,600,000	\$20,921,000	360,000	1.A.1		28
	1104	C&SF: CERP Lake Okeechobee Watershed (A, W; OPEs: LOWQTF, LOTSD, LIRS) (CERP Project WBS # 01)	USACE/ SFWMD	2001	2015	\$669,000,000	\$23,904,000	272,823	1.A.1	1.B.1/2.A.3	32
	1105	C&SF: CERP North Lake Belt Storage Area (XX P2) (CERP Project WBS # 25)	USACE/ SFWMD	2017	2036	\$327,400,000	\$0	90,000	1.A.1		36
	1106	C&SF: CERP Palm Beach County Agriculture Reserve Reservoir -Part 1 (VV P1) (CERP Project WBS # 20)	USACE/ SFWMD	2006	2017	\$112,500,000	\$5,245,000	20,000	1.A.1		38
	1107	C&SF: CERP Site 1 Impoundment (M P1) a/k/a Site 1 Impoundment (Fran Reich Preserve) (CERP Project WBS # 40)	USACE/ SFWMD	2004	2013	\$88,800,000	\$7,621,000	13,280	1.A.1	2.A.3	39
	1109	C&SF: CERP C-43 Basin Storage Reservoir -Part 1 (D P1) [Caloosahatchee River (C-43) West Basin Storage Reservoir (PIR #1); Caloosahatchee Watershed (PIR #2)] (CERP Project WBS # 04)	USACE/ SFWMD	2001	2013	\$303,200,000	\$11,450,000	170,000	1.A.1		43
	1110	C&SF: CERP Central Lake Belt Storage Area (SP1 & SP2) (EEE) (CERP Project WBS # 26)	USACE/ SFWMD	2026	2036	\$648,469,000	\$0	190,000	1.A.1	1.B.1	46
	1111	E&SF: Critical Projects - Ten Mile Creek	USACE/ SFWMD	1997	TBD	\$39,335,000	\$39,335,000	6,000	1.A.1	2.A.3	48
	1112	Taylor Creek Reservoir – Expedited Project – The SFWMD is implementing as part of Northern Everglades Project	SFWMD	2005	2015	Footnote 2	\$3,798,000	32,000	1.A.1		50
	1113	C&SF: CERP Water Preserve Area Conveyance (XX P1) (CERP Project WBS # 49)	USACE/ SFWMD	2002	2014	\$327,104,000	\$10,170,000	90,000	1.A.1		51
	1114	C&SF: CERP Everglades National Park Seepage Management (V) (FF) (BB) (U) (CERP Projects WBS # 27 and # 43)	USACE/ SFWMD	2004	2017	\$473,500,000	\$3,797,000	11,500	1.A.1		52
	1115	C&SF: CERP North Palm Beach County-- Part 1 (X) (Y) (GGG) (K P1) (OPE) (CERP Project WBS # 17) (Formerly Project ID 1503)	USACE/ SFWMD	2001	2015	\$656,600,000	\$11,649,000	48,000	1.A.1	1.B.1	55

Goals	SP Project Number	Project Name	Lead Agency	Start	End	Financial Requirement	Appropriated Date	Measurable Outputs	Primary Objective	Secondary Objective (s)	Pg#
Column 1	Column 2	Column 3	Column 4	Column 5	Column 6	Column 7	Column 8	Column 9	Column 10	Column 11	Col. 12
	1116	C&SF: CERP Broward County (WPA) Water Preserve Areas (R) (Q) (O) [Broward County WPA - C-9 Stormwater Treatment Area/Impoundment (R) and Western C-11 Diversion Impoundment and Canal (Q) and Water Conservation Areas 3A and 3B Levee Seepage Management (O)] (CERP Project WBS # 45) (Formerly Project ID 1501)	USACE/ SFWMD	2002	2017	\$841,700,000	\$15,748,000	11,648	1.A.1	2.A.3	59
	2100	Allapattah Flats/Ranch	FDEP	1997	TBD	Footnote 1	Footnote 1	32,000			155
1.A.2.		ALTERNATIVE WATER STORAGE SYSTEMS PROJECTS									
	1200	C&SF: CERP North Palm Beach County - Part 2 (LL) (K P2) (CERP Project WBS # 18)	USACE/ SFWMD	2009	2019	\$273,000,000	\$0	0.220	1.A.2		63
	1201	C&SF: CERP Lake Okeechobee ASR (GG P1, GG P2, GG P3) (CERP Project WBS # 03)	USACE/ SFWMD	2010	2027	\$1,906,800,000	\$0	1.000	1.A.2		65
	1202	C&SF: Hillsboro ASR Phase 2 (M P2) (CERP Project WBS # 22)	USACE/ SFWMD	2014	2024	\$120,600,000	\$0	0.150	1.A.2		67
	1203	C&SF: CERP ASR Regional Study (CERP Project WBS # 44)	USACE/ SFWMD	2003	2017	\$81,200,000	\$16,003,000		1.A.2		69
	1204	C&SF: CERP PBC Agriculture Reserve Aquifer Storage & Recovery -- Part 2 (VV P2) (CERP Project WBS # 21)	USACE/ SFWMD	2010	2020	\$52,300,000	\$0	0.075	1.A.2		71
	1205	C&SF: CERP Caloosahatchee River Aquifer Storage and Recovery (ASR)-- Part 2 (D P2) (CERP Project WBS # 05)	USACE/ SFWMD	2010	2019	\$362,300,000	\$0	0.220	1.A.2		72
1.A.3		MODIFY IMPEDIMENTS TO SHEETFLOW PROJECTS									
	1300	C&SF: C-111 (South Dade)	USACE/ SFWMD	1994	2014	\$382,000,000	\$149,841,000	4.75	1.A.3	3.B.1	74
	1301	C&SF: CERP WCA -3Decomartmentalization and Sheetflow Enhancement (AA) (QQ P1 & QQ P2) (SS) (ZZ) (CERP Projects WBS # 12, # 13 and # 47)	USACE/ SFWMD	2001	2019	\$325,300,000	\$13,889,000	240	1.A.3		76
	1302	C&SF: CERP Florida Keys Tidal Restoration (OPE) (CERP Project WBS # 31)	USACE/ SFWMD	2001	2018	\$15,100,000	\$1,506,000	0.6	1.A.3		80
	1303	E&SF: Critical Projects - Southern CREW	USACE/ SFWMD	1999	2015	\$60,104,000	\$34,716,000		1.A.3	2.A.3	82
	1306	Kissimmee River Restoration Project	USACE/ SFWMD	1994	2013	\$634,000,000	\$260,363,000	31	1.A.3	2.A.3	84
	1307	Modified Water Deliveries to Everglades National Park (Footnote 3)	NPS	1990	2013	\$523,016,000	\$322,367,000	21	1.A.3	2.A.3	86
	1308	E&SF: Critical Projects-Additional Water Conveyance Structures Under Tamiami Trail (Formerly Project ID 1400)	USACE/ SFWMD	2003	2011	\$16,506,000	\$3,314,000	16			89

Goals	SP Project Number	Project Name	Lead Agency	Start	End	Financial Requirement	Appropriated Date	Measurable Outputs	Primary Objective	Secondary Objective (s)	Pg#
Column 1	Column 2	Column 3	Column 4	Column 5	Column 6	Column 7	Column 8	Column 9	Column 10	Column 11	Col. 12
	1520	Long-Term Plan for Achieving Everglades Water Quality Goals (Formerly project ID 1723)	SFWMD	2004	2016	Footnote 1	Footnote 1	8.5	1.B.1		140
		Completed Projects									
	1305	Kissimmee Prairie	FDEP/ SFWMD	1996	1997	Footnote 1	Footnote 1	39.3	1.A.3	2.A.1	299
		OTHER RELATED HYDROLOGY PROJECTS									
	1401	Biscayne Bay Feasibility Study	USACE/ M-DADE	1996	2010	\$6,370,000	\$1,643,000				91
	1403	C&SF: CERP Broward County Secondary Canal System (CC) (CERP Project WBS # 24)	USACE/ SFWMD	2001	2016	\$19,100,000	\$62,000				92
	1408	C&SF: CERP Loxahatchee National Wildlife Refuge Internal Canal Structures (KK) (CERP Project WBS # 14)	USACE/ SFWMD	2004	2020	\$9,600,000	\$49,000				93
	1409	C&SF: CERP Seminole Tribe Big Cypress Water Conservation Plan (CERP Project WBS # 96)	USACE/ Seminole Tribe	2015	2022	\$127,700,000	\$0				94
	1411	C&SF: CERP Caloosahatchee (C-43) River Basin ASR Pilot (CERP Project WBS # 33)	USACE/ SFWMD	2001	2012	\$8,928,000	\$3,271,000				96
	1412	C&SF: CERP WCA 2B Flows to Everglades National Park (YY) (CERP Project WBS # 48)	USACE/ SFWMD	2005	2025	\$95,950,000	\$284,000				98
	1416	C&SF: CERP L-31N Seepage Management Pilot (V) (CERP Project WBS # 36)	USACE/ SFWMD	2001	2010	\$15,000,000	\$6,714,000				100
	1417	C&SF: CERP Lake Belt (In-Ground Reservoir) Technology - Pilot (CERP Project WBS # 35)	USACE/ SFWMD	2001	2017	\$27,800,000	\$1,919,000				102
	1418	C&SF: CERP Lake Okeechobee Aquifer Storage and Recovery Pilot (CERP Project WBS # 32)	USACE/ SFWMD	2001	2012	\$33,131,000	\$20,174,000				103
	1419	C&SF: CERP Lake Okeechobee Regulation Schedule (LORS)	USACE/ SFWMD	TBD	TBD	TBD	\$0				105
	1420	C&SF: CERP Modify Holey Land Wildlife Management Area Operation Plan (DD) (CERP Project WBS # 15)	USACE/ SFWMD	2007	2011	TBD	\$0				106
	1421	C&SF: CERP Modify Rotenberger Wildlife Management Area Operation Plan (EE) (CERP Project WBS # 16)	USACE/ SFWMD	2007	2011	TBD	\$0				107
	1422	C&SF: CERP CSOP Operational Modification to Southern Portion of L-31N and C-111 (OO) (CERP related Project)	USACE/ SFWMD	TBD	TBD	TBD	\$0				108
	1423	C&SF: CERP Hillsboro Aquifer Storage and Recovery Pilot (CERP Project WBS # 34)	USACE/ SFWMD	2000	2009	\$9,369,000	\$4,882,000				109

Goals	SP Project Number	Project Name	Lead Agency	Start	End	Financial Requirement	Appropriated Date	Measurable Outputs	Primary Objective	Secondary Objective (s)	Pg#
Column 1	Column 2	Column 3	Column 4	Column 5	Column 6	Column 7	Column 8	Column 9	Column 10	Column 11	Col. 12
	1425	E&SF: Critical Projects - Seminole Big Cypress	yup	1997	2011	\$59,830,942	\$39,850,000				111
	1426	C&SF: CERP Florida Bay Florida Keys Feasibility Study (CERP Study)	USACE	2001	2012	\$6,300,000	\$5,944,000				113
	1431	C&SF: CERP Southwest Florida Feasibility Study (CERP Study)	USACE/ SFWMD	2001	2010	\$17,000,000	\$13,490,000				115
	1435	C&SF: CERP C-4 Control Structures (T) (CERP Project WBS # 46)	USACE/ SFWMD	2004	2013	\$3,400,000	\$113,000				117
	1436	Permanent Forward Pumps – Expedited Project –The SFWMD is implementing as part of Northern Everglades Project	SFWMD	2006	2010	\$135,000,000	\$12,200,000				118
	1437	C&SF: CERP PLA/Information and Data Management	USACE/ SFWMD	2000	TBD	PLA Budget	\$25,250,000				119
	1438	C&SF: CERP PLA/Interagency Modeling Center	USACE/ SFWMD	2000	TBD	PLA Budget	\$30,945,000				120
	1439	C&SF: CERP PLA/Environmental and Economic Equity	USACE/ SFWMD	2000	TBD	PLA Budget	\$1,200,000				121
	1440	C&SF: CERP PLA/Master Recreation Plan (MRP)	USACE/ SFWMD	2000	TBD	PLA Budget	\$1,753,000				123
	1441	C&SF: CERP PLA/Restoration Coordination and Verification (RECOVER)	USACE/ SFWMD	2000	TBD	PLA Budget	\$33,694,000				124
		Completed Projects:									
	1406	E&SF: Critical Projects - East Coast Canal Structures (C-4)	USACE/ SFWMD	1999	2003	\$3,683,000	\$3,683,000				300
	1428	Indian River Lagoon Restoration Feasibility Study	USACE/ SFWMD	1996	2002	\$6,150,000	\$6,150,000				301
Sub-Goal 1.B GET THE WATER QUALITY RIGHT											
1.B.1		STORMWATER TREATMENT AREA (STA) PROJECTS						ACRES			
	1500	C&SF: CERP Big Cypress/L-28 Interceptor Modifications (CCC) (CERP Project WBS # 10)	USACE/ SFWMD	2015	2019	\$68,300,000	0	1,900	1.B.1		126
	1502	C&SF: CERP Miccosukee Tribe Water Management Plan (OPE) (CERP Project WBS # 90)	USACE / Miccosukee Tribe	2003	2016	\$30,700,000	0	900	1.B.1		128
	1505	C&SF: CERP Caloosahatchee Backpumping with Stormwater Treatment (DDD) (CERP Project WBS # 06)	USACE/ SFWMD	2011	2018	\$133,000,000	0	5,000	1.B.1		129
	1506	E&SF: Critical Projects - Lake Okeechobee Water Retention/ Phosphorus Removal	USACE/ SFWMD	1997	2009	\$21,902,000	\$17,005,000	940	1.B.1		131
	1513	C&SF: West Palm Beach Canal STA-1E / C-51 West	USACE/ SFWMD	1994	2013	\$319,800,000	\$300,521,000	6,500	1.B.1		133

Goals	SP Project Number	Project Name	Lead Agency	Start	End	Financial Requirement	Appropriated Date	Measurable Outputs	Primary Objective	Secondary Objective (s)	Pg#
Column 1	Column 2	Column 3	Column 4	Column 5	Column 6	Column 7	Column 8	Column 9	Column 10	Column 11	Col. 12
	1514A	State Expedited project includes Agricultural Area (EAA) Stormwater Treatment Areas (STAs) Expansion	SFWMD	2009	2011	Footnote 2	\$94,362,923	18,000	1.B.1		135
	1515	Lakeside Ranch STA - Expedited Project – The SFWMD is implementing as part of Northern Everglades Project	SFWMD	2005	2012	\$140,683,688	\$7,730,000	27,000	1.B.1		136
	1518	C&SF: CERP Henderson Creek/Belle Meade Restoration (OPE) (CERP Project WBS # 93)	USACE/ FDEP	2002	2018	\$7,000,000	\$128,000	10	1.B.1		137
	1519	C-43 Water Quality Treatment Area	SFWMD	2007	2012	\$163,980,000	\$3,090,000	1,200	1.B.1		139
	1520	Long-Term Plan for Achieving Everglades Water Quality Goals (Formerly project ID 1723)	SFWMD	2004	2016	\$749,800,000	\$168,465,422	36,070	1.B.1		140
	1101	C&SF: CERP Indian River Lagoon-South [C-23/C-24/C-25/North Fork and South Fork Storage Reservoirs (UU P1 & UU P2), and C-44 Basin Storage Reservoir (B)] (CERP Project WBS # 07)	USACE/ SFWMD	2002	2023	Footnote 1	Footnote 1	9,000	1.A.1	1.B.1	23
	1104	C&SF: CERP Lake Okeechobee Watershed (A, W; OPEs: LOWQTF, LOTSD, LIRS) (CERP Project WBS # 01)	USACE/ SFWMD	2001	2015	Footnote 1	Footnote 1	12,000	1.A.1	1.B.1	32
	1110	C&SF: CERP Central Lake Belt Storage Area (SP1 & SP2) (EEE) (CERP Project WBS # 26)	USACE/ SFWMD	2026	2036	Footnote 1	Footnote 1	640	1.A.1	1.B.1	46
	1115	C&SF: CERP North Palm Beach County -- Part 1 (X) (Y) (GGG) (K P1) (OPE) (CERP Project WBS # 17) (Formerly Project ID 1503)	USACE/ SFWMD	2001	2015	Footnote 1	Footnote 1	1,150	1.B.1	1.A.1	55
1.B.2		TOTAL MAXIMUM DAILY LOAD (TMDL) PLAN DEVELOPMENT					COMPLETED PLANS				
	1600	Total Maximum Daily Load (TMDL) for South Florida	FDEP	2000	2011	Footnote 2	\$5,660,000		1.B.2		142
		OTHER RELATED WATER QUALITY PROJECTS									
	1701	C&SF: CERP Comprehensive Integrated Water Quality Feasibility Study (CERP Study)	USACE/ FDEP	2001	2014	\$8,884,000	\$735,000				143
	1702	E&SF: Critical Projects - Lake Trafford Restoration	USACE/ SFWMD	1999	2011	\$15,408,000	\$7,987,000				145
	1706	Everglades Regulation Division	SFWMD	1998	TBD	Footnote 2	\$27,351,000				146
	1707	Floridan Aquifer Restoration	NRCS	2002	TBD	\$900,000	\$900,000				147
	1714	Seminole Tribe Best Management Practices for the Big Cypress Reservation	Seminole	1996	2010	\$4,779,000	\$2,389,500				148
	1715	Seminole Tribe Best Management Practices for the Brighton Reservation	Seminole	1998	2010	\$338,000	\$240,000				149

Goals	SP Project Number	Project Name	Lead Agency	Start	End	Financial Requirement	Appropriated Date	Measurable Outputs	Primary Objective	Secondary Objective (s)	Pg#
Column 1	Column 2	Column 3	Column 4	Column 5	Column 6	Column 7	Column 8	Column 9	Column 10	Column 11	Col. 12
	1716	Seminole Tribe Comprehensive Surface Water Management System for the Brighton Reservation	Seminole	1999	2013	\$15,818,000	\$13,710,000				150
	1717	Seminole Tribe Water Conservation Project for Big Cypress Reservation	Seminole	2002	2012	\$60,000,000	\$22,000,000				151
	1722	Lake Okeechobee Protection Plan	SFWMD	1999	2015	Footnote 2	\$285,917,000				152
	1700	Completed Projects: Chapter 298 Districts/Lease 3420 Improvements	SFWMD	1994	2005	\$24,115,521	\$24,115,521				302
	1703	E&SF: Critical Projects - Western C-11 Water Quality Treatment	USACE	1997	2006	\$18,066,000	\$18,066,000				303
	1705	Everglades National Park Water & Wastewater	NPS	1997	2006	\$18,965,000	\$17,365,000				304
	1708	Lake Okeechobee Sediment Removal Feasibility Study and Pilot	SFWMD	2000	2003	\$955,069	\$955,069				305
	1709	Lake Okeechobee Tributary Sediment Removal Pilot	SFWMD	2000	2004	\$440,000	\$440,000				306
	1713	S-5A Basin Runoff Diversion Works	SFWMD	1994	2005	\$14,233,758	\$13,536,252				307
	1719	STA-1 Inflow and Distribution Works	SFWMD	1994	2005	\$12,679,955	\$12,679,955				308

GOAL 2. RESTORE PRESERVE AND PROTECT NATURAL HABITATS AND SPECIES

Sub-Goal 2.A. RESTORE, PRESERVE AND PROTECT NATURAL HABITATS												
2.A.1	HABITAT PROTECTION LAND ACQUISITION PROJECTS											
		State Acquisitions										
2100		Allapattah Flats/Ranch	FDEP	1997	TBD	TBD	\$63,031,278					155
2101		Atlantic Ridge Ecosystem	FDEP/ SFWMD	1995	TBD	TBD	\$41,897,324					156
2104		Belle Meade	FDEP	1993	TBD	TBD	\$39,412,158					157
2105		Big Bend Swamp/Holopaw Ranch	FDEP	2000	TBD	TBD	\$6,829,000					158
2106		Biscayne Coastal Wetlands	SFWMD/ M-DADE	1998	TBD	TBD	\$7,238,714					159
2107		Bombing Range Ridge	FDEP	1998	TBD	TBD	\$15,003,388					160
2108		Caloosahatchee Ecoscape	FDEP	1998	TBD	TBD	\$1,948,038					161
2109		Calfish Creek	FDEP	1990	TBD	TBD	\$47,444,266					162
2111		Charlotte Harbor Estuary/ Flatwoods/ Cape Haze	FDEP	1986	TBD	TBD	\$17,781,504					163
2112		Corkscrew Regional Ecosystem Watershed	FDEP	1991	TBD	TBD	\$45,312,713					164
2114		Coupon Bight/ Key Deer/ Big Pine Key	FDEP	1985	TBD	TBD	\$30,650,827					165
2172		Cypress Creek/Loxahatchee	SFWMD	2002	2007	TBD	\$76,992,058					166
2115		Cypress Creek/Trail Ridge	SFWMD	1997	TBD	TBD	\$23,760,859					167

Goals	SP Project Number	Project Name	Lead Agency	Start	End	Financial Requirement	Appropriated Date	Measurable Outputs	Primary Objective	Secondary Objective (s)	Pg#
Column 1	Column 2	Column 3	Column 4	Column 5	Column 6	Column 7	Column 8	Column 9	Column 10	Column 11	Col. 12
	2183	Devils Garden	FDEP	2002	TBD	TBD	\$0	82,508	2.A.1		168
	2117	East Coast Buffer	FDEP/ SFWMD	1994	TBD	TBD	\$142,460,890	49,643	2.A.1		169
	2118	Estero Bay	FDEP	1985	TBD	TBD	\$59,220,290	14,378	2.A.1		170
	2120	Fakahatchee Strand	FDEP	1980	TBD	TBD	\$24,894,138	80,332	2.A.1		171
	2121	Fisheating Creek	SFWMD/ FDEP	1999	TBD	TBD	\$101,928,563	176,876	2.A.1		172
	2122	Florida Keys Ecosystem	FDEP	1992	TBD	TBD	\$94,623,804	15,336	2.A.1		173
	2185	Half Circle L Ranch	SFWMD	2003	TBD	TBD	\$0	11,269	2.A.1		174
	2124	Indian River Lagoon Blueway	FDEP	1998	TBD	TBD	\$17,846,530	1,385	2.A.1		175
	2125	Juno Hills /Dunes	FDEP	1994	TBD	TBD	\$41,892,718	590	2.A.1		176
	2176	Jupiter Ridge	FDEP	1991	TBD	TBD	\$23,099,950	287	2.A.1		177
	2126	Kissimmee - St. John Connector	FDEP	2001	TBD	TBD	\$0	9,463	2.A.1		178
	2127	Kissimmee River (Lower Basin)	SFWMD	1985	2005	TBD	\$181,530,258	75,617	2.A.1		179
	2128	Kissimmee River (Upper Basin)	SFWMD	1990	2005	TBD	\$100,011,311	38,273	2.A.1		180
	2129	Lake Wales Ridge Ecosystem	FDEP	1992	TBD	TBD	\$31,737,827	16,455	2.A.1		181
	2132	Loxahatchee Slough	SFWMD	1996	TBD	TBD	\$35,920,793	13,099	2.A.1		182
	2134	Miami-Dade County Archipelago	FDEP	1994	TBD	TBD	\$23,524,235	884	2.A.1		183
	2135	Model Lands	SFWMD/ M-DADE	1994	2007	TBD	\$28,750,981	54,458	2.A.1		184
	2138	North Fork St Lucie River	FDEP/ SFWMD	1988	TBD	TBD	\$5,109,620	3,714	2.A.1		185
	2139	North Key Largo Hammocks	FDEP	1983	TBD	TBD	\$76,542,140	5,048	2.A.1		186
	2141	Okaloacoochee Slough	FDEP/ SFWMD	1996	TBD	TBD	\$20,570,673	35,201	2.A.1		187
	2142	Okeechobee Battlefield	FDEP	2001	TBD	TBD	\$3,217,250	211	2.A.1		188
	2143	Osceola Pine Savannas	FDEP	1995	TBD	TBD	\$310,000	6,357	2.A.1		189
	2144	Pal-Mar	FDEP/ SFWMD	1992	TBD	TBD	\$102,051,457	35,760	2.A.1		190
	2145	Panther Glades	FDEP	2001	TBD	TBD	\$75,049,836	57,604	2.A.1		191
	2146	Paradise Run	SFWMD	1998	TBD	TBD	\$4,908,582	3,841	2.A.1		192
	2147	Lake Hatchineha Watershed/ Parker-Poinciana	SFWMD	1996	TBD	TBD	\$0	6,437	2.A.1		193
	2186	Pine Island Slough Ecosystem	FDEP	2005	TBD	TBD	\$0	21,583	2.A.1		194
	2148	Pineland Site Complex	FDEP	1996	TBD	TBD	\$1,751,874	206	2.A.1		195
	2178	Ranch Reserve	SFWMD	1997	TBD	TBD	\$39,286	2,217	2.A.1		196
	2149	Rookery Bay	FDEP	1980	TBD	TBD	\$45,500,833	18,721	2.A.1		197
	2150	Rotenberger/Holey Land Tract	FDEP	1984	TBD	TBD	\$20,114,395	79,170	2.A.1		198
	2151	Shingle Creek	SFWMD	1987	TBD	TBD	\$4,372,344	7,673	2.A.1		199
	2152	Six Mile Cypress	SFWMD	1987	2007	TBD	\$3,455,474	2,083	2.A.1		200

Goals	SP Project Number	Project Name	Lead Agency	Start	End	Financial Requirement	Appropriated Date	Measurable Outputs	Primary Objective	Secondary Objective (s)	Pg#
Column 1	Column 2	Column 3	Column 4	Column 5	Column 6	Column 7	Column 8	Column 9	Column 10	Column 11	Col. 12
	2154	South Savannas	FDEP/ SFWMD	1981	TBD	TBD	20,902,290	6,046	2.A.2		201
	2155	Southern Glades	SFWMD/ M-DADE	1964	TBD	TBD	15,363,259	37,620	2.A.1		202
	2156	Southern Golden Gate Estates (Save Our Everglades) - Picayune Strand	FDEP	1984	TBD	TBD	130,838,450	55,247	2.A.1		203
	2180	Ten Mile Creek	SFWMD	1990	TBD	TBD	338,644	240	2.A.1		204
	2158	Twelve Mile Slough	SFWMD	1998	TBD	TBD	11,000,000	15,653	2.A.1		205
	2159	Lake Marion Creek and Reedy Creek Management Area	SFWMD	1995	TBD	TBD	12,343,957	39,323	2.A.1		206
	2160	Water Conservation Areas 2, and 3	SFWMD	1948	TBD	TBD	10,572,395	721,433	2.A.1		207
		Completed Projects:									
	2102	Babcock Ranch	FDEP	2001	2007	\$350,000,000	\$350,000,000	73,542	2.A.1		309
	2110	Cayo Costa	FDEP	1980	2004	\$28,807,346	\$28,807,346	1,955	2.A.1		310
	2116	Dupuis Reserve	SFWMD	1985	1986	\$23,016,601	\$23,016,601	21,875	2.A.1		311
	2123	Frog Pond	FDEP/ SFWMD	1982	2007	\$19,997,038	\$19,997,038	2,484	2.A.1		312
	1305	Kissimmee Prairie	FDEP	1996	1997	\$21,953,790	\$21,953,790	38,284	2.A.1		299
	2130	Sumica (previously Lake Walk-In-Water)	SFWMD	1995	1998	\$3,950,000	\$3,950,000	4,009	2.A.1		313
	2131	Loxahatchee River Land Acquisition	SFWMD	1984	2001	\$13,074,703	\$13,074,703	1,912	2.A.1		314
	2137	Nicodemus Slough	SFWMD	1981	1988	\$1,894,501	\$1,894,501	2,231	2.A.1		315
	2153	South Fork St. Lucie River Land Acquisition	SFWMD	1995	1995	\$2,480,000	\$2,480,000	184	2.A.1		316
	2157	Tibet-Butler Preserve	SFWMD	1988	1999	\$3,601,900	\$3,601,900	439	2.A.1		317
	2161	Yamato Scrub	FDEP	1992	1996	\$25,932,850	\$25,932,850	207	2.A.1		318
		Federal Acquisitions									
	2161	A.R. M. Loxahatchee National Wildlife Refuge	USFWS	1955	2005	\$30,119,000	\$119,000	145,567	2.A.1		208
	2163	Big Cypress National Preserve Addition	NPS	1989	2005	\$75,466,000	\$73,662,737	146,117	2.A.1		209
	2164	Big Cypress National Preserve Private Inholdings (Footnote 3)	NPS	1974	TBD	\$243,982,000	\$222,105,000	574,449	2.A.1		210
	2165	Biscayne National Park	NPS	1968	TBD	\$33,699,000	\$31,850,735	172,924	2.A.1		211
	2166	Crocodile Lake National Wildlife Refuge	USFWS	1979	2005	\$14,319,000	\$13,093,000	7,100	2.A.1		212
	2167	Everglades National Park Expansion	NPS	1990	2005	\$109,892,000	\$97,669,000	109,504	2.A.1		213
	2169	Florida Panther National Wildlife Refuge	USFWS	1989	TBD	\$10,692,000	\$10,682,000	61,573	2.A.1		214
	2168	Florida Keys National Wildlife Refuge Complex	USFWS	1960	2005	\$35,028,000	\$31,753,000	415,433	2.A.1		215
	2170	Hobe Sound National Wildlife Refuge	USFWS	1968	2004	\$5,818,000	\$18,000	1,130	2.A.1		216
	2171	J.N. "Ding" Darling National Wildlife Refuge	USFWS	1945	2005	\$12,885,000	\$9,785,000	10,275	10,275		217

Goals	SP Project Number	Project Name	Lead Agency	Start	End	Financial Requirement	Appropriated Date	Measurable Outputs	Primary Objective	Secondary Objective (s)	Pg#
Column 1	Column 2	Column 3	Column 4	Column 5	Column 6	Column 7	Column 8	Column 9	Column 10	Column 11	Col. 12
2.A.2		CORAL REEF PROTECTION PROJECTS						% Reef Protected			
	2200	Planning and Implementation of the Tortugas Ecological Reserve	NOAA	1997	TBD	Footnote 2	\$49,119,000	20	2.A.2		218
2.A.3		IMPROVE NATURAL AREAS HABITAT QUALITY PROJECTS						ACRES			
<p>Note – The April 1999 USACE C&SF Project Comprehensive Review Study Final Integrated Feasibility Report and Programmatic Environmental Impact Statement included an extensive environmental evaluation of habitat units that would be improved through implementation of the CERP projects. Table 7-18 in this publication identifies in detail which projects are anticipated to achieve this objective. However, appropriate measures by project are currently being developed through the establishment of interim goals. There are some projects included in our tracking matrix that exemplify how this objective will be achieved.</p>											
	2300	C&SF: CERP Strazzulla Wetlands (OPE) (CERP Project WBS # 39)	USACE/ SFWMD	2002	2010	\$76,555,000	\$498,000	3,335	2.A.3		219
	2301	C&SF: CERP Winsberg Farms Wetland Restoration (OPE) (CERP Project WBS # 91)	USACE/ PBDWJD	2000	2010	\$23,700,000	\$4,207,000	114	2.A.3	3.C.2	221
	2302	C&SF: CERP Lakes Park Restoration (CERP Project WBS # 94)	USACE/ Lee Co.	1999	TBD	\$6,700,000	\$836,000	60	2.A.3		223
	2303	C&SF: CERP Restoration of Pineland and Hardwood Hammocks in C-111 Basin (OPE) (CERP Project WBS # 92)	USACE	2016	2022	\$1,000,000	\$0	50	2.A.3		224
	2304	A.R.M. Loxahatchee NWR Prescribed Fire program	USFWS	2002	TBD	Footnote 2	\$1,240,100	TBD	2.A.3		225
	2306	C&SF: CERP Acme Basin B Discharge (OPE) (CERP Project WBS # 38)	USACE/ SFWMD	2002	2009	\$28,800,000	\$2,908,000	365	2.A.3	3.C.2	226
	2307	C&SF: CERP Picayune Strand Restoration (f/k/a Southern Golden Gate Estates Hydrologic Restoration) (OPE) (CERP Project WBS # 30)	USACE/ SFWMD	2001	2015	\$416,234,000	\$17,263,000	55,000	2.A.3		229
	2308	C&SF: CERP PLA /Adaptive Assessment and Monitoring	USACE/ SFWMD	ongoing	N/A	\$555,513,000	\$49,552,000	TBD			232
	2309	C&SF: CERP Biscayne Bay Coastal Wetlands (FFF) (OPE) (CERP Project WBS # 28) (Formerly project ID 1410)	USACE/ SFWMD	2001	2015	\$449,898,000	\$12,454,000	1,695	2.A.3		233
	2310	C&SF: CERP C-111 Spreader Canal (WW) (Formerly Project ID 1517) (CERP Project WBS # 29)	USACE/ SFWMD	2000	2011	\$147,000,000	\$10,824,000	TBD	2.A.3		236
	1101	C&SF: CERP Indian River Lagoon-- South [C-23/C-24/C-25/North Fork and South Fork Storage Reservoirs (UU P1 & UU P2), and C-44 Basin Storage Reservoir (B)] (CERP Project WBS # 07)	USACE/ SFWMD	2002	2023	Footnote 1	Footnote 1	97,880	1.A.1	2.A.3	23
	1104	C&SF: CERP Lake Okeechobee Watershed (A) (W) (OPEs: LOWQTF, LOTSD, LIRS) (CERP Project WBS # 01)	USACE/ SFWMD	2001	2015	Footnote 1	Footnote 1	3,730	1.A.1	2.A.3	32

Goals	SP Project Number	Project Name	Lead Agency	Start	End	Financial Requirement	Appropriated Date	Measurable Outputs	Primary Objective	Secondary Objective (s)	Pg#
Column 1	Column 2	Column 3	Column 4	Column 5	Column 6	Column 7	Column 8	Column 9	Column 10	Column 11	Col. 12
	1107	C&SF: CERP Site 1 Impoundment (MP1) [a/k/a Site 1 Impoundment (Frian Reich Preserve)] (CERP Project WBS # 40)	USACE/SFWMD	2002	2013	Footnote 1	Footnote 1	114	1.A.1	2.A.3	39
	1111	E&SF: Critical Projects - Ten Mile Creek	USACE/SFWMD	1997	TBD	Footnote 1	Footnote 1	2,740	1.A.1	2.A.3	48
	1116	C&SF: CERP Broward County (WPA) Water Preserve Areas (R) (Q) (O) [Broward County WPA - C-9 Stormwater Treatment Area/Impoundment (R) and Western C-11 Diversion Impoundment and Canal (Q) and Water Conservation Areas 3A and 3B Levee Seepage Management (O)] (CERP Project WBS 45) (Formerly Project ID 1501)	USACE/SFWMD	2002	2017	Footnote 1	Footnote 1	4,633	1.A.1	2.A.3	59
	1303	E&SF: Critical Projects - Southern CREW	USACE	1999	2015	Footnote 1	Footnote 1	4,090	1.A.3	2.A.3	82
	1306	Kissimmee River Restoration Project	USACE/SFWMD	1994	2013	Footnote 1	Footnote 1	27,000	1.A.3	2.A.3	84
	1307	Modified Water Deliveries to Everglades National Park (Footnote 3)	NPS	1990	2013	Footnote 1	Footnote 1	190,000	1.A.3	2.A.3	86
	3902	C&SF: CERP Wastewater Reuse Technology Pilot (CERP Project WBS # 37) (Formerly Project ID 3802)	USACE/SFWMD	2001	2016	Footnote 1	Footnote 1	3,500	3.C.2	2.A.3	287
	OTHER NATURAL HABITAT AND SPECIES PROJECTS										
	2402	South Florida Multi-Species Recovery Plan	USFWS	1994	TBD	\$386,112,000	\$11,567,539				239
	2403	WCA-2A Regulation Schedule Review	USACE	TBD	TBD	TBD	0				241
	2404	C&SF: Manatee Pass Gates	USACE/SFWMD	2001	2010	\$15,800,000	\$12,624,000				242
	2305	Loxahatchee Impoundment Landscape Assessment (LILA)	USFWS	2002	2012	Footnote 2	\$4,482,500				244
	Sub-Goal 2.B. CONTROL INVASIVE PLANT AND ANIMAL SPECIES										
	2.B.1 EXOTIC PLANT SPECIES MANAGEMENT PLAN CONTROL PROJECTS										
	2501	Monitoring the Effects of Repeated Aerial Herbicide Application on Lygodium microphyllum and Native Vegetation	USFWS	2005	2009	\$220,000	\$190,000				245
	2502	Invasive exotic plants control in terrestrial and aquatic natural systems	SFWMD	2007	TBD	Footnote 2	\$11,819,000				246
	2503	Invasive Species Research and Information Exchange	SFWMD	2007	TBD	Footnote 2	\$90,000				247

Goals	SP Project Number	Project Name	Lead Agency	Start	End	Financial Requirement	Appropriated Date	Measurable Outputs	Primary Objective	Secondary Objective (s)	Pg#
Column 1	Column 2	Column 3	Column 4	Column 5	Column 6	Column 7	Column 8	Column 9	Column 10	Column 11	Col. 12
	2504	Develop and implement a FWS Florida Invasive Species Strike Team	USFWS	2003	TBD	\$4,940,000	\$2,470,000				249
	2505	C&SF-CERP Melaleuca Eradication and Other Exotic Plants (OPE) (Formerly Project ID 2602) (CERP Project WBS # 95)	USACE	2003	2026	\$8,242,000	\$2,027,000		2.B.2		250
	2506	Everglades National Park Exotic Control Program (Formerly Project ID 2604)	NPS	2002	TBD	\$11,834,000	\$10,488,520		2.B.2		252
	2507	Hole-in-the-Donut (Formerly Project ID 2606)	NPS	1994	2017	\$123,750,000	\$61,006,000		2.B.2	2.A.3	253
	2508	Aquatic and Upland Invasive Plant Management	FDEP	TBD	TBD	Footnote 2	\$223,080,247		2.B.2		254
	2509	Exotic Species Removal (Formerly Project ID 2605)	Seminole	1998	2014	\$988,000	\$504,000		2.B.2		255
2.B.2		CONTROL OF INVASIVE EXOTIC PLANT									
	2601	Casuarina Biological Control Agents	USDA/ARS	2004	TBD	TBD	TBD				256
	2602	Melaleuca Biological Control Agents	USDA/ARS	1986	TBD	TBD	TBD				257
	2603	Lygodium Biological Control Agents	USDA/ARS	1996	TBD	TBD	TBD				258
2.B.3		ERADICATION OF THE GAMBIAN POUCH RAT									
	2700	Eradication of Gambian Pouch Rat	FDACS	2006	2011	\$75,000	\$45,000				259
	2604	Completed Projects Estero Bay Aquatic Preserve and Buffer Reserve Enhancement and Exotic Removal Project	FDEP	1998	2004	\$587,600	\$587,600				319
GOAL 3. FOSTER COMPATIBILITY OF THE BUILT AND NATURAL SYSTEM											
Sub-Goal 3.A. USE AND MANAGE LAND COMPATIBLE WITH RESTORATION											
3.A.1	LAND USE ANALYSIS										
	3100	Analysis of Land Use Patterns Surrounding CERP Projects	FDCA	2008	2010	TBD	TBD		3.A.1		263

Goals	SP Project Number	Project Name	Lead Agency	Start	End	Financial Requirement	Appropriated Date	Measurable Outputs	Primary Objective	Secondary Objective (s)	Pg#
Column 1	Column 2	Column 3	Column 4	Column 5	Column 6	Column 7	Column 8	Column 9	Column 10	Column 11	Col. 12
3.A.2		FLORIDA PARK, RECREATION AND OPEN SPACE LANDS PROJECTS									
	3200	Florida Keys Overseas Heritage Trail (Formerly Project ID 3301)	FDEP	TBD	TBD	\$40,000,000	\$28,000,000	TBD	3.A.2		264
	3201	Lake Okeechobee Scenic Trail (Formerly Project ID 3102)	FDEP	2003	TBD	\$25,000,000	\$14,500,000	TBD	3.A.1		268
	3202	Florida Greenways and Trails Program (Formerly Project ID 3100)	FDEP/OGT	2000	2009	\$4,500,000	\$951,372	10,000	3.A.1		269
3.A.3		AGRICULTURE LANDS CONSERVATION MANAGEMENT PROJECTS									
	3300	Technical Assistance to Seminole and Miccosukee Indian Reservations (Formerly Project ID 3201)	NRCS	1998	2011	\$15,000,000	\$478,000	107,000	3.A.3		270
	3301	2002 Farm Bill (Formerly Project ID 3202)	NRCS	2002	2007	\$97,436,000	\$37,877,000	1,315,592	3.A.3		271
3.A.4		COMPATIBLE ECOSYSTEM RESTORATION CONCEPTS IN COMPREHENSIVE PLANS									
	3400	Consideration of Land Use Policies and Planning by Local Governments with CERP	FDCA	2008	2010	TBD	TBD		3.A.4		272
3.A.5		INCREASE COMMUNITY UNDERSTANDING OF RESTORATION PROJECTS									
	3502	C&SF: CERP PLA/Public Outreach	USACE	2000	TBD	Footnote 2	\$15,470,000		3.A.5		273
	3503	SFWMD Outreach Program	SFWMD	TBD	TBD	Footnote 2	\$4,391,157		3.A.5		276
		Sub-Goal 3.B FLOOD PROTECTION COMPATIBLE WITH ECOSYSTEM RESTORATION									
3.B.1		FLOOD PROTECTION COMPATIBLE WITH ECOSYSTEM RESTORATION PROJECTS									
	3600	C-4 Flood Mitigation Projects	SFWMD	2005	2013	\$37,668,000	\$4,868,000	3.B.1	3.B.1		277
	1300	C&SF: C-111 (South Dade)	USACE/SFWMD	1994	2014	Footnote 1	Footnote 1	1.A.3	1.A.3	3.B.1	74
3.A.2		HERBERT HOOVER DIKE REHABILITATION									
	3700	Herbert Hoover Dike Rehabilitation	USACE	2006	2025	\$991,100,000	\$94,684,000				279
		Sub-Goal 3.C PROVIDE SUFFICIENT WATER RESOURCES FOR BUILT AND NATURAL SYSTEMS									
3.C.1		WATER RESOURCE DEVELOPMENT PROJECTS									
	3800	Regional Water Supply Plans (Formerly Project ID 3704)	SFWMD	2004	2008	\$17,542,000	0	MG	3.C.1		282
3.C.2		INCREASE VOLUME OF WATER RESOURCE PROJECTS									
	3900	C&SF: CERP South Miami-Dade County Reuse (BBB) (CERP Project WBS # 98) (Formerly Project ID 3800)	USACE/M-DADE	2013	2023	\$454,800,000	0	MGD	3.C.2		283

Goals	SP Project Number	Project Name	Lead Agency	Start	End	Financial Requirement	Appropriated Date	Measurable Outputs	Primary Objective	Secondary Objective (s)	Pg#
Column 1	Column 2	Column 3	Column 4	Column 5	Column 6	Column 7	Column 8	Column 9	Column 10	Column 11	Col. 12
	3901	C&SF: CERP West Miami-Dade County Reuse (HHH) (CERP Project WBS # 97) (Formerly Project ID 3801)	SFWMD/ M-DADE	2013	2023	\$547,250,000	\$0	100	3.C.2		285
	3902	C&SF: CERP Wastewater Reuse Technology Pilot (CERP Project WBS # 37) (Formerly Project ID 3802)	USACE/ SFWMD	2001	2016	\$38,000,000	\$1,876,000		3.C.2	2.A.3	287
3.C.3		ALTERNATIVE WATER SUPPLY PROJECTS						MGD			
	4000	Alternative Water Supply Grant (Formerly Project ID 3900)	SFWMD	1996	TBD	Footnote 1	\$156,956,000	172			289
OTHER BUILT AND NATURAL SYSTEM COMPATIBILITY PROJECTS											
	4101	BMPs for Agriculture	NRCS	1997	2011	\$160,278,000	\$114,158,000				290
	4102	Monitoring of Organic Soils in the Everglades	NRCS	1998	2017	\$1,236,000	\$136,000				291
	4103	Soil Survey Update for the Everglades Agricultural Area	NRCS	2004	2012	\$2,100,000	\$0				292
	4104	Soil Survey Update for Everglades National Park, Big Cypress National Preserve and Water Conservation Areas	NRCS	2007	2013	\$6,000,000	\$0				293
	4105	C&SF: CERP Flow to Northwest and Central WCA -3A (II) (RR) (CERP Project WBS # 11)	USACE/ SFWMD	2002	2018	\$38,200,000	\$66,000				294
	4100	Completed Projects E&SF: Critical Projects - Keys Carrying Capacity Study	FDCV/ USACE	1997	2003	\$6,000,000	\$6,000,000				320

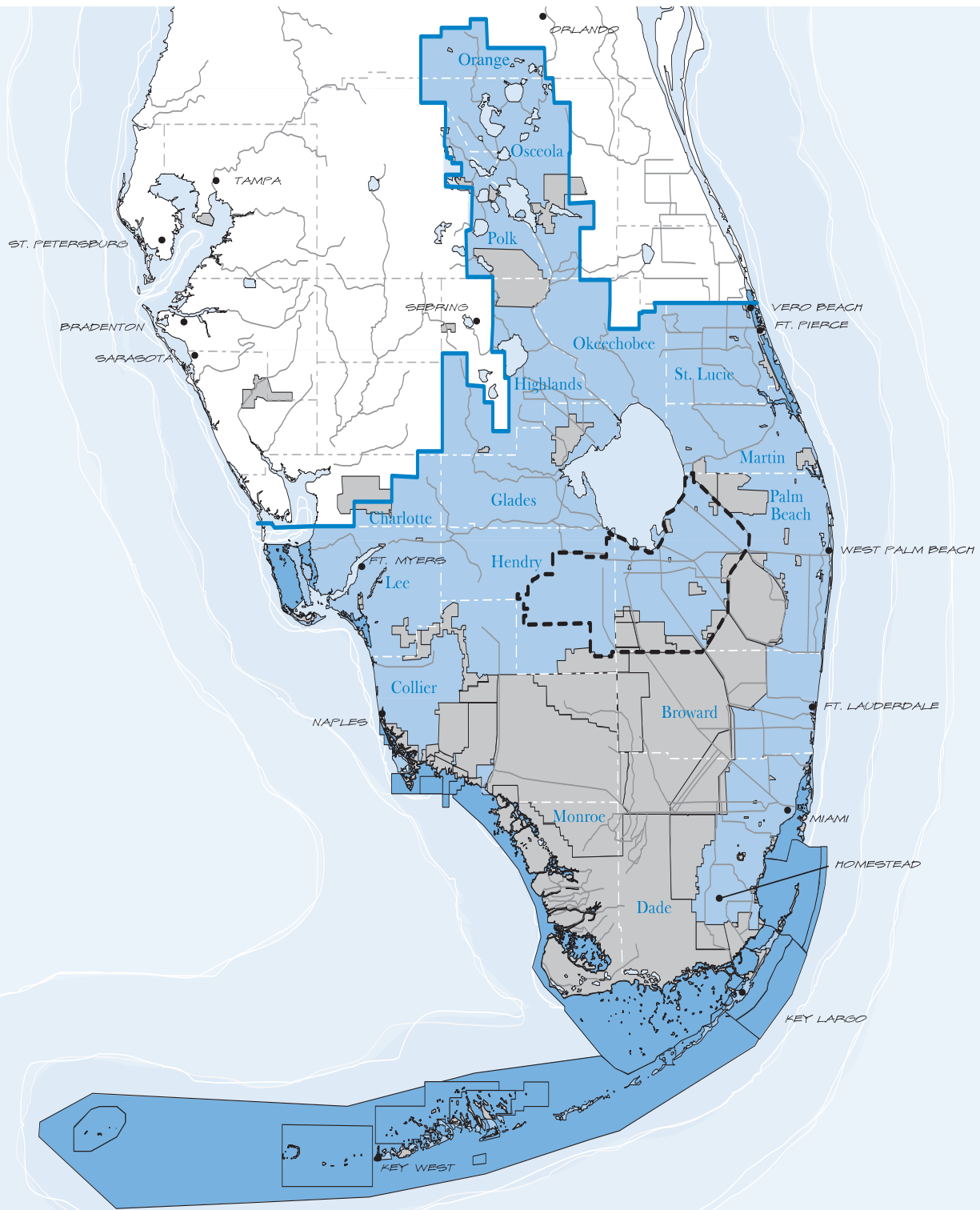
Project specific footnotes:

The following information is project specific and is provided in reference to its appearance as a numbered notation on the project summary table:

- 1 This is a multiple objective project, funding is listed in other objective.
- 2 Available funding through project completion is not provided on the project sheet, due to the uncertainty of the annual Federal and State appropriations process.
- 3 For the purposes of calculating Goal subtotals for all projects, only the dollars appropriated to date have been used for this project.


Changes from 2007 IFP:

- C&SF: CERP Flows to Eastern Water Conservation Area (EEE) (CERP Project WBS # 23) is now part of Project ID 1110.
- Project ID 2400 Big Cypress National Preserve Mineral Rights was deleted due to no prospect of Congress authorizing another buyout.
- Project ID 1508 STA-1 West Works and Outflow Pump Station (G-310) is now part of 1723.
- Project ID 1509 STA-2 Works and Outflow Pump Station (G-335) is now part of 1723.
- Project ID 1510 STA-3/4 Works is now part of 1723.
- Project ID 1511 STA-5 Works is now part of 1723.
- Project ID 1512 STA-6 (includes sections 1 and 2) is now part of 1723.
- Project ID 1413 C&SF: CERP Everglades Rain Driven Operations was closed.
- Project ID 1430 Rotenberger Restoration is now part of 1723.
- Project ID 1432 WCA-2A Hydropattern Restoration is now part of 1723.
- Project ID 1433 West WCA-3A Hydropattern Restoration is now part of 1723.
- Project ID 1304 East WCA-3A Hydropattern Restoration is now part of 1723.
- Project ID 1516 LOFT (identified under LOER)- Nubbin Slough STA Expansion was stopped as it was determined to not provide cost effective benefits.
- Project ID 1720LOFT - Returfing of flows from S-133 Basin was stopped as it was determined to not provide cost effective benefits.
- Project ID 1721 LOFT (identified under LOER)- Returfing of flows from S-154 Basin was stopped as it was determined to not provide cost effective benefits.
- Project ID 2701 Melaleuca Quarantine Facility was deleted as full staffing has not been realized due to a lack of O&M funds (\$350K/yr estimated need).
- Project ID 1704 Development of Best Management Practices Related to the Land Application of Residuals and Chicken Manure in the Lake Okeechobee Watershed - Project terminated due to project site land use change.



The South Florida Ecosystem

- South Florida Ecosystem Boundary
- Everglades Agricultural Area
- Conservation and Tribal Lands
- Non-Public Land



Strategic Goals and Objectives

of the
South Florida Ecosystem
Restoration Task Force



Goal 1:

Get the Water Right

Subgoal 1-A: Get the hydrology right

Objective 1-A.1: Provide 1.8 million acre-feet of surface water storage by 2036

Objective 1-A.2: Develop alternative water storage systems capable of storing 1.7 billion gallons per day by 2030

Objective 1-A.3: Modify 361 miles of impediments to flow by 2020

Subgoal 1-B: Get the water quality right

Objective 1-B.1: Construct 96,010 acres of stormwater treatment areas by 2035

Objective 1-B.2: Prepare locally-based plans to reduce pollutants as determined necessary by the total maximum daily loads by 2011



Goal 2: Restore, Preserve, and Protect Natural Habitats and Species

Subgoal 2-A: Restore, preserve, and protect natural habitats

Objective 2-A.1: Complete acquisition of 5.7 million acres of land identified for habitat protection by 2020

Objective 2-A.2: Protect 20 percent of the coral reefs by 2010

Objective 2-A.3: Improve habitat quality for 2.4 million acres of natural areas in south Florida

Subgoal 2-B: Control invasive exotic plants and animals

Objective 2-B.1: Achieve maintenance control of Brazilian pepper, melaleuca, Australian pine, and Old World climbing fern on south Florida's public conservation lands by 2020

Objective 2-B.2: Release 2 biological control insects per year for the control of invasive exotic plants

Objective 2-B.3: Achieve eradication of Gambian pouch rat by 2012



Goal 3: Foster the Compatibility of the Built and Natural Systems

Subgoal 3-A: Use and manage land in a manner compatible with ecosystem restoration

Objective 3-A.1: Prepare a land use analysis for selected restoration projects

Objective 3-A.2: Designate or acquire an additional 10,000 acres of lands needed for parks, recreation, and open space to complement South Florida Ecosystem Restoration through local, state, and federal programs by 2015

Objective 3-A.3: Increase participation by 350,000 acres in the Grassland Reserve Program, Wetland Reserve Program, Farm and Ranch Land Protection Program, and the Environmental Quality Incentive Program to promote compatibility between agricultural production and South Florida Ecosystem Restoration by 2014

Objective 3-A.4: Increase the number of local governments that adopt into their comprehensive plans (goals, objectives, policies, and related strategies) - concepts compatible with South Florida Ecosystem Restoration

Objective 3-A.5: Increase the use of educational programs and initiatives to further the publics' and local governments' understanding of the benefits of South Florida Ecosystem Restoration

Subgoal 3-B: Maintain or improve flood protection in a manner compatible with ecosystem restoration

Objective 3-B.1: Maintain or improve existing levels of flood protection for the urban, agricultural, and natural environments

Objective 3-B.2: Rehabilitate the Herbert Hoover Dike to provide adequate levels of flood protection to the communities and lands surrounding Lake Okeechobee

Subgoal 3-C: Provide sufficient water resources for built and natural systems

Objective 3-C.1: Plan for regional water supply needs

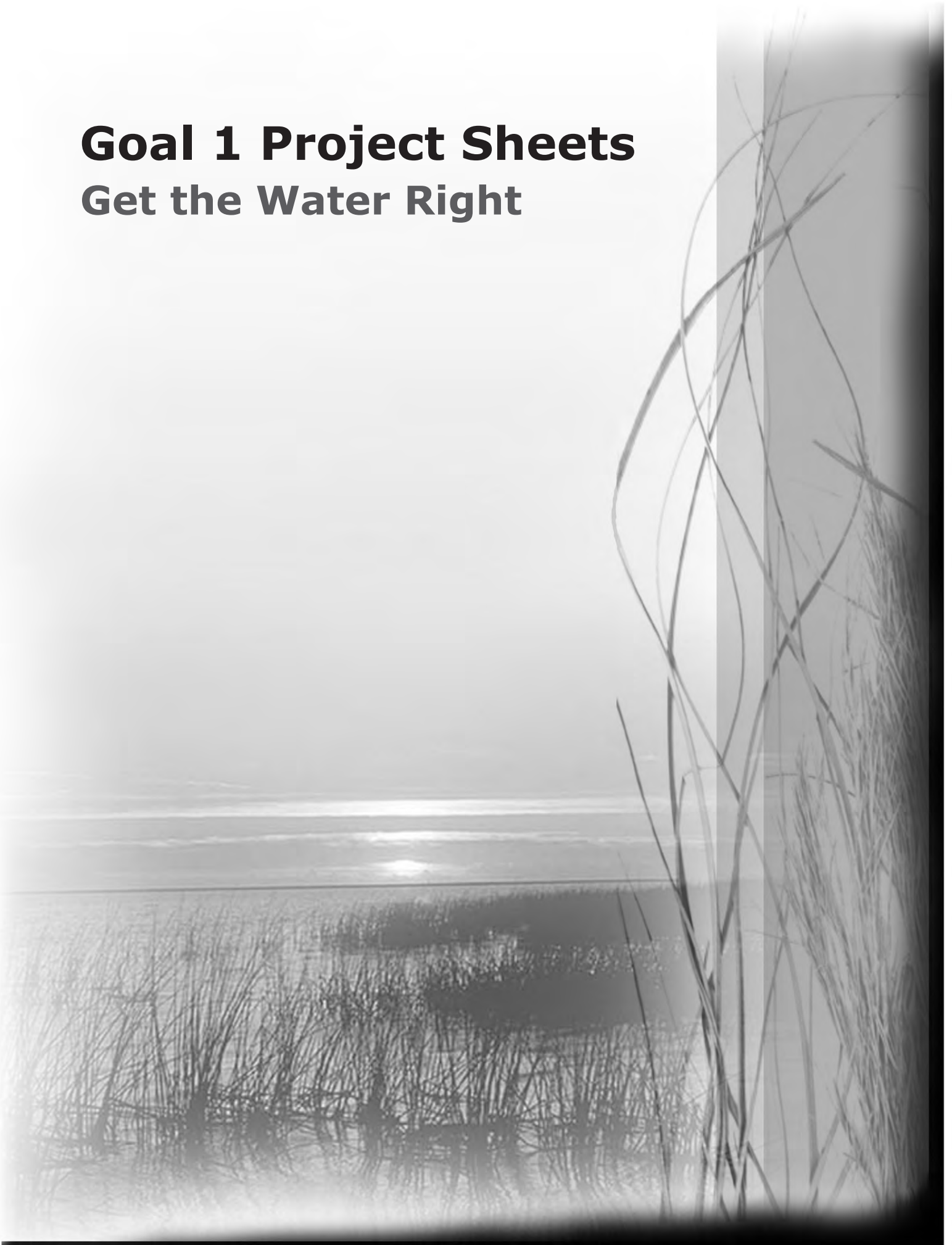
Objective 3-C.2: Increase volumes of reuse on a regional basis

Objective 3-C.3: Increase water made available through the State's Water Protection and Sustainability Program and the SFWMD Alternative Water Supply Development Program

THIS PAGE INTENTIONALLY LEFT BLANK

Goal 1 Project Sheets

Get the Water Right



THIS PAGE INTENTIONALLY LEFT BLANK

Program Name: Infrastructure
Project Name: C&SF: CERP Indian River Lagoon–South (UU) (B)
IRLS, C-23/C-24/C-25/Northfork and Southfork Storage Reservoirs (UU P1 & UU P2) and C-44 Basin Storage Reservoir (B)
Project ID: 1101 (CERP Project WBS # 07)
Lead Agency: USACE / SFWMD
Authority: WRDA 2007; (“44 Basin Storage Reservoir (B)” was a WRDA 2000 Initially Authorized Project and was de-authorized with WRDA 2007)
Funding Source: Corps/State

Strategic Plan Goal(s) Addressed: Primary: 1-A.1 **Secondary:** 2-A.3, 1-B.1 , 1-B.2

Measurable Output(s):

- 135,000 acre-feet reservoir storage
(includes: C23/24 N: 43,920 ac-ft; C23/24 S: 48,900 ac-ft; C-44: 33,150 ac-ft; C-25: 5,176 ac-ft)
- 9,000 acre STAs (includes: C-23/24: 2,363 acres; C-44: 6,000 acres; C-25: 142 acres)
 - 122 metric tons/yr. phosphorus load reduced
 - 475 metric tons/yr. nitrogen load reduced
- 97,880 acres of habitat improved/restored
 - Mosaic: 95,230 acres natural upland/wetlands habitat
 - Allapattah: 42,348 acres
 - Palmar: 17,143 acres
 - Cypress Complex: 32,639 acres
 - North Fork: 3,100 acres (flood plain preservation)
 - Benthic: 2,650 acres habitat in St. Lucie River and Estuary (muck removal 1.8 ft = 7.9 M yd²)
 - Submerged Aquatics: 922 acres and another 889 acres of oyster habitat

Project Synopsis: The *Central and Southern Florida Project Comprehensive Review Study* (Restudy) included above-ground reservoirs with a total storage capacity of approximately 349,400 acre-feet located in the C-23/C-24/C-25/ Northfork and Southfork basins in St. Lucie and Martin Counties, as well as an above-ground reservoir with a total storage capacity of approximately 40,000 acre-feet located in the C-44 Basin in Martin County. The initial design of the reservoirs in the C-23/C-24/C-25 Basins assumed 39,000 acres (water levels up to eight feet above grade) and 9,350 acres (water levels up to four feet above grade). The initial design of the reservoir in the C-44 basin assumed 10,000 acres (water levels up to four feet above grade). The C-44 component was identified as an Initially Authorized Project in WRDA 2000.

The project was refined during the Project Implementation Report (PIR) process. Currently, the Recommended Plan would currently provide for the following features:

- Construction and operation of four new above-ground reservoirs and their connecting canals, control structures, levees and pumps to capture water from the C-44, C-23, C-24 and C-25 canals.
- Construction and operation of four new stormwater treatment areas to reduce sediment, phosphorus, and nitrogen going to the estuary. Two in the C-44 basin, one in the C-23/24 basin, and one in the C-25 basin.
- Restoration of the upland/wetland mosaic by ditch plugging, berm construction, and periodic fire maintenance at three locations; increased storage and nutrient load reduction and habitat improvement.
- Redirection of water from the C-23/24 basin to the North Fork of the St. Lucie River.
- Muck removal from the north and south forks of the St. Lucie River and the middle estuary. Oyster shell, reef balls, and artificial submerged aquatic vegetation will be placed near the muck removal sites.

Current Status: The Final PIR was completed in March 2004, and the Chief of Engineers signed the report August 2004. The record of decision was signed in January 2006. IRL-S was authorized in WRDA 2007, where the C-44 Basin Storage Reservoir Project was also de-authorized. The SFWMD is advancing the design and construction of the C-44 Storage Reservoir as a state-expedited project. Design was functionally complete April 2008. The project is currently awaiting appropriations for construction.

Project 1101 C&SF: CERP Indian River Lagoon – South Page 1 of 5

Est. Cost: \$1,566,300,000

Project Schedule:

- 2014 C-44 Reservoir (B) construction complete.
- 2019 C-23/24/25 Reservoirs (UU) construction complete.
- 2023 Natural areas/muck remediation construction complete.

C-44 Reservoir (B)	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Planning & Design											
Real Estate											
Construction											

C-23/24, North & South (UU P1)	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Planning & Design										
Real Estate										
Construction										

C-25 Reservoir (UU P2)	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Plans & Specs										
Real Estate										
Construction										

Cypress Creek	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Plans & Specs										
Real Estate										
Construction										

Palmar	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Plans & Specs										
Real Estate										
Construction										

Muck Remediation	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Plans & Specs										
Real Estate										
Construction										

Allapattah	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Plans & Specs										
Real Estate										
Construction										

Detailed Project Budget Information (in \$1,000s):

	Thru 2007	2008	2009	2010	2011	2012	Balance to Complete	Total
USACE	8,021	2,484	4,500	192,036	192,036	192,036	192,037	783,150
SFWMD	3,285	2,484	4,500	193,220	193,220	193,220	193,221	783,150
Total	11,306	4,968	9,000	385,256	385,256	385,256	385,258	1,566,300

Hyperlinks: http://www.evergladesplan.org/pm/projects/proj_07_irl_south.cfm

[C-44](#)

https://my.sfwmd.gov/portal/page?_pageid=1855,2831854,1855_2831665&_dad=portal&_schema=PORTAL&navpage=prjc44

Contact: Kim Brooks-Hall, Chief Project Execution Branch, USACE
 (904) 232-3155, Kimberly.Brooks-Hall@usace.army.mil

Source: Budget and schedule information is based on the FY09 budget submission to OMB and the *Master Implementation Sequencing Plan (MISP)* and updated to reflect current price levels in October 2007 dollars. Project description is summarized from the *Central and Southern Florida Project Comprehensive Review Study*

Project status includes information summarized from the *Central and Southern Florida Project Indian River Lagoon – South Final Integrated Project Implementation Report (PIR)* and *Environmental Impact Statement (EIS)* (2004).

Program Name: Infrastructure
Project Name: C-44 Basin Storage Reservoir
Project ID: part of 1101
Lead Agency: USACE / SFWMD
Authority: DEAUTHORIZED WRDA 2007 - WRDA 2000 - (Initially Authorized Project)
Funding Source: Corps/State

Strategic Plan Goal(s) Addressed: 1-A.1

Measurable Output(s):

- 33,150 acre-feet of reservoir storage
- 9,000 acre-feet storage in stormwater treatment areas

Est. Cost: \$1,357,167,000 (October 2006 price levels)

Current Status: During planning, it was determined that certain Initially Authorized Projects and closely related CERP projects should be combined. This project has been de-authorized by WRDA 2007 in order to be included as sub-features within a larger CERP project.

DEAUTHORIZED *This Initially Authorized Project and its associated costs are already included in: the Indian River Lagoon South project (Project ID 1101 - CERP Project # WBS 07).
--

Program Name: Infrastructure
Project Name: C&SF: CERP – Indian River Lagoon South - C-23/C-24/C-25/Northfork and Southfork Storage Reservoirs (UU) and C-44 Basin Storage Reservoir (B) – Expedited project includes C-44 (St. Lucie Canal) Reservoir / Stormwater Treatment Area (STA)
Project ID: 1101A (CERP Project WBS #07)
Lead Agency: SFWMD
Authority: C-44 initially authorized in WRDA 2000; other components not authorized Memorandum of Agreement Regarding Acceleration of the CERP
Funding Source: State

Strategic Plan Goal(s) Addressed: 1.B.1

Measurable Output(s): 50,600 ac-ft reservoir, pump station and 6,300 acre STA (Acceler8 C-44 measurable outputs are part of the overall project total.)

Project Synopsis: A 3,400 acre above-ground reservoir approximately 15 feet deep (50,600 acre-feet) to capture local C-44 basin runoff with 6,300 acres of Stormwater Treatment Areas. This SFWMD expedited project is a component of the Indian River Lagoon South (IRL-S) Project Implementation Report (PIR) and is located in southern Martin County, adjacent to the C-44 Canal, between Lake Okechobee and the Coast.

Total Estimated Project Cost: \$366,553,294

Scheduled Construction Start Date: TBD

Scheduled Project Completion Date: TBD

Actual Expenditures to date by SFWMD*:

	Thru 2006	2007	2008	Total
SFWMD	\$23,762,753	\$8,505,471	\$1,293,409	\$33,561,632

*Credit for expedited work subject to inclusion in authorized Federal project.

Contact: Karen Counes, 561-242-5520, x4098

Program Name: Infrastructure
Project Name: C&SF: CERP Everglades Agricultural Area Storage Reservoir (G P1 & G P2)
a/k/a Everglades Agricultural Storage Reservoirs - East & West
Project ID: 1102 (CERP Project WBS# 08) and 1103 (previously CERP Project WBS # 09)
Lead Agency: USACE / SFWMD
Authority: Phase 1 initially authorized in WRDA 2000; Phase 2 not authorized
Funding Source: Corps/State

Strategic Plan Goal(s) Addressed: 1-A.1

Measurable Output(s): 360,000 acre-feet total surface storage
 (240,000 acre-feet Phase 1 and 120,000 acre-feet Phase 2)

Project Synopsis: The *Central and Southern Florida Project Comprehensive Review Study* (Restudy) included aboveground reservoir(s) with storage capacity of approximately 360,000 acre-feet located in the Everglades Agricultural Area in western Palm Beach County. Additionally, it provides for canal conveyance capacity increases for the Miami, North New River, Bolles, and Cross Canals. The initial design for the reservoir(s) assumed 60,000 acres, divided into three equally sized compartments (1, 2, and 3), with water level fluctuation up to six feet above grade.

The Tentative Selected Plan (February 2006), features a reservoir impoundment with a maximum normal pool storage depth of 12 feet with about 31,000 acres of above ground surface area storage. The reservoir is divided into two parts, Cell 1 and Cell 2, approximately 200,000 and 160,000 acre-feet in size, respectively. Cell 1 is essentially equivalent to the state-expedited project. In November 2006, the National Research Council (NRC) Committee for Independent Scientific Review of Everglades Restoration Progress (CISRERP) recommended Incremental Adaptive Restoration (IAR) for implementation of some CERP projects to provide immediate restoration benefits. EAA Storage Reservoir project is one of five CERP projects initially identified by the Jacksonville District to be implemented based on IAR principles. Program managers recommended in December 2006 that the phase 1 PIR should be modified to focus on implementation of Cell 1 (the 200,000 acre-feet storage project and features).

Current Status: There will be two separate Project Implementation Reports (PIRs), one for Phase 1 and another for Phase 2 of the EAA project. The SFWMD is advancing the design and construction of the 190,000 acre-feet storage project in Phase 1 as a state-expedited project. Construction is targeted for December 2010. Upon completion of a Final PIR for Phase 1 storage project expected by June, a second PIR will be prepared to address remaining storage (160,000 acre-feet) and water quality treatment needs for Phase 2. The Corps would construct phase 2.

Est. Cost: \$615,600,000

Project Schedule:

2010 Phase 1, Part 1 construction complete.
 2015 Phase 1, Part 2 and Phase 2 construction complete.

Phase 1, Part 1	2002	2003	2004	2005	2006	2007	2008	2009	2010
PIR/ Plans & Specs									
Real Estate									
Construction									

Phase 1, Part 2	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Plans & Specs													
Construction													

Phase 2	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Plans & Specs														
Real Estate														
Construction														

Detailed Project Budget Information (in \$1,000s):

	Thru 2007	2008	2009	2010	2011	2012	Balance 2013 - 2015	Total
USACE	11,151	3,000	28,168	28,168	30,000	31,000	176,313	307,800
SFWMD	3,770	3,000	28,791	28,279	30,000	31,000	182,960	307,800
Total	14,921	6,000	56,959	56,447	60,000	62,000	359,273	615,600

Hyperlinks: http://www.evergladesplan.org/pm/projects/proj_08_eaa_phase_1.cfm

https://my.sfwmd.gov/portal/page?_pageid=1855,2831183,1855_2832538&_dad=portal&_schema=PORTAL&navpage=prjeaares

STA Expansion

https://my.sfwmd.gov/portal/page?_pageid=1855,2830554&_dad=portal&_schema=PORTAL&navpage=prjeaasta

Contact: Kim Brooks-Hall, Chief Project Execution Branch, USACE
 (904) 232-3155, Kimberly.Brooks-Hall@usace.army.mil

Source: Budget and schedule information is based on the FY09 budget submission to OMB and the *Master Implementation Sequencing Plan* (MISP) and updated to reflect current price levels in October 2007 dollars. Project synopsis is summarized from the *Central and Southern Florida Project Comprehensive Review Study*. Current project status includes information summarized from the Everglades Agricultural Area Storage Reservoirs Integrated Project Implementation Report (PIR)/ Environmental Impact Statement (EIS) Revised Draft - Feb 2006 and updates from the project manager.

Program Name: Infrastructure
Project Name: C&SF: CERP - Everglades Agricultural Area Storage Reservoirs (G) (Phase 1)
Project ID: *part of 1102*
Lead Agency: USACE / SFWMD
Authority: WRDA 2000 - *Initially Authorized Project*
Funding Source: Corps/State

Strategic Plan Goal(s) Addressed: 1-A.1

Measurable Output(s): 360,000 acre-feet total surface storage

Est. Cost: \$298,700,000 (October 2007 price levels)

Current Status: The initial component (G) was split into two parts. During planning, it was determined that certain Initially Authorized Projects and closely related CERP projects should be combined (restoring the two as one). Thus, the Initially Authorized Projects contained in this report will eventually be de-authorized in order to be included as sub-features within larger CERP projects.

*This Initially Authorized Project and its associated costs are already included in the Everglades Agricultural Area (EAA) Storage Reservoir project (Project ID 1102; CERP Project # WBS 08).

Program Name: Infrastructure
Project Name: C&SF: CERP - Everglades Agricultural Area (EAA) Storage Reservoirs (G) - Expedited project includes Everglades Agricultural Area (EAA) Reservoir - Phase 1 with Bolles Canal Improvements
Project ID: 1102A (CERP Project WBS #08) and 1103 (CERP Project WBS #09)
Lead Agency: SFWMD
Authority: Memorandum of Agreement Regarding Acceleration of the CERP
Funding Source: State

Strategic Plan Goal(s) Addressed: Primary: 1.A.1

Measurable Output(s): 190,000 ac-ft surface storage, water conveyance, flood protection (Acceler8 EAA measurable outputs are part of the overall project total.)

Project Synopsis: This *SFWMD expedited project* is a component of the larger EAA Reservoir Project and is designed to provide significant additional water storage in the southern region of the Everglades Agricultural Area (EAA). The Phase 1 project is an above-ground reservoir for water storage, with a capacity of 190,000 acre-feet at a maximum depth of 12.5 feet. The reservoir will be constructed on a 16,700-acre parcel of land situated north of Stormwater Treatment Area 3/4 and between the Miami and North New River canals. This accelerated project also includes conveyance capacity increases for the Bolles Canal (L-21 and L-16 Reaches) in order to provide improved flood protection and water flow capabilities for moving water to and from the EAA Reservoir and STAs.

Storage Reservoir:

Estimated Cost: \$798,719,697
Scheduled Construction Start Date: July, 2006
Scheduled Project Completion Date: June, 2011

Bolles Canal:

Estimated Construction Cost: \$44,705,000
Scheduled Construction Start Date: Mar, 2007
Scheduled Project Completion Date: Dec, 2009 (project on hold)

Actual Expenditures to date by SFWMD*:

Storage Reservoir:

	Thru 2006	2007	2008	Total
SFWMD	\$41,014,684	\$48,232,434	\$93,000,000	\$182,247,118

Bolles Canal:

	Thru 2005	2006	2007	2008	Total
SFWMD	\$96,576	\$39,368	\$349,773	\$1,550,000	\$2,035,717

Contact: Shawn Waldeck, 561-242-5520, x4023

*Credit for expedited project work subject to inclusion in authorized Federal project.

**Amount estimated subject to credit once project is authorized and authorization has been given to credit work accomplished prior to signing of a PCA.

Program Name: Infrastructure
Project Name: C&SF: CERP Lake Okeechobee Watershed (A) (W) (OPEs: LOWQTF, LOTSD, LIRS)
Project ID: 1104 (CERP Project WBS # 01)
Lead Agency: USACE / SFWMD
Authority: Component W initially authorized in WRDA 2000; other components not authorized
Funding Source: Corps/State

Strategic Plan Goal(s) Addressed: Primary: 1-A.1

Secondary: 1-B.1, 2-A.3

Measurable Output(s):

- 272,823 acre-feet storage capacity in the Lake Okeechobee Watershed (LOW: 202,500; Taylor Creek Nubbin Slough 55,000; OPEs 4,375; Taylor Creek Reservoir 1,984)
- 12,000 acre stormwater treatment area
- 3,730 acres of habitat restoration (primarily wetlands)
- 74 metric tons average annual reduction of phosphorus going into Lake Okeechobee

Project Synopsis: Purpose of the project as it pertains to Lake Okeechobee is increase aquatic and wildlife habitat, regulate extreme highs and lows in Lake staging, reduce phosphorus loading and reduce damaging releases to the surrounding estuaries. In addition, this project will also focus on rehydrating wetlands in and around the areas north of the lake and improve the ecological health of Lake Istokpoga. The Central and Southern Florida Project Comprehensive Review Study (Restudy) initially included each of the following separate elements:

- a) **North of Lake Okeechobee Storage Reservoir (A)** - Initial design was for an above-ground reservoir with total storage capacity of approximately 201,250 acre-feet in a 17,500-acre reservoir (water levels fluctuating up to 11.5 feet above grade) and a 2,500-acre stormwater treatment area to be located in the Kissimmee River Region, north of Lake Okeechobee. It was anticipated that it would be located in Glades, Highlands, or Okeechobee Counties. Final size, depth and configuration determined through more detailed planning, land suitability analyses, and design determined by an evaluation of degraded water bodies within the watersheds of the storage/treatment facility for appropriate pollution load reduction targets, and other water quality restoration targets for the watershed.
- b) **Taylor Creek/Nubbin Slough Storage and Treatment Area (W)** - One of the ten Initially Authorized Projects identified in the Water Resources Development Act (WRDA) 2000, the initial design includes an 5,000 acre above-ground reservoir (water levels fluctuating up to 10 feet above grade) with a storage capacity of approximately 50,000 acre-feet and a 5,000 acre stormwater treatment area with 20,000 acre-feet capacity in the Taylor Creek/Nubbin Slough Basin.
- c) **Lake Okeechobee Watershed Water Quality Treatment Facilities (LOWQTF)** - Includes two reservoir-assisted stormwater treatment areas and the plugging of select local drainage ditches. The initial design of these reservoir-assisted stormwater treatment areas assumes a 1,775-acre facility in the S 154 Basin in Okeechobee County and a 2,600-acre facility in the S-65D sub-basin of the Kissimmee River Basin in Highlands and Okeechobee Counties. The plugged drainage ditches will result in restoration of approximately 3,500 acres of wetlands throughout the Lake Okeechobee watershed basin. The other portion of this feature includes the purchase of conservation easements within four key basins of Lake Okeechobee to restore the hydrology of isolated wetlands by plugging the connection to drainage ditches and the diversion of canal flows to adjacent wetlands. The sites range in size from an individual wetland to an entire sub-basin and are located within the lower Kissimmee River Basins (S-65D, S-65E, and S-154) and Taylor Creek/Nubbin Slough Basin (S-191).

Project 1104 C&SF: CERP Lake Okeechobee Watershed page 1 of 4

- d) **Lake Okeechobee Tributary Sediment Dredging (LOTSD)** - Dredging of sediments from 10 miles of primary canals within an 8-basin area in the northern watershed of Lake Okeechobee. The initial design assumes that the dredged material will contain approximately 150 tons of phosphorus. The purpose of this feature is to remove phosphorous from canals located in areas with the most intense agriculture in the watershed that contribute to excessive phosphorus loading to Lake Okeechobee. A partnership with local landowners will be pursued for the disposal of dredged material on uplands.
- e) **Lake Istokpoga Regulation Schedule (LIRS)** - Develops a plan to address water resource problems in the Lake Istokpoga Basin. Lake Istokpoga is a natural lake located in Highlands County, and a tributary of both Lake Okeechobee and the Kissimmee River. The major focus of this plan is to create a balance between the environmental needs, water supply and flood control in the Lake Istokpoga drainage basin.

Current Status: The Lake Okeechobee Tributary Sediment Dredging Project (LOTSD) is included in the programmatic authorization for implementation of projects with a total project cost under \$25 million, but was removed from this project due to non-cost effectiveness. As part of Corps planning, several alternative plans were reviewed. The final LOW Project Tentatively Selected Plan (TSP) consists of the following six structural water storage and treatment features and a recommended Lake Istokpoga Regulation Schedule (LIRS):

A reservoir in the Taylor Creek/Nubbin Slough basin - A 1,984-acre reservoir, located in the S-191 sub-basin, will provide a maximum capacity of 32,000 acre-feet at an average depth of 18 feet situated on the Grassy Island Ranch. The reservoir will receive inflows from and discharge back to Taylor Creek. *(part of the ten initial projects authorized in WRDA 2000)*. On hold pending results of Northern Everglades Feasibility Study in the TC/NS basin.

A stormwater treatment area (STA) in the Taylor Creek/Nubbin Slough basin - A 3,975 acre treatment area will be located in the S-135 sub-basin and will have an average operating depth of 1.5 feet. This feature will receive inflow from the L-64 canal and discharge back to the L-47 canal and is projected to provide 15.8 metric tons of average annual phosphorus load reduction. *(part of the ten initial projects authorized in WRDA 2000)*

A reservoir in the Kissimmee River basin - A 10,281 acre above ground reservoir will provide a maximum storage capacity of 161,263 acre-feet (at 16 feet average depth) located in the C-41A sub-basin within the Kissimmee River drainage basin. It will receive flow from and discharge back to the C-38 canal (Kissimmee River).

A reservoir in the Lake Istokpoga basin - A 5,416-acre reservoir is proposed to be located in the C-40A and C-41A sub-basins and provide a maximum storage capacity of 79,560 acre-feet (at an average depth of 16 feet). It will receive inflow from and discharge back to the C-41A canal.

A stormwater treatment area in the Lake Istokpoga basin - An 8,044-acre treatment area will be located in the L-49 sub-basin (at an average operating depth of 1.5 feet). It will receive flow from the C-41 canal and discharge treated water to Lake Okeechobee and is expected to provide approximately 29.1 metric tons of average annual phosphorus load reduction.

Restoring a wetland in Paradise Run - A 3,730-acre wetland restoration site is located at the ecologically significant confluence (under pre-development conditions) of Paradise Run, oxbows of the Kissimmee River, and Lake Okeechobee. Under restored conditions, it would have a rain-driven hydrology unless future efforts to further enhance watershed conditions could link the site to the surface flows from the C-38 (Kissimmee River) or C-41A (Istokpoga) Canals.

Est. Cost: \$669,000,000

Project Schedule:

2011 PIR
 2015 Construction complete (LOTSD, LOWQTF, A, W).

LOW	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
PIR														
Plans& Specs														
Real Estate														
Construction														

Detailed Project Budget Information (in \$1,000s):

	Thru 2007	2008	2009	2010	2011	Balance 2012-2016	Total
USACE	12,569	2,050	2,737	2,737	2,737	311,670	334,500
SFWMD	7,235	2,050	2,737	2,737	2,737	317,004	334,500
Total	19,804	4,100	5,474	5,474	5,474	628,674	669,000

Hyperlink: http://www.evergladesplan.org/pm/projects/proj_01_lake_o_watershed.cfm

Contact: Kim Brooks-Hall, Chief Project Execution Branch, USACE
 (904) 232-3155, Kimberly.Brooks-Hall@usace.army.mil

Source: Detailed budget and schedule information based on the FY09 budget submission to OMB and the *Master Implementation Sequencing Plan (MISP)* and updated to reflect current price levels in October 2007 dollars. Original project description summarized from the *Central and Southern Florida Project Comprehensive Review Study*. Current project status includes information summarized from the April 2008 status report and from the project manager.

Program Name: Infrastructure
Project Name: Taylor Creek Nubbin Slough Reservoir & Stormwater Treatment Area (STA) (W)
Project ID: part of 1104
Lead Agency: USACE / SFWMD
Authority: WRDA 2000 – *Initially Authorized Project*
Funding Source: Corps/State

Strategic Plan Goal(s) Addressed: Primary: 1-A.1

Secondary: 1-B.1, 2-A.3

***Initial Measurable Output(s):**

- 201,250 acre-feet reservoir and 2,500 acres stormwater treatment area
- 50,000 acre-feet reservoir and 5,000 acres stormwater treatment area
- 3,500 acres of wetlands restored

Est. Cost: \$119,600,000 (October 2007 price levels)

During planning, it was determined that certain Initially Authorized Projects and closely related CERP projects should be combined. Thus, the Initially Authorized Projects contained in this report will be de-authorized in order to be included as sub-features within larger CERP projects.

*This Initially Authorized Project and its associated costs are already included in the Lake Okeechobee Watershed project (Project ID 1104; CERP Project # WBS 01).

Program Name: Infrastructure
Project Name: C&SF: CERP North Lake Belt Storage Area (XX P2)
Project ID: 1105 (CERP Project WBS# 25)
Lead Agency: USACE / SFWMD
Authority: Not authorized
Funding Source: Corps/State

Strategic Plan Goal(s) Addressed: Primary: 1-A.1

Measurable Output(s): 90,000 acre-feet reservoir

Project Synopsis: Capture and store a portion of the stormwater runoff from the C-6, western C-11 and C-9 Basins. The stored water will be used to maintain stages during the dry season in the C-9, C-6, C-7, C-4 and C-2 canals and to provide fresh water deliveries to Biscayne Bay to aid in meeting salinity targets.

This feature includes canals, pumps, water control structures, and an in-ground storage reservoir with a total capacity of approximately 90,000 acre-feet located in Miami-Dade County within an area proposed for rock mining. The initial design of the reservoir assumed 4,500 acres (water level fluctuating from ground level to 20 feet below grade). A subterranean seepage barrier will be constructed around the perimeter to enable drawdown during dry periods, to prevent seepage losses, and to prevent water quality impact due to the high transmissivity of the Biscayne Aquifer in the area.

Runoff is pumped and gravity fed into the in-ground reservoir from the C-6 (west of Florida’s Turnpike), western C-11, and C-9 basins. Outflows from the facility will be directed into the C-9 Stormwater Treatment Area/Impoundment for treatment prior to delivery to the C-9, C-7, C-6, C-4 and C-2 canals.

Current Status: A pilot test of this component will be conducted prior to final design. If necessary, additional stormwater treatment areas will be constructed adjacent to the in-ground reservoir.

Est. Cost: \$327,400,000

Project Schedule:

2029 Phase 1 construction complete
 2036 Phase 2 construction complete

Phase I	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
PIR/Plans & Spec													
Real Estate													
Construction													

Phase II	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036
Plans & Specs												
Real Estate												
Construction												

Detailed Project Budget Information (in \$1,000s):

	2017	2018	2019	2020	2021	2022	Balance 2023-2036	Total
USACE	7,704	7,704	7,704	7,704	7,704	7,704	117,476	163,700
SFWMD	7,704	7,704	7,704	7,704	7,704	7,704	117,476	163,700
Total	15,408	15,408	15,408	15,408	15,408	15,408	234,952	327,400

Hyperlink: http://www.evergladesplan.org/pm/projects/proj_25_north_lake_belt.cfm

Contact: Kim Brooks-Hall, Chief Project Execution Branch, USACE
(904) 232-3155, Kimberly.Brooks-Hall@usace.army.mil

Source: Detailed budget and schedule information based on the FY09 budget submission to OMB and the *Master Implementation Sequencing Plan* (MISP) and updated to reflect current price levels in October 2007 dollars. Original project description summarized from the *Central and Southern Florida Project Comprehensive Review Study*.

Program Name: Infrastructure
Project Name: C&SF: CERP PBC Agriculture Reserve Reservoir -- Part 1 (VV P1)
Project ID: 1106 (CERP Project WBS# 20)
Lead Agency: USACE / SFWMD
Authority: Not authorized
Funding Source: Corps/State

Strategic Plan Goal(s) Addressed: 1-A.1

Measurable Output(s): 20,000 acre-feet reservoir

Project Synopsis: Features include an aboveground reservoir with a total storage capacity of approximately 20,000 acre-feet located in the western portion of the Palm Beach County (PBC) Agriculture Reserve. The initial design for the reservoir assumed 1,660 acres with water levels fluctuating up to 12 feet above grade. Facilities will be filled during the wet season with excess water from the western portions of the Lake Worth Drainage District and possibly from Acme Basin B. Water will be returned to the Lake Worth Drainage District Canals to help maintain canal stages during the dry-season. If water is not available in the reservoir or the associated aquifer storage and recovery wells, existing rules for water delivery to this region will be applied.

Current Status: Project is scheduled for the future; not started yet.

Est. Cost.: \$112,500,000

Project Schedule:

2017 Reservoir (Part 1) construction completed.

Reservoir (Part 1)	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
PIR/Plans & Specs												
Real Estate												
Construction												

Detailed Project Budget Information (in \$1,000s):

Reservoir (Part 1)	Thru 2007	2008	2009	2010	2011	Balance 2012-2017	Total
USACE	0	2,622	5,244	7,866	10,488	30,030	56,250
SFWMD	1	2,622	5,244	7,866	10,488	30,029	56,250
Total	1	5,244	10,488	15,732	20,976	60,059	112,500

Hyperlink: http://www.evergladesplan.org/pm/projects/proj_20_pbc_asr_1.cfm

Contact: Kim Brooks-Hall, Chief Project Execution Branch, USACE
 (904) 232-3155, Kimberly.Brooks-Hall@usace.army.mil

Source: Detailed budget and schedule information based on the FY09 budget submission to OMB and the *Master Implementation Sequencing Plan (MISP)* and updated to reflect current price levels in October 2007 dollars. Original project description summarized from the *Central and Southern Florida Project Comprehensive Review Study*.

Program Name: Infrastructure
Project Name: C&SF: CERP Site 1 Impoundment (M P1) a/k/a Site 1 Impoundment (*Fran Reich Preserve*)
Project ID: 1107 (CERP Project WBS# 40)
Lead Agency: USACE / SFWMD
Authority: WRDA 2000 – *Initially Authorized Project*, WRDA 2007
Funding Source: Corps/State

Strategic Plan Goal(s) Addressed: Primary: 1-A.1

Secondary: 2-A.3

Measurable Output(s):

- 13,280 acre-feet reservoir storage
- 114 acres of restored wetland and upland habitat

Project Synopsis: The project contained in the *Central and Southern Florida Project Comprehensive Review Study (Restudy)* titled *Site 1 Impoundment and Aquifer Storage and Recovery (M)* included an above-ground reservoir and a series of aquifer storage and recovery wells. The reservoir was estimated with a total storage capacity of approximately 15,000 acre-feet located in the Hillsboro Canal Basin in southern Palm Beach County. The initial design of the reservoir assumed 2,460 acres (water levels fluctuating up to 6 feet above grade). Water from the Hillsboro Canal will be pumped into the reservoir during the wet season or periods when excess water is available. Water will be released back to the Hillsboro Canal to help maintain canal stages during the dry-season.

The aquifer storage and recovery wells included a total capacity of approximately 150 million gallons per day and associated pre- and post- water quality treatment. The initial design of the aquifer storage and recovery facility assumed 30 well clusters, each with a capacity of five million gallons per day with chlorination for pre-treatment and aeration for post-treatment. The source of water to be injected is in the surficial ground water adjacent to the reservoir.

For purposes of project execution this project was divided into two phases. Phase 1 *Site 1 Impoundment* (M P1) (now a/k/a *Fran Reich Preserve*) (CERP Project WBS #40) relates to the reservoir portion of the project and phase 2 (*Hillsboro ASR Phase 2* (M P2) (CERP Project WBS #22) relates to the aquifer storage and recovery wells portion.

Current Status: The Tentatively Selected Plan (TSP) for Phase 1 was identified in 2004 and the Alternative Formulation Briefing (AFB) was held in August 2004. A revised draft Project Implementation Report (PIR) was released in December 2005 and the final PIR, which included refinements, was completed in 2006. The Chief of Engineer's Report was signed in December 2006.

The Site 1 Impoundment Selected Alternative Plan features an 1,800-acre project footprint with a 1,660-acre, approximately eight-foot deep above ground impoundment (13,280 acre-feet) with inflow pump station, discharge gated culvert, emergency overflow spillway, and seepage control canal with associated structures. The impoundment is divided into two compartments or cells (eastern and western) by an internal levee.

Est. Cost: \$88,800,000

Project Schedule:

2013 Reservoir (Phase I) construction completed

Reservoir (Phase I)	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
PIR											
Plans & Specs											
Real Estate											
Construction											

Detailed Project Budget Information (in \$1,000s):

Phase I	Thru 2007	2008	2009	2010	2011	2012	2013	Total
USACE	2,554	2,250	3,500	12,032	12,032	6,016	6,016	44,400
SFWMD	567	2,250	3,500	12,694	12,694	6,348	6,347	44,400
Total	3,121	4,500	7,000	24,726	24,726	12,364	12,363	88,800

Hyperlinks: http://www.evergladesplan.org/pm/projects/proj_40_site_1_impoundment.cfm
https://my.sfwmd.gov/portal/page?_pageid=1855,2831038,1855_2831245&_dad=portal&_schema=PORTAL&navpage=prjwpa

Contact: Kim Brooks-Hall, Chief Project Execution Branch, USACE
 (904) 232-3155, Kimberly.Brooks-Hall@usace.army.mil

Source: Detailed budget and schedule information based on the FY09 budget submission to OMB and the *Master Implementation Sequencing Plan (MISP)* and updated to reflect current price levels in October 2007 dollars. Original project description summarized from the *Central and Southern Florida Project Comprehensive Review Study*. Current project status includes information summarized from the Congressional Fact Sheet (January 2008) and from the project manager.

Program Name: Infrastructure
Project Name: Original Site 1 Impoundment and Aquifer Storage and Recovery (M)
Project ID: Part of 1107
Lead Agency: USACE / SFWMD
Authority: Phase I initially authorized in WRDA 2000
Funding Source: Corps/State

Strategic Plan Goal(s) Addressed: Primary: 1-A.1

Secondary: 1-A.2

Measurable Output(s):

- 13,280 acre-feet reservoir
- 114 acres of restored wetland and upland habitat

Est. Cost: \$82,400,000 (at October 2007 price levels)

Current Status: During the planning process, it was determined that certain Initially Authorized Projects and closely related CERP projects should be combined. Thus, the Initially Authorized Projects contained in this report will be de-authorized in order to be included as sub-features within larger CERP projects.

*This Initially Authorized Project was split into separate projects and a pilot and its associated costs are already included in the Site 1 Impoundment and Aquifer Storage and Recovery projects (ID 1107; CERP Project # WBS 40 and WBS 22 respectively).

Program Name: Infrastructure
Project Name: C&SF: CERP C-43 Basin Storage Reservoir --Part 1 (D P1)
Caloosahatchee River (C-43) West Basin Storage Reservoir (PIR #1)
Caloosahatchee Watershed (PIR #2)
Project ID: 1109 (CERP Project WBS# 04)
Lead Agency: USACE / SFWMD
Authority: Not Authorized
Funding Source: Corps/State

Strategic Plan Goal(s) Addressed: 1-A.1

Measurable Output(s): 170,000 acre-feet storage

Project Synopsis: The *Central and Southern Florida Project Comprehensive Review Study* (Restudy) initially included an above-ground reservoir(s) with a total storage capacity of approximately 160,000 acre-feet and aquifer storage and recovery wells with a capacity of approximately 220 million gallons per day and associated pre- and post- water quality treatment located in the C-43 Basin in Hendry, Glades, or Lee Counties. The initial design of the reservoir(s) assumed 20,000 acres (water levels fluctuating up to 8 feet above grade). Excess runoff from the C-43 Basin and Lake Okeechobee flood control discharges will be pumped into the proposed reservoir. Water from the reservoir will be injected into the aquifer storage and recovery wellfield for long-term storage. Any estuarine demands not met by basin runoff and the aquifer storage and recovery wells, will be met by Lake Okeechobee as long as the lake stage is above a pre-determined level.

Current Status: As part of the Corps planning process, several alternative plans were reviewed. Caloosahatchee (C-43) Basin Storage Reservoir and Aquifer Storage and Recovery (ASR) project (originally component D in the CERP) has been divided into two parts: The ASR, part D P2, and the other, D P1, will examine all other problems and opportunities. In 2007 DP1 was further subdivided into two separate Project Implementation Reports (PIR)s: (a) the Caloosahatchee River (C-43) West Basin Storage Reservoir (WBSR) project and (b) the Caloosahatchee Watershed project.

a) The purpose of the **West Basin Storage Reservoir** (WBSR) is to restore the Caloosahatchee estuarine and riverine ecosystems by improving hydrologic conditions. To achieve this goal, the WBSR team identified two key objectives: (1) provide additional water to the estuary to augment low or no flows over Structure S-79 during the dry season/dry periods, and (2) reduce damaging peak flows to the estuary by capturing and storing excess basin run-off and Lake Okeechobee releases during high flow conditions. The PIR addresses formulation, evaluation, and justification of a separable reservoir project in the lower basin by reaffirming that a reservoir in the lower basin will achieve the benefits outlined in the 1999 Restudy. Based on the current conditions, the project still achieves the benefits in a cost-effective manner. The Final PIR is scheduled to be submitted to Congress in 2008. As a state- expedited project, the South Florida Water Management District designed a reservoir at the Berry Groves site, and final plans and specifications were completed in 2008. The project is expected to begin construction by 2011. The recommended plan now includes a 170,000 acre-foot storage reservoir with a 1500 cfs pump capacity.

b) The **Caloosahatchee (C-43) Watershed** project will address water quality, water management, and ecological restoration challenges, while also ensuring that agricultural water supply requirements and flood attenuation are not negatively impacted. The goals are to: (1) Identify, evaluate and implement methods and/or means to enhance water quality in the basin, (2) Identify, evaluate and implement methods and/or means of further decreasing dependency upon water releases from Lake Okeechobee, without disrupting water supply needs in the basin, and

(3) Identify, evaluate and implement methods and/or means to promote ecosystem restoration by removing exotic flora and redirecting water flows at specific locations in the basin. A Project Delivery Team (PDT) is being assembled and work on a PMP is commencing.

Est. Cost :

(PIR #1): \$303,200,000
 (PIR #2): TBD

Project Schedule:

(PIR #1): 2013 Storage Reservoir construction completed
 (PIR #2): TBD Watershed activity completed.

West Basin Storage Reservoir (PIR# 1)	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
PIR/Plans & Specs													
Real Estate													
Construction													

Caloosahatchee (C-43) Watershed (PIR # 2)	2006	2007	2008	2009	2010	2011	2012	2013
PIR/Plans & Specs								
Real Estate				TBD				
Construction				TBD				

Detailed Project Budget Information for West Basin Storage Reservoir (DP1) only (in \$1,000s):

Storage Reservoir (PIR# 1)	Thru 2007	2008	2009	2010	2011	Balance 2012-2019	Total
USACE	7,614	400	500	500	15,000	127,586	151,600
SFWMD	3,036	400	500	500	15,000	132,164	151,600
Total	10,650	800	1,000	1,000	30,000	259,750	303,200

Hyperlinks: http://www.evergladesplan.org/pm/projects/proj_04_c43_basin_1.aspx

https://my.sfwmd.gov/portal/page?_pageid=1855,2831854,1855_2831665&_dad=portal&_schema=PORTAL&navpage=prj44

Contact: Kim Brooks-Hall, Chief Project Execution Branch, USACE
 (904) 232-3155, Kimberly.Brooks-Hall@usace.army.mil

Source: Detailed budget and schedule information based on the FY09 budget submission to OMB and the *Master Implementation Sequencing Plan (MISP)* and updated to reflect current price levels in October 2007 dollars. Original project description summarized from the *Central and Southern Florida Project Comprehensive Review Study*. Current status information summarized from planning documents, Congressional Fact Sheets (January 2008).

Program Name: Infrastructure
Project Name: C&SF: CERP Central Lake Belt Storage Area (S P1& P2 & EEE)
Project ID: 1110 (CERP Project WBS # 26) [includes S P1, once part of WBS #48, and Water Conservation Area 2B Flows to Eastern Water Conservation Area (EEE) previously CERP Project WBS # 23)
Lead Agency: USACE / SFWMD
Authority: Not Authorized
Funding Source: Corps/State

Strategic Plan Goal(s) Addressed: Primary: 1-A.1

Secondary: 1-B.1

Measurable Output(s):

- 190,000 acre-feet storage
- 640 acres stormwater treatment area

Project Synopsis: The *Central and Southern Florida Project Comprehensive Review Study* (Restudy) includes pumps, water control structures, an STA of 640 acres (water level fluctuating up to four feet above grade), and a combination above-ground and in-ground storage reservoir with a total storage capacity of approximately 190,000 acre-feet located in Miami-Dade County of 5,200 acres (water level fluctuating from 16 feet above to 20 feet below grade). A subterranean seepage barrier will be constructed around the perimeter to enable drawdown during dry periods and to prevent seepage losses.

Excess water from Water Conservation Areas 2 and 3 will be diverted into the L-37, L-33, and L-30 Borrow Canals, which run along the eastern boundaries of the Water Conservation Areas, and pumped into the Central Lake Belt Storage Area. Water supply deliveries will be pumped through an STA prior to discharge to the Everglades via the L-30 Borrow Canal and a reconfigured L-31N Borrow Canal. If available, deliveries will be directed to Biscayne Bay through the Snapper Creek Canal at Florida's Turnpike. A structure will be provided on the Snapper Creek Canal to provide regional system deliveries when water from the Central Lake Belt Storage Area is not available to: (1) Northeast Shark River Slough, (2) Water Conservation Area 3B, and (3) to Biscayne Bay, improving hydro-patterns in that order, if available. It includes pumps and water control structures.

Current Status: Over the past few years (S) was split into two parts and tracked separately from (EEE). The configuration is now the same as it was in the Restudy .A pilot test of this technology will be conducted prior to final design of this component. Since this facility is to be located within the protection area of Miami-Dade County's northwest wellfield, the pilot test will also be designed to identify and address potential impacts to the Miami-Dade County's northwest wellfield, which may occur during construction and/or operation. Planned in future.

Est. Cost: \$648,469,000 (\$640,450,000 for S P1 and P2 and \$8,019,000 for EEE)

Project Schedule:

- 2017 Construction completed (EEE).
- 2036 Phase II construction completed (S Part 1 and S Part 2).

Flows to Eastern Water (EEE)	2011	2012	2013	2014	2015	2016	2017
PIR/Plans & Specs							
Construction							

S (Part 1)	2016	2017	2018	2019	2020	2021	2022	2023
Plans and Specs								
Real Estate								
Construction								

S (Part 2)	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Planning & Design																	
Real Estate																	
Construction																	

Detailed Project Budget Information (\$1,000):

Flows to Eastern Water (EEE)	2012	2013	2014	2015	2016	2017	Total
USACE	200	200	401	882	1,123	1,203	4,010
SFWMD	200	200	401	882	1,123	1,203	4,010
Total	400	401	802	1,764	2,245	2,406	8,019

S Part 1 and 2	2016	2017	2018	2019	2020	2021	Balance 2022-2035	Total
USACE	2,500	2,500	58,218	58,218	58,218	58,221	82,350	320,225
SFWMD	2,500	2,500	58,218	58,218	58,218	58,221	82,350	320,225
Total	7,016	7,017	118,454	118,455	118,456	118,463	164,700	640,450

Hyperlinks: http://www.evergladesplan.org/pm/projects/proj_26_central_lake_belt.cfm
http://www.evergladesplan.org/pm/projects/proj_23_flow_eastern.cfm

Contact: Kim Brooks-Hall, Chief Project Execution Branch, USACE
 (904) 232-3155, Kimberly.Brooks-Hall@usace.army.mil

Source: Detailed budget and schedule information based on the FY09 budget submission to OMB and the *Master Implementation Sequencing Plan (MISP)* and updated to reflect current price levels in October 2007 dollars. Original project description summarized from the *Central and Southern Florida Project Comprehensive Review Study*.

Program Name: Land Acquisition & Infrastructure
Project Name: E&SF: Critical Projects Ten Mile Creek
Project ID: 1111
Lead Agency: USACE / SFWMD
Authority: WRDA 1996
Funding Source:

Strategic Plan Goal(s) Addressed: Primary: 1-A.1 Secondary: 2-A.3

Measurable Output(s):

- 6,000 acre feet of storage provided on 526 acres of land
- 2,740 acres habit improved by project

Project Synopsis: The project site is located just south of Ten Mile Creek in St. Lucie County. Ten Mile Creek is the largest sub-basin delivering water to the North Fork of the St. Lucie River Estuary (SLE), which has been established as an Outstanding Florida Water (OFW). The SLE discharges into the Indian River Lagoon (IRL), which is also an OFW. The IRL is the most biologically diverse estuary in North America. The entire lagoon is endangered by increased runoff from watershed drainage enhancements. Excess stormwater due to drainage improvements is causing radical fluctuations of the salinity concentration in the SLE. Adverse salinity concentrations are eliminating viable habitat suitable for oysters, seagrasses, and marine fish spawning.

The original concept for this feature outlined in the *Central and Southern Florida Project Comprehensive Review Study* (Restudy) includes construction of a water preserve area to attenuate flows and improve water quality discharged to the SLE/IRL. The proposed site is approximately 1,559 acres. The project includes land acquisition, construction, and operation of an aboveground reservoir with a pump station for filling the reservoir from Ten Mile Creek and a gated water-level control structure for the release of water back to the creek. The footprint of the reservoir is anticipated to be approximately 526 acres in size with the remaining acreage being utilized as a polishing cell and a natural preserve area. Based upon existing topography, stored water depths average ten feet. Total storage capacity will be approximately 6,000 acre-feet. The project also includes construction of four hydraulic control structures to control intake and discharge from both the deep-water storage area and the polishing cell.

As part of the Corps planning process, several alternative plans were reviewed. The Tentatively Selected Plan (TSP) was identified in 1998. This project consists of the acquisition of approximately 1,559 acres of land in the eastern portion of the Ten Mile Creek Basin and the construction of an aboveground impoundment for stormwater detention purposes on this property. It also includes construction of a pump station and several control structures for circulation and discharge within the project. A constructed wetland or flow-through marsh has been added for additional water quality improvement purposes. The construction of a water preserve area and polishing cell will attenuate flows and improve water quality discharge into St. Lucie Estuary.

Detailed monitoring will give practical information about how well the reservoir can capture nutrients on its own, prior to treatment in the STA, and about fish and wildlife use of the reservoir and whether species can persist under the greatly fluctuating hydrologic regime. This project will attenuate flows and improve water quality to the St. Lucie Estuary and Indian River Lagoon.

Current Status: Construction was completed on the Ten Mile Creek Water Preserve Area Project in January 2006. Since that time, interim operations, testing and monitoring have been under way by the South Florida Water Management District (SFWMD) and the Corps of Engineers (COE) in accordance with the water quality permit and Project Cooperation Agreement. During the processes that occur in preparation to transfer the project to the SFWMD for full operations, concerns were raised about some aspects of the project. In September 2007, the COE and the SFWMD immediately began identifying all concerns and planning a course of action toward remediation and the delivery of a quality project. This process identified additional project needs and associated costs. Due to these potential cost increases and limitations on funding, reauthorization will be required to proceed.

Est. Cost: \$39,335,000

Project Schedule:

1997 Start
 2006 Finish Construction
 2007 Monitoring
 TBD Completion

	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Design												
Real Estate												
Construction												
Monitoring												

Detailed Project Budget Information (in \$1,000s):

	Thru 2007*	2008	Total
USACE	20,013	4,828	24,841
SFWMD	14,494		14,494
Total	34,507	4,828	39,335

Hyperlink: <http://www.saj.usace.army.mil/projects/proj11.htm>

Contact: Doris Marlin, Sr. Project Manager, USACE
 904) 232-1040, Doris.A.Marlin@usace.army.mil
 Kim Brooks-Hall, Chief Project Execution Branch, USACE
 (904) 232-3155, Kimberly.Brooks-Hall@usace.army.mil

Source: Detailed budget and schedule information based on the *Central and Southern Florida Project Comprehensive Everglades Restoration Plan 2005 Report to Congress* and the *Master Implementation Sequencing Plan (MISP)* and updated to reflect current price levels in October 2005 dollars. Original project description summarized from the *Central and Southern Florida Project Comprehensive Review Study*.

Program Name: Restoration Program: Hydrology and Water Quality
Project Name: Taylor Creek Reservoir – Expedited Project – The SFWMD is implementing as part of Northern Everglades Project
Project ID: 1112
Lead Agency: South Florida Water Management District
Authority: Chapter 373, Florida Statutes
Funding Source: Lake Okeechobee Trust Fund

Strategic Plan Goal(s) Addressed: 1.A.1 **Secondary:** 1.B.1

Measurable Output(s): 32,000 acre ft of storage; 3-5 metric ton phosphorus reduction

Project Synopsis: In 2007, the Florida legislature enacted the Northern Everglades Initiative which expands the Lake Okeechobee Protection Act to the entire Northern Everglades system, including the Lake Okeechobee watershed as well as the Caloosahatchee and St. Lucie rivers and estuaries. The plan identifies five construction projects north of Lake Okeechobee, including the Taylor Creek Reservoir, as expedited projects. The Taylor Creek Reservoir project involves construction of a 4,000 acre reservoir in Taylor Creek which will provide approximately 32,000 acre feet of storage and 3-5 metric ton phosphorus reduction.

This project is on hold pending evaluation of benefits in the Taylor Creek/Nubbin Slough Feasibility Study as part of the Northern Everglades Project.

Total Estimated Project Cost: \$TBD

Project Schedule:

Start Date: October 2005
 Finish Date: December 2015

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Project Design											
Construction and Installation											
Operations and Monitoring											

Detailed Project Budget Information (\$1000)

	2006	2007	2008	2009	2010	Balance to complete	Total
Federal EPA							
State SFWMD	2,115	1,683	TBD	TBD	TBD	TBD	TBD
Tribal							
Local							
Other							
Total	2,115	1,683					TBD

Hyperlink: N/A

Contact: Mark Long (561) 242-5520 x4061

Program Name: Infrastructure
Project Name: C&SF: CERP Water Preserve Area Conveyance (XX P1)
Project ID: 1113 (CERP Project WBS# 49)
Lead Agency: USACE / SFWMD
Authority: Not authorized
Funding Source: Corps/State

Strategic Plan Goal(s) Addressed: 1-A.1

Measurable Output(s): 90,000 acre-feet reservoir

Project Synopsis: The *Central and Southern Florida Project Comprehensive Review Study* (Restudy) initially included water control structures and modifications to the Dade-Broward Levee and associated conveyance system located in Miami-Dade County. The purpose of this feature is to reduce seepage losses to the east from the Pennsuco Wetlands and southern Water Conservation Area 3B, enhance hydroperiods in the Pennsuco Wetlands, and provide recharge to Miami-Dade County's Northwest Wellfield.

Current Status: This project adheres to the original concept outlined in the Restudy, but has not yet begun.

Est. Cost: \$327,104,000

Project Schedule:

2014 North Lake Belt Storage Area (XXP1) construction completed

XX P1	2006	2007	2008	2009	2010	2011	2012	2013	2014
Planning & Design									
Real Estate									
Construction									

Detailed Project Budget Information (in \$1,000s):

	Thru 2007	2008	2009	2010	2011	Balance 2012-2014	Total
USACE	227	4,968	4,968	16,561	16,561	120,267	163,552
SFWMD	0	4,975	4,975	16,583	16,583	120,436	163,552
Total	227	9,943	9,943	33,144	33,144	240,703	327,104

Hyperlink: http://www.evergladesplan.org/pm/projects/proj_49_wpa.cfm

Contact: Kim Brooks-Hall, Chief Project Execution Branch, USACE
 (904) 232-3155, Kimberly.Brooks-Hall@usace.army.mil

Source: Detailed budget and schedule information based on the *Central and Southern Florida Project Comprehensive Everglades Restoration Plan* and the *Master Implementation Sequencing Plan (MISP)* and updated to reflect current price levels in October 2007 dollars. Original project description summarized from the *Central and Southern Florida Project Comprehensive Review Study*.

Program Name: Infrastructure
Project Name: C&SF: CERP Everglades National Park Seepage Management (V)(FF)(U)(BB)
Project ID: 1114 (CERP Project WBS #27 and 43)
Lead Agency: USACE / SFWMD
Authority: WRDA 2000 (only 'BB' Programmatic Authority < \$25 M); others not authorized
Funding Source: Corps/State

Strategic Plan Goal(s) Addressed: 1-A.1

Measurable Output(s): 11,500 acre-feet storage

Project Synopsis: The purpose of this feature is to improve water deliveries to Northeast Shark River Slough (NESRS) and restore wetland hydropatterns in ENP by reducing levee and groundwater seepage and increasing sheetflow, as well as recharge groundwater and reduce seepage from the ENP buffer areas by increasing water table elevations east of Krome Avenue. More detailed planning, design, and pilot studies (WBS 36) will be conducted to determine the appropriate technology to control seepage from ENP and the appropriate amount of wet season groundwater flow control that will minimize potential impacts to Miami-Dade County's West Wellfield and freshwater flows to Biscayne Bay.

The *Central and Southern Florida Project Comprehensive Review Study* (Restudy) included relocating and enhancing L-31N, groundwater wells, and sheetflow delivery system adjacent to Everglades National Park (ENP) located in Miami-Dade County to reduce levee seepage flow across L-31N adjacent to ENP via a levee cutoff wall. Groundwater flows during the wet season are captured by ground water wells adjacent to L-31N and pumped to ENP. Water from upstream natural areas will be diverted into a buffer area adjacent to ENP where sheetflow will be reestablished. This feature also includes relocation of the Modified Water Deliveries structure S-356 to provide more effective water flows to ENP and to meet applicable water quality criteria.

The original project description also includes pumps, water control structures, canals, and an aboveground recharge area with a total storage capacity of approximately 11,500 acre-feet located in western Miami-Dade County. The initial design of the recharge feature assumed 2,877 acres (water level fluctuating up to 4 feet above grade). Final design will seek to enhance and maintain the continued viability of wetlands within the basin. Inflows from the western C-4 Canal Basin and from the proposed West Miami-Dade Wastewater Treatment Plant will be pumped into the Recharge Area. Recharge area outflows will be prioritized to meet: (1) groundwater recharge demands, (2) South Dade Conveyance System demands, and (3) Northeast Shark River Slough demands, when supply is available. Regional system deliveries will be routed through the seepage collection canal system of the Bird Drive Recharge Area to the South Dade Conveyance system.

Current Status: The Bird Drive Recharge Area feature was added to the project in 2004 and its purpose is to recharge groundwater and reduce seepage from ENP by increasing water table elevations east of Krome Avenue. The facility will also provide C-4 flood peak attenuation and water supply deliveries to South Dade Conveyance System and NESRS. As part of the Corps planning process, several alternative plans are being developed and evaluated. The Tentatively Selected Plan (TSP) is anticipated in fall 2009. The Everglades National Park Seepage Management Project will evaluate three of the 68 components identified in the Restudy. Specifically, those components are: L-31N Improvements (Component V), S-356 Structure Relocation (Component FF), and Bird Drive Recharge Area (Component U).

Est. Cost: \$473,500,000

Project Schedule:

- 2011 L-31N Seepage Management (V), S-356 Structure Relocation (FF) construction complete
- 2015 Bird Drive Recharge Area (U) construction complete.
- 2017 Dade-Broward Levee (BB) construction completed

L-31N Seepage (V)	2005	2006	2007	2008	2009	2010	2011	2012	2013
PIR/ Plans & Specs									
Real Estate									
Construction									

S-356 (FF)	2005	2006	2007	2008	2009	2010	2011
PIR/ Plans & Specs							
Real Estate							
Construction							

Bird Drive (U)	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
PIR/ Plans & Specs											
Real Estate											
Construction											

Dade-Broward Levee (BB)	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Planning & Design										
Real Estate										
Construction										

Detailed Project Budget Information (in \$1,000s):

	Thru 2007	2008	2009	2010	2011	2012	Balance 2013-2015	Total
USACE	1,575	985	2,469	29,267	29,267	32,500	140,687	236,750
SFWMD	252	985	2,469	29,310	29,310	32,500	141,924	236,750
Total	1,827	1,970	4,938	58,577	58,577	65,000	282,611	473,500

Hyperlink: http://www.evergladesplan.org/pm/projects/proj_27_enp_seepage.cfm

Contact: Kim Brooks-Hall, Chief Project Execution Branch, USACE
 (904) 232-3155, Kimberly.Brooks-Hall@usace.army.mil

Source: Detailed budget and schedule information based on the FY09 budget submission to OMB and the *Master Implementation Sequencing Plan (MISP)* and updated to reflect current price levels in October 2007 dollars. Original project description summarized from the *Central and Southern Florida Project Comprehensive Review Study*. Current project status includes information summarized from the project manager.

Program Name: Infrastructure
Project Name: C&SF: CERP North Palm Beach County-- Part 1 (X, Y, GGG, K P1, OPE)
Project ID: 1115 (Formerly project ID 1503) (CERP Project WBS# 17)
Lead Agency: USACE / SFWMD
Authority: Not Authorized
Funding Source: Corps/State

Strategic Plan Goal(s) Addressed: Primary: 1-A.1 (Reservoir) **Secondary:** 1-B.1 (STA)

Measurable Output(s):

- 48,000 acre-feet reservoir (1,260-acres)
- 1,150 acres of STA

Project Synopsis: The projects elements were listed separately in the original concept outlined in the Restudy but have since been combined into one project. The purpose is to capture, store and treat excess water that is currently discharged to the Lake Worth Lagoon and use that water to enhance the Loxahatchee River and Slough and provide for water supplies to the West Palm Beach Water Catchment Area. Excess canal water will be backpumped through existing and proposed water control structures and canals to the stormwater treatment areas, which will provide water quality treatment prior to discharge into the West Palm Beach Water Catchment Area.

a) Water Preserve Areas / L-8 Basin (K and GGG):

Includes a combination above-ground and in-ground reservoir with a total storage capacity of approximately 48,000 acre-feet located immediately west of the L-8 Borrow Canal, north of the C-51 Canal in Palm Beach County. Other construction features include aquifer storage and recovery wells with a capacity of 50 million gallons per day and associated pre- and post- water quality treatment to be constructed in the City of West Palm Beach (Lake Mangonia), a series of pumps, water control structures, and canal capacity improvements in the M Canal. The initial design assumed a 1,800-acre reservoir with 1,200 usable acres (water level fluctuating from 10 feet above grade to 30 feet below grade).

b) C-17 Backpumping and Treatment:

Includes backpumping facilities and a stormwater treatment area with a total storage capacity of approximately 2,200 acre-feet located in northeastern Palm Beach County. The initial design for the stormwater treatment area assumed 550 acres (water level fluctuating up to 4 feet above grade).

c) C-51 Backpumping and Treatment:

Includes backpumping facilities and a stormwater treatment area with a total storage capacity of approximately 2,400 acre-feet located in Palm Beach County. The initial design for the stormwater treatment area assumed 600 acres in size (water level fluctuating up to 4 feet above grade).

d) Lake Worth Lagoon Restoration (OPE):

Includes sediment removal and trapping within the C51 Canal and sediment removal or trapping within a 2.5-mile area downstream of the confluence of the C-51 Canal and the Lake Worth Lagoon located in Palm Beach County. A prototype project will be conducted to determine if the Lagoon sediments will either be removed or trapped.

e) Pal-Mar and J.W. Corbett Wildlife Management Area Hydropattern Restoration (OPE):

This feature includes water control structures, canal modifications and the acquisition of 3,000 acres located between Pal-Mar and the J.W. Corbett Wildlife Management Area in Palm Beach County.

Current Status: Originally, the objectives were discussed in relation to the six CERP separable elements included in the study area. During the course of the plan formulation process, the project focus evolved away from the separable elements toward five study subareas. Following extensive PDT discussion of these objectives, the following were established:

L-8 and Associated Basins (C-18 Basin) - Capture and store excess surface water that would be lost to tide to Lake Worth Lagoon through S-155, or to the Loxahatchee River Estuary through S-46. Optimize quantity, quality, timing and delivery of surface water to/from areas including Corbett Wildlife Management Area, Grassy Waters Preserve, Loxahatchee Slough, and Loxahatchee River to achieve ecological and water supply enhancement purposes. Minimize damaging slug stormwater releases to downstream receiving water bodies. Maintain or enhance the current level of flood protection in the L-8 Basin.

Pal Mar/Cypress Creek and Associated Basins Surrounding the Loxahatchee River (Pal Mar/Loxahatchee)- Capture and store excess surface waters, and use it to increase discharge to and base flow in the Northwest Fork of the Loxahatchee River during periods of insufficient flow and lowered groundwater levels. Reduce peak discharges to the Loxahatchee Estuary through the Southwest Fork of the Loxahatchee River through the S-46 water control structure. Restore freshwater forested wetlands in the Loxahatchee River closer to 1940's conditions (consistent with FDEP vision for river restoration). Establish and preserve a continuous greenway system that improves wildlife corridor and habitat values and links up with the regional greenway system. Provide or improve hydrologic connections within the contiguous greenway and the regional water management system to increase water management options for maintaining or enhancing the existing natural areas (i.e., pine flatwoods, wetlands and other natural habitats).

C-51 Basin - Capture, store, and treat excess surface waters and supplement water deliveries to areas including Grassy Waters Preserve or adjacent wetlands, Loxahatchee Slough, and/or Loxahatchee River to achieve ecological and water supply enhancement purposes.

C-17 Basin - Capture, store, and treat excess surface waters from the upstream reaches of the C-17 Basin and supplement water deliveries to areas including Grassy Waters Preserve or adjacent wetlands, Loxahatchee Slough, and/or Loxahatchee River to achieve ecological and water supply enhancement purposes.

Lake Worth Lagoon Near the S-155 Discharge - Protect and improve Lake Worth Lagoon water quality, and improve aquatic conditions to enhance benthic and sea grass communities. Reduce stormwater discharges to the Lake Worth Lagoon through the S-155 water control structure. Reduce adverse impacts of accumulated undesired sediments in the Lagoon. Reduce sediment loading to the Lagoon through S-155. Establish a more stable salinity regime within the Lake Worth Lagoon restoration area, as the area is defined in the Central and Southern Florida Project Comprehensive Review Study.

The PIR will evaluate whether the L-8 Reservoir is a necessary part of the North Palm Beach County - Part 1 Project, however, early information suggests that its inclusion may be beneficial. Early constructed elements of Flow way 1 (G-160, G-161, M-canal widening) will also be evaluated. In addition, the planning process will evaluate a suite of alternatives associated with various other flow ways and components with respect to providing beneficial flows to the Loxahatchee River, achieving hydro-pattern restoration and reducing flows to the Lake Worth Lagoon. PIR work being performed in FY 2008 includes completion of hydrologic modeling and the evaluation and comparison of alternative plans, with Final PIR expected to be completed in FY 2009.

The C-51 and L-8 Basin Reservoir Phase 1 (Palm Beach Aggregates) portion of the projects is being designed and constructed through a state-expedited initiative to be implemented earlier than currently scheduled. The construction of up to 47,000 acre-feet of storage and associated temporary inflow and pumping infrastructure is scheduled to be complete in 2008, resulting in time-savings of approximately six years over the conceptual schedule outlined in the Plan. Criteria for the final pump station and inflow facility design will be determined through the alternatives analysis and development of the tentatively selected plan. By utilizing a phased approach to the construction, approximately 9,000 acre-feet of storage and discharge capacity has been made available for interim water management benefits in the L-8 Basin area. The full capacity of the reservoir will become available with the construction of the final pump station and inflow structure

Est. Cost: \$656,600,000

Project Schedule:

2008 C-51 & L-8 Phase 1 (PBA) construction completed.
 2013 LWL, Pal-Mar/Corbett, X, Y, K P1 construction completed.
 2015 GGG construction completed.

C-51 and L-8 Phase 1 (PBA)	2003	2004	2005	2006	2007	2008
Construction						

LWL	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
PIR/Plans and Specs										
Real Estate										
Construction										

Pal-Mar/Corbett	2003	2004	2005	2006	2007	2008	2009	2010	2011
PIR/Plans and Specs									
Real Estate									
Construction									

C-17 (X) & C-51 (Y)	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
PIR/Plans and Specs										
Real Estate										
Construction										

L-8 (K P1) - Basin	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
PIR/Plans and Specs											
Real Estate											
Construction											

C-51 and L-8 (GGG) Reservoir	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
PIR/Plans and Specs													
Real Estate													
Construction													

Detailed Project Budget Information (in \$1,000s):

	Thru 2007	2008	2009	2010	2011	2012	2013	Balance 2014-2015	Total
USACE	3,837	433	568	1,600	1,800	2,000	2,500	315,562	328,300
SFWMD	6,946	433	568	1,600	1,800	2,000	2,500	312,453	328,300
Total	10,783	866	1,136	3,200	3,600	4,000	5,000	628,015	656,600

Hyperlink: http://www.evergladesplan.org/pm/projects/proj_17_npbcb_1.cfm

Contact: Kim Brooks-Hall, Chief Project Execution Branch, USACE
 (904) 232-3155, Kimberly.Brooks-Hall@usace.army.mil

Source: Detailed budget and schedule information based on the FY09 budget submission to OMB and the *Master Implementation Sequencing Plan (MISP)* and updated to reflect current price levels in October 2007 dollars. Original project description summarized from the *Central and Southern Florida Project Comprehensive Review Study*. Current project synopsis summarized from the Congressional Fact Sheet (January 2008) and information from the project manager.

Program Name: Infrastructure
Project Name: C&SF: CERP Broward County (WPA) Water Preserve Areas (R) (Q) (O)
Broward County WPA - C-9 Stormwater Treatment Area/Impoundment (R) and Western C-11 Diversion Impoundment and Canal (Q) and Water Conservation Areas 3A and 3B Levee Seepage Management (O)
Project ID: 1116 (Formerly Project ID 1501) (CERP Project WBS# 45)
Lead Agency: USACE / SFWMD
Authority: WRDA 2000 – 3 Initially Authorized Projects
Funding Source: Corps/State

Strategic Plan Goal(s) Addressed: Primary: 1-A.1 Secondary: 2-A.3

Measurable Output(s):

- 11,648 acre-feet total storage (C-11: impoundment 4,592.4 ac-ft; C-9 impoundment: 7,056.3 ac-ft)
- 4,633 acres of natural area (WCA 3A/3B: 3,279 acres; C-11: 277 acres; C-9: 339 acres)

Project Synopsis: This project contains three of the ten Initially Authorized Projects identified in the Water Resources Development Act (WRDA) of 2000: C-9 Impoundment, C-11 Impoundment, and WCA 3A/3B Levee Seepage Management. The original concept for these features outlined in the *Central and Southern Florida Project Comprehensive Review Study* (Restudy) includes canals, levees, water control structures, and a stormwater treatment area/impoundment with a total storage capacity of 6,400 acre-feet located in western Broward County. The initial design of the stormwater treatment area/impoundment assumed 1,600 acres (water level fluctuating up to four feet above grade). Detailed design of this feature will address appropriate pollution load reduction targets necessary to protect receiving waters. Runoff in the western C-11 Canal Basin that was previously backpumped into Water Conservation Area 3A through the S-9 pump station will be diverted into the C-11 Impoundment and then into either the North Lake Belt Storage Area, the C-9 Stormwater Treatment Area/Impoundment, or Water Conservation Area 3A after treatment, as applicable. The initial design of the C-9 stormwater treatment area/impoundment assumed 2,500 acres (water level fluctuating up to 4 feet above grade).

Current Status: As part of the Corps planning process, several alternative plans were reviewed. The Tentatively Selected Plan was identified in January 2005. The project was refined and a Final Project Implementation Report (PIR) was approved June 2007. During the planning process, the stormwater treatment area (STA) component of the project was dropped.

Currently, the C-9 Impoundment feature includes canals, levees, water control structures and an impoundment with a total capacity of 7,056 acre-feet located in the western C-9 Basin in Broward County. The initial design of the impoundment assumes 1,641 acres (water level fluctuating up to 4.3 feet above grade). Purposes of this feature are to provide treatment of runoff stored in the North Lake Belt Storage Area, enhance the groundwater recharge within the basin, provide seepage control for Water Conservation Area 3 and buffer areas to the west, and to provide flood protection for western C-9 Basin.

The western C-11 Diversion Impoundment and Canal and Water Conservation Areas 3A and 3B Levee Seepage Management feature includes a 4633 acres of natural area, canals, levees, water control structures, and an impoundment with a total storage capacity of 4,592 acre-feet located in western Broward County. The initial design of the impoundment assumes 1,068 acres (water levels fluctuating up to 4 feet above grade). The purpose of this feature is to divert and treat runoff from the western C-11 Basin that is presently discharged into Water Conservation Area 3A, control seepage from Water Conservation Areas 3A and 3B by improving groundwater elevations, and providing flood protection for the western C-11 Basin.

The final size, depth and configuration of these facilities were determined through more detailed planning and design completed as a part of the Draft Water Preserve Areas Feasibility Study and as part of the final PIR. Detailed design of these features will address pollution load reduction targets necessary to protect receiving waters.

This project is further described on the following pages.

Est. Cost: \$841,700,000

Project Schedule:

2017 Construction completed.

WCA 3A/B Seepage Mgmt	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
PIR/ Plans & Specs														
Real Estate														
Construction														

C-9 & C-11 Impoundments	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
PIR/ Plans & Specs											
Real Estate											
Construction											

Detailed Project Budget Information (in \$1,000s):

	Thru 2007	2008	2009	2010	2011	Balance 2012-2017	Total
USACE	4,504	5,103	3,000	81,049	81,049	246,145	420,850
SFWMD	1,038	5,103	3,000	81,742	81,742	248,225	420,850
Total	5,542	10,206	6,000	162,791	162,791	494,370	841,700

Hyperlink: http://www.evergladesplan.org/pm/projects/proj_45_broward_wpa.cfm

Contact: Kim Brooks-Hall, Chief Project Execution Branch, USACE
 (904) 232-3155, Kimberly.Brooks-Hall@usace.army.mil

Source: Detailed budget and schedule information based on the FY09 budget submission to OMB and the *Master Implementation Sequencing Plan (MISP)* and updated to reflect current price levels in October 2007 dollars. Original project description summarized from the *Central and Southern Florida Project Comprehensive Review Study*. Current synopsis summarized from information contained in the *Final Project Implementation Report and Environmental Impact Statement (2007)* and from the project manager.

Program Name: Infrastructure
Project Name: Water Conservation Areas 3A and 3B Levee Seepage Management (O)
Project ID: Part of 1116
Lead Agency: USACE / SFWMD
Authority: WRDA 2000 - *Initially Authorized Project*
Funding Source: Corps/State

Strategic Plan Goal(s) Addressed: 1-B.1

Measurable Output(s): 6,400 acre-feet of treatment and storage capacity

Est. Cost: \$157,900,000 (October 2007 price level)

	2010	2011	2012	2013	2014	Total
USACE	2,500	2,500	24,650	24,650	24,650	78,950
SFWMD	2,500	2,500	24,650	24,650	24,650	78,950
Total	5,000	5,000	49,300	49,300	49,300	157,900

During the planning process, it was determined that certain Initially Authorized Projects and closely related CERP projects should be combined. Thus, the Initially Authorized Projects contained in this report will be de-authorized in order to be included as sub-features within larger CERP projects.

This Initially Authorized Project and its associated costs are already included in the Broward County WPA project (Project ID 1501; CERP Project # WBS 45).

Program Name: Infrastructure
Project Name: Western C-11 Diversion Impoundment and Canal (Q)
Project ID: Part of 1116
Lead Agency: USACE / SFWMD
Authority: WRDA 2000 - *Initially Authorized Project*
Funding Source: Corps/State

Strategic Plan Goal(s) Addressed: 1-B.1

Measurable Output(s): 1,850 acres total impoundment

Est. Cost: \$213,800,000 (October 2007 price level)

	Thru 2007	2008	2009	2010	2011	Total
USACE	4,504	5,157	3,000	47,119	47,120	106,900
SFWMD	1,131	0	3,000	51,384	51,385	106,900
Total	5,635	5,157	6,000	98,503	98,505	213,800

During the planning process, it was determined that certain Initially Authorized Projects and closely related CERP projects should be combined. Thus, the Initially Authorized Projects contained in this report will be de-authorized in order to be included as sub-features within larger CERP projects.

This Initially Authorized Project and its associated costs are already included in the Broward County WPA project (Project ID 1501; CERP Project # WBS 45).

Program Name: Infrastructure
Project Name: C-9 Impoundment (R)
Project ID: Part of 1116
Lead Agency: USACE / SFWMD
Authority: WRDA 2000 - *Initially Authorized Project*
Funding Source: Corps/State

Strategic Plan Goal(s) Addressed: 1-B.1

Measurable Output(s): 1,650 acres total impoundment

Est. Cost: \$114,000,000 (*October 2007 price level*)

	2009	2010	2011	2011	Total
USACE	5,000	15,000	18,500	18,500	57,000
SFWMD	5,000	15,000	18,500	18,500	57,000
Total	10,000	30,000	37,000	37,000	114,000

During the planning process, it was determined that certain Initially Authorized Projects and closely related CERP projects should be combined. Thus, the Initially Authorized Projects contained in this report will be de-authorized in order to be included as sub-features within larger CERP projects.

This Initially Authorized Project and its associated costs are already included in the Broward County WPA project (Project ID 1501; CERP Project # WBS 45).

Program Name: Infrastructure
Project Name: C&SF: CERP North Palm Beach County – Part 2 (LL, K P2)
Project ID: 1200 (CERP Project WBS# 18)
Lead Agency: USACE / SFWMD
Authority: Not authorized
Funding Source: Corps/State

Strategic Plan Goal(s) Addressed: 1-A.2

Measurable Output(s): 220 million gallons per day of ASR wells

Project Synopsis: The *Central and Southern Florida Project Comprehensive Review Study* (Restudy) originally included two separable elements: (1) the C-51 Regional Groundwater ASR system and (2) the L-8 Basin ASR System. These projects will provide additional long-term storage within the North Palm Beach County region.

1. **C-51 Regional Groundwater Aquifer Storage and Recovery** (LL) includes a series of aquifer storage and recovery wells with a capacity of 170 million gallons per day as well associated pre- and post- water quality treatment to be constructed along the C-51 Canal in Palm Beach County. The initial design of the wells assumed 34 well clusters, each with a capacity of 5 million gallons per day with chlorination for pre-treatment and aeration for post-treatment. The aquifer storage and recovery facilities will be used to inject and store surficial aquifer ground water adjacent to the C-51 Canal into the upper Floridan Aquifer instead of discharging the canal water to tide. Water will be returned to the C-51 Canal to help maintain canal stages during the dry-season. If water is not available in the aquifer storage and recovery system, existing rules for water delivery to this region will be applied.

2. **L-8 Basin Aquifer Storage and Recovery** (K-Part 2) includes aquifer storage and recovery wells with a capacity of 50 million gallons per day and associated pre- and post- water quality treatment to be constructed within the L-8 Basin or along the City of West Palm Beach water supply conveyance and storage system or a combination of both. The initial design of the wells assumed 10 wells, each with a capacity of 5 million gallons per day with chlorination for pre-treatment and aeration for post-treatment. During periods when the West Palm Beach Catchment Area is above desirable stages, 50 million gallons per day will be diverted to Lake Mangonia for storage in the aquifer storage and recovery wells.

Current Status: Adheres to the original concept outlined in the Restudy, but has not yet begun.

Est. Cost: \$273,000,000

Project Schedule:
 2019 Construction completed.

L-8 Basin (K Pt2)	2009	2010	2011	2012	2013	2014	2015	2016	2017
PIR/Plans and Specs									
Real Estate									
Construction									

C-51 (LL)	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
PIR/Plans and Specs										
Real Estate										
Construction										

Detailed Project Budget Information (in \$1,000s) :

NPBC Part 2	Thru 2007	2008	2009	2010	2011	2012	2013	Balance 2014-2019	Total
USACE	0	0	2,619	3,928	6,547	19,641	19,641	84,125	136,500
SFWMD	0	0	2,619	3,928	6,547	19,641	19,641	84,125	136,500
Total	0	0	5,238	7,856	13,094	39,281	39,281	168,250	273,000

Hyperlink: http://www.evergladesplan.org/pm/projects/proj_18_npbcb_2.cfm

Contact: Kimberly Brooks-Hall, Chief Project Execution Branch, USACE
 (904) 232-3155, Kimberly.Brooks-Hall@usace.army.mil

Source: Detailed budget and schedule information based on the FY09 budget submission to OMB and the *Master Implementation Sequencing Plan* (MISP) and updated to reflect current price levels in October 2007 dollars. Original project description summarized from the *Central and Southern Florida Project Comprehensive Review Study*.

Program Name: Infrastructure
Project Name: C&SF: CERP Lake Okeechobee Aquifer Storage and Recovery (ASR)
 (GG P1, GG P2, GG P3))
Project ID: 1201 (CERP Project WBS# 03)
Lead Agency: USACE / SFWMD
Authority: Not authorized
Funding Source: Corps/State

Strategic Plan Goal(s) Addressed: 1-A.2

Measurable Output(s): 1 billion gallons per day of ASR wells

Project Synopsis: The *Central and Southern Florida Project Comprehensive Review Study (Restudy)* included a series of aquifer storage and recovery wells adjacent to Lake Okeechobee with a capacity of one billion gallons per day and associated pre- and post- water quality treatment in Glades and Okeechobee Counties. The initial design assumes 200 wells, each with the capacity of five million gallons per day with eight ultra-filtration water quality pre-treatment facilities and aeration for post-treatment. Based on information from existing aquifer storage and recovery facilities, it is assumed that recovery of aquifer-stored water would have no adverse effects on water quality conditions in Lake Okeechobee. In fact, some level of nutrient load reduction may occur as a result of aquifer storage, which would be a long-term benefit to in-lake water quality conditions.

The purpose of this project is to: (1) provide additional regional storage while reducing both evaporation losses and the amount of land removed from current land use (e.g. agriculture) normally associated with construction and operation of above-ground storage reservoirs; (2) increase the Lake's water storage capability to better meet regional water supply demands for agriculture, Lower East Coast urban areas, and the Everglades; (3) manage a portion of regulatory releases from the Lake primarily to improve Everglades hydropatterns and to meet supplemental water supply demands of the Lower East Coast; (4) reduce harmful regulatory discharges to the St. Lucie and Caloosahatchee Estuaries; and (5) maintain and enhance the existing level of flood protection.

Current Status: Adheres to the original concept outlined in the Restudy, but has not yet begun.

Est. Cost: \$1,906,800,000

Project Schedule:

2020 Phase 1 construction completed.
 2023 Phase 2 construction completed.
 2027 Phase 3 construction completed.

Phase 1	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
PIR (all phases)										
Plans & Specs										
Real Estate (all phases)										
Construction										

Phase 2	2018	2019	2020	2021	2022	2023
Plans & Specs						
Construction						

Phase 3	2023	2024	2025	2026	2027
Plans & Specs					
Construction					

Detailed Project Budget Information (\$1,000):

	2010	2011	2012	2013	2014	2015	Balance to Complete 2016-2027	Total
USACE	42,635	56,923	94,871	142,307	142,307	189,743	284,614	953,400
SFWMD	42,446	56,935	94,890	142,337	142,337	189,782	284,673	953,400
Total	85,081	113,858	189,761	284,644	284,644	379,525	569,287	1,906,800

Hyperlink: http://www.evergladesplan.org/pm/projects/proj_03_lake_o_asr.cfm

Contact: Kim Brooks-Hall, Chief Project Execution Branch, USACE
 (904) 232-3155, Kimberly.Brooks-Hall@usace.army.mil

Source: Detailed budget and schedule information based on the FY09 budget submission to OMB and the *Master Implementation Sequencing Plan* (MISP) and updated to reflect current price levels in October 2007 dollars. Original project description summarized from the *Central and Southern Florida Project Comprehensive Review Study*.

Program Name: Infrastructure
Project Name: C&SF: Hillsboro ASR Phase 2 (M P2) (CERP Project WBS# 22)
Project ID: 1202
Lead Agency: USACE / SFWMD
Authority: WRDA 2000 – *Initially Authorized Project*
Funding Source: Corps/State

Strategic Plan Goal(s) Addressed: 1-A.2

Measurable Output(s): 150 million gallons per day (*with pre-injection and post-withdrawal injection water quality treatment.*) (.150 billion gallons per day)

Project Synopsis: The project contained in the *Central and Southern Florida Project Comprehensive Review Study (Restudy)* titled *Site 1 Impoundment and Aquifer Storage and Recovery (M)* included an above-ground reservoir and a series of aquifer storage and recovery wells. The reservoir was estimated with a total storage capacity of approximately 15,000 acre-feet located in the Hillsboro Canal Basin in southern Palm Beach County. The initial design of the reservoir assumed 2,460 acres (water levels fluctuating up to 6 feet above grade). Water from the Hillsboro Canal will be pumped into the reservoir during the wet season or periods when excess water is available. Water will be released back to the Hillsboro Canal to help maintain canal stages during the dry-season.

Restudy plans for the aquifer storage and recovery wells in the Hillsboro basin include a total capacity of approximately 150 million gallons per day and associated pre- and post- water quality treatment. The initial design assumes ASR facility clusters with a total of 30 ASR wells. Each well will operate at a capacity of five million gallons per day with pre-treatment and post-treatment. To maintain water quality requirements. The source of water to be injected is the surficial ground water adjacent to the reservoir.

For purposes of project execution, this project was divided into two phases. Phase 1 *Site 1 Impoundment (M P1)* (now a/k/a *Fran Reich Preserve*) (CERP Project WBS #40) relates to the reservoir portion of the project and phase 2 *Hillsboro ASR Phase 2 (M P2)* (CERP project WBS #22) relates to the aquifer storage and recovery wells portion.

Current Status: This project adheres to the original concept outlined in the *Restudy*. Planning and design of Phase 2 is expected to begin after completion of Phase 1 and depending upon the results from other ASR feasibility and pilot studies.

Est. Cost: \$120,600,000

Project Schedule:
 2024 ASR (Phase II) construction completed

ASR (Phase II)	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
PIR/Plans & Specs											
Plans & Specs											
Construction											

Detailed Project Budget Information (in \$1,000s):

Phase II	2017	2018	2019	2020	Bal to Complete 2021 2024	Total
USACE	10,000	10,000	10,000	10,000	20,300	60,300
SFWMD	10,000	10,000	10,000	10,000	20,300	60,300
Total	20,000	20,000	20,000	20,000	40,600	120,600

Hyperlink: http://www.evergladesplan.org/pm/projects/proj_22_hillsboro_asr_2.cfm

Contact: Kim Brooks-Hall, Chief Project Execution Branch, USACE
(904) 232-3155, Kimberly.Brooks-Hall@usace.army.mil

Source: Detailed budget and schedule information based on the FY09 budget submission to OMB and the *Master Implementation Sequencing Plan* (MISP) was updated to reflect current price levels in October 2007 dollars. Original project description summarized from the *Central and Southern Florida Project Comprehensive Review Study*. Current project status includes information summarized from the project manager.

Program Name: Infrastructure
Project Name: C&SF: CERP ASR Regional Study
Project ID: 1203
Lead Agency: USACE / SFWMD
Authority: Programmatic Authority

Strategic Plan Goal(s) Addressed: 1-A.2

Measurable Output(s): Data

Project Synopsis: The ASR Regional Study will investigate regional, technical issues governing the feasibility of full-scale ASR implementation, as identified in the CERP, and its potential effect on water levels and water quality within the aquifer systems, and on existing water users, surface-water bodies, and the flora and fauna that inhabit them. The Study will use the ASR pilot facilities as the platforms to conduct several scientific and engineering studies to address the uncertainties identified with using the technology at the scale envisioned for the CERP. State and Federal scientist, engineers, and stakeholders proposed a list of significant uncertainties related to hydrogeologic processes, geotechnical evaluations, ecosystem effects and ASR operation and performance. The objective of the ASR Regional Study to acquire a comprehensive understanding of the characteristics of the Floridan Aquifer system, it's ability to support ASR as envisioned in the CERP, and to identify any limitations to applying full scale ASR. With this information, optimum implementation of regional ASR water storage and recovery can be determined.

Primary goals of the ASR Regional Study include:

- Addressing outstanding issues of a regional nature that cannot be adequately addressed by the authorized ASR Pilot Projects.
- Reducing uncertainties related to full-scale CERP ASR implementation by conducting scientific studies based on existing and newly acquired data, evaluate the potential effects on water levels and water quality within the aquifer systems, as well as existing users, surface-water bodies, and the flora and fauna that inhabit them.
- Developing a regional groundwater model of the Floridan Aquifer System (FAS) and conduct predictive simulations to evaluate the technical feasibility of the proposed 333-well CERP ASR system, or if determined to be unfeasible, identify an appropriate magnitude of ASR capacity with minimal impact to the environment and existing users of the FAS.

Current Status: An interim report has recently summarizing efforts from 2003-2007. Data compilation, model development and plan formulation are underway.

Est. Cost: \$81,200,000

Project Schedule:

	2017 Completed															
	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	
PIR																

Detailed Project Budget Information (in \$1,000s):

	Thru 2007	2008	2009	2010	2011	2012	2013	Balance to Complete 2014-2017	Total
USACE	5,780	2,835	1,587	3,400	2,350	290	450	23,908	40,600
SFWMD	6,388	1,000	2,500	2,000	1,500	800	650	25,762	40,600
Total	12,168	3,835	4,087	5,400	3,850	1,090	1,100	49,670	81,200

Hyperlink: http://www.evergladesplan.org/pm/projects/proj_44_asr_regional.aspx.

Contact: Kim Brooks-Hall, Chief Project Execution Branch, USACE
(904) 232-3155, Kimberly.Brooks-Hall@usace.army.mil

Source: Detailed budget and schedule information based on the FY09 budget submission to OMB and the *Master Implementation Sequencing Plan (MISP)* and updated to reflect current price levels in October 2007 dollars. Original project description summarized from the *Central and Southern Florida Project Comprehensive Review Study*. Current status provided by project manager (May, 2008).

Program Name: Infrastructure
Project Name: C&SF: CERP PBC Agriculture Reserve Aquifer Storage & Recovery -- Part 2 (VV P2)
Project ID: 1204 (CERP Project WBS# 21)
Lead Agency: USACE / SFWMD
Authority: Not authorized
Funding Source: Corps/State

Strategic Plan Goal(s) Addressed: 1-A.2

Measurable Output(s): 75 million gallons per day ASR wells (0.075 billion gallons per day)

Project Synopsis: The purpose of this project is to supplement water supply deliveries for central and southern Palm Beach County (PBC) by capturing and storing excess water currently discharged to the Lake Worth Lagoon. These supplemental deliveries will reduce demands on Lake Okeechobee and the Loxahatchee National Wildlife Area. The wells will pump water into the aquifer during the wet season and will pump water from the aquifer to the Lake Worth Drainage District canals to help maintain canal stages during the dry season. If water is not available in the aquifer storage and recovery wells, existing rules for water delivery to this region will be applied.

This project includes aquifer storage and recovery wells (capacity of 75 million gallons per day) and associated pre- and post- water quality treatment located adjacent to the reservoir. The initial design of the wells assumed 15 well clusters, each with a capacity of 5 million gallons per day as well as chlorination for pre-treatment and aeration for post-treatment. The source of water to be injected is surficial ground water adjacent to the Palm Beach County Agriculture Reserve Reservoir. The level and extent of treatment and number of the aquifer storage and recovery wells may be modified based on findings from a proposed aquifer storage and recovery pilot project.

Current Status: Project is scheduled for future; not started yet.

Est. Cost: \$52,300,000

Project Schedule: 2020 ASR (Part 2) construction completed.

ASR (Part 2)	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
PIR/Plans & Specs											
Construction											

Detailed Project Budget Information (in \$1,000s):

ASR (Part 2)	2010	2011	2012	2013	2014	Balance 2015-2020	Total
USACE	1,239	1,239	1,239	1,239	1,239	19,955	26,150
SFWMD	1,239	1,239	1,239	1,239	1,239	19,955	26,150
Total	2,478	2,478	2,478	2,478	2,478	39,910	52,300

Hyperlink: http://www.evergladesplan.org/pm/projects/proj_21_pbc_asr_2.cfm

Contact: Kim Brooks-Hall, Chief Project Execution Branch, USACE
 (904) 232-3155, Kimberly.Brooks-Hall@usace.army.mil

Source: Detailed budget and schedule information based on the FY09 budget submission to OMB and the *Master Implementation Sequencing Plan (MISP)* and updated to reflect current price levels in October 2007 dollars. Original project description summarized from the *Central and Southern Florida Project Comprehensive Review Study*.

Program Name: Infrastructure
Project Name: C&SF: CERP C-43 Basin Aquifer Storage & Recovery (ASR) - Part 2 (D P2)
Caloosahatchee River Aquifer Storage and Recharge Project (C43-ASR)
Project ID: 1205 (CERP Project WBS #05)
Lead Agency: USACE / SFWMD
Authority: Not Authorized
Funding Source: Corps/State

Strategic Plan Goal(s) Addressed: Primary: 1-A.2

Measurable Output(s): 220 million gallons a day of ASR wells (0.220 billion gallons per day)

Project Synopsis: The *Central and Southern Florida Project Comprehensive Review Study (Restudy)* initially included above-ground reservoir(s) with a total storage capacity of approximately 160,000 acre-feet and aquifer storage and recovery wells with a capacity of approximately 220 million gallons per day and associated pre- and post- water quality treatment located in the C-43 Basin in Hendry, Glades, or Lee Counties. The initial design of the reservoir(s) assumed 20,000 acres (water levels fluctuating up to 8 feet above grade). Excess runoff from the C-43 Basin and Lake Okeechobee flood control discharges will be pumped into the proposed reservoir. Water from the reservoir will be injected into the aquifer storage and recovery wellfield for long-term storage. Any estuarine demands, not met by basin runoff and the aquifer storage and recovery wells, will be met by Lake Okeechobee as long as the lake stage is above a pre-determined level.

Current Status: As part of the Corps planning process, several alternative plans were reviewed. The original Caloosahatchee (C-43) Basin Storage Reservoir and Aquifer Storage and Recovery (ASR) project (component D in CERP) has since been divided into two parts: This part is the ASR (part DP2). This project has not yet begun.

Est. Cost: \$362,300,000

Project Schedule:

2019 ASR construction completed.

ASR (Part 2)	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
PIR/Plans & Specs										
Real Estate										
Construction										

Detailed Project Budget Information (in \$1,000s):

	2010	2011	2012	2013	2014	2015	Balance to Complete 2016-2019	Total
USACE	2,500	2,500	2,500	2,500	5,000	10,000	156,150	181,150
SFWMD	2,500	2,500	2,500	2,500	5,000	10,000	156,150	181,150
Total	5,000	5,000	5,000	5,000	10,000	20,000	312,300	362,300

Hyperlink: http://www.evergladesplan.org/pm/projects/proj_05_c43_asr_2.cfm

Contact: Kim Brooks-Hall, Chief Project Execution Branch, USACE
(904) 232-3155, Kimberly.Brooks-Hall@usace.army.mil

Source: Detailed budget and schedule information based on the FY09 budget submission to OMB and the *Master Implementation Sequencing Plan* (MISP) and updated to reflect current price levels in October 2007 dollars. Original project description summarized from the *Central and Southern Florida Project Comprehensive Review Study*.

Program Name: Infrastructure
Project Name: C&SF: C-111 (South Dade)
Project ID: 1300
Lead Agency: USACE / SFWMD
Authority: Flood Control Act 1962 and WRDA 1996
Funding Source: Corps/State

Strategic Plan Goal(s) Addressed: Primary: 1-A.3 **Secondary:** 3.B.1

Measurable Output(s): 4.75 miles total length impediments removed

Project Synopsis: This basin includes 100 square miles of agriculture in the Homestead/Florida City area and the entire Taylor Slough basin within Everglades National Park (ENP). The C-111 canal discharges into Florida Bay at its downstream terminus thru S-197. Because of the extreme porosity of the Biscayne Aquifer in this area, water levels in the canal have a direct impact on water levels in adjacent areas. Originally authorized as an addition to the C&SF Project by the Flood Control Act of 1962, the South Dade County C-111 project has been modified by authorization of the ENP-South Dade Conveyance System in 1968 and the Everglades National Park Expansion Act of 1989.

A Final Integrated General Reevaluation Report (GRR)/Environmental Impact Statement was completed in May 1994 and recommended a preferred alternative to meet the project purposes. The alternative selected would elevate the canal stages in the C-111 canal without adversely affecting authorized flood protection to the agricultural interests immediately east of the canal. A hydraulic ridge would be created via a collection of features/activities that would result in higher stages within the canal, limiting the amount of seepage leaving ENP lands. A series of pump structures would provide control for this hydraulic ridge and supply additional canal water to ENP by pumping directly into detention/buffer zones that were contiguous with ENP lands.

The 1996 Water Resources Development Act (WRDA 1996) provided for a new cost sharing agreement to be 50-50 and allow the SFWMD to include real estate costs towards its share of the cost. Also provided was the authority to cost share water quality improvement features if deemed necessary for Everglades restoration purposes. These two new requirements resulted in the preparation of a supplement to the 1994 GRR, which was completed in 2002. In 2004, an addendum, that updated this supplement, was produced to satisfy USACE concerns regarding Real Estate and water quality. Neither the supplemental nor the addendum was approved. An EDR was drafted and transmitted to USACE HQ in 2007 and is pending approval.

The project includes canals, levees, and pump stations; replacement of an existing bridge; more natural flow and hydropatterns; removal of approximately 4.75 miles total length impediments. These modifications to the existing water management system are to restore historic freshwater flows in the Taylor Slough and Eastern Panhandle areas of Everglades National Park, which is expected to help reverse the current deterioration of Florida Bay. Existing flood protection will be maintained for developed lands east of canals L-31N and C-111.

Current Status: The land exchange for this project of approximately 1,000 acres between ENP and the SFWMD was approved by Congress and executed in 2005. The PMP is complete and was revised and updated in October 2007 and is now being updated again. The USACE prepared a Post Authorization Change Report to detail the design refinements and update the project costs and schedule necessary to complete the approved plan, which is awaiting approval from headquarters. A supplemental Project Cooperation Agreement (PCA) to address the 50/50 cost share is forthcoming.

Currently, two interim pump stations and one permanent pump station have been completed, along with construction of three detention areas, replacement of the Taylor Slough Bridge, and removal of 4.75 miles of spoil mounds along lower C-111. The project currently has two construction projects in process, the S-331 command and control facility and the retention/detention area (expansion at the southern detention area). Construction on the S-331 command and control facility is scheduled to be complete in March 2009. Construction contracts were initiated in 2008 to complete earthwork for the detention flow way linking the B and C pump station detention areas. This extension expands the effective area being used to build a hydrologic barrier between ENP and the L-31N canal in order to reduce seepage losses from ENP. Construction of the retention/detention area is scheduled to be complete by September 2008. A construction contract to extend the S-332B North detention area and contain discharges from the 8.5 Square Mile Area STA component of the MWD project is expected in 2010. Modifications to the C-111 project should be complete by 2014, subject to appropriations.

Est. Cost: \$382,000,000

Project Schedule:

1994 Start
 2014 Finish

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Plans & Design															
Real Estate															
Construction															

Detailed Project Budget Information (in \$1,000s):

	Thru 2007	2008	2009	2010	2011	Balance 2012 - 2014	Total
USACE	92,098	14,659	4,450	27,046	26,189	19,911	184,353
SFWMD	42,970	114	62,836	34,542	6,227	44,311	191,000
OFA	0	0	0	6,647	0	0	6,647
Total	135,068	14,773	67,286	68,235	32,416	64,222	382,000

Hyperlink: <http://www.saj.usace.army.mil/dp/mwdenp-c111/c111.htm>

Contact: Kim Brooks-Hall, Chief Project Execution Branch, USACE
 (904) 232-3155, Kimberly.Brooks-Hall@usace.army.mil

Source: Detailed budget and schedule information based on the FY09 budget submission to OMB and the *Master Implementation Sequencing Plan (MISP)* and updated to reflect current price levels in October 2007 dollars. Project History description summarized from the *Central and Southern Florida Project Comprehensive Review Study, Draft Fish and Wildlife Coordination Act Report*. 1994 Project Synopsis summarized from the *C-111 GRR Plan*. Current status summarized from the *Addendum to the Final Integrated General Reevaluation Report Supplement and Environmental Assessment, July 2004* and the updated *PMP (2007) and the project manager*.

Program Name: Infrastructure
Project Name: C&SF: CERP Water Conservation Area 3 Decentralization and Sheetflow Enhancement Part 1 (AA) (QQ P1 & QQ P2) (SS) (ZZ)
Project ID: 1301 (CERP Project WBS # 12, # 13, and # 47)
Lead Agency: USACE / SFWMD
Authority: WRDA 2000 (only 'QQ P1' and 'SS' Initially Authorized Projects); other components not authorized
Funding Source: Corps/State

Strategic Plan Goal(s) Addressed: 1-A.3

Measurable Output(s): 240 miles of impediments removed

Project Synopsis: The Water Conservation Area (WCA) 3 Decentralization and Sheetflow Enhancement project outlined in the Central and Southern Florida Project Comprehensive Review Study (Restudy) included the following components:

- **AA:** Construction of additional S-345 conveyance structures (through L-67A and L-67C levees and borrow canals), to improve flow of water from WCA3A to 3B.
- **QQ Phase 1:** Raise and bridge (using ten 100-foot box culvert bridges) the eastern portion of Tamiami Trail and to completely backfill the Miami Canal within WCA-3.
- **SS:** North New River Improvements, as needed to improve the discharge capability of an expanded/improved North New River Canal, and to compensate for any water conveyance capacity lost via removal of the Miami Canal.
- **QQ Phase 2:** Remove the remaining sheetflow obstructions, i.e., L-67A borrow canal (by filling in the southern 7.5 miles), L-68A, L-67C, L-29, L-288 tieback levees and borrow canals. (formerly WBS #13)
- **ZZ:** Water Conservation Area 3A/3B flows to Central Lake Belt Storage (formerly WBS #47)

The features adhere to original *Restudy* concept with the addition of Part 2 of WCA 3 Decentralization and Sheetflow (QQ P2, WBS #13), as well as the conveyance features from WCA 3 to the Central Lake Belt storage area (ZZ, WBS #47). When stages in WCA 3A and 3B exceed target depths, water will be diverted to the Central Lake Belt Storage Area through water control structures and conveyance features. Conveyance features include pumps, water control structures, canals, and improvements located adjacent to WCA 3 in Broward County. Water supply deliveries will be made first to Northeast Shark River Slough, then to WCA 3B, and, finally, to Biscayne Bay, if flows are available.

Because of scientific and ecological uncertainties, and because of dependence on the Modified Water Deliveries Project, the Decomp Project Delivery Team is moving forward with a multiple PIR approach that implements decentralization using adaptive management, construction of a first phase, monitoring of component performance, and additional construction for decentralization to achieve desired results.

The first phase would implement a subset of the CERP Decentralization project and include a range of plans for a second phase of implementation. The first PIR (1) scope will focus on a portion of the Restudy Part 1--the Miami Canal and North New River features. PIR (2) will focus on the remainder of the April 1999 Plan Part 1 features (Tamiami Trail, degradation of L-29, backfilling the L-29 Borrow Canal, and additional S-345 conveyance structures through L-67 A/C). PIR (3) will incorporate the remaining Decomp features outlined in Decomp Part 2. Sequencing of Decomp with the Modified Water Deliveries, C-111 South Dade, and CERP projects (e.g., L-31N Seepage Management Pilot, ENP Seepage Management, Broward County Water Preserve Areas, and Everglades Agricultural Area) are critical because the projects for this region are so interrelated.

WCA 3 Decentralization and Sheetflow Enhancement - Phase 2 (WBS #13) was joined with Part 1 (WBS #12), as well as the conveyance features from WCA 3 to the Central Lake Belt storage area from WBS 47 (WCA 3A/3B Flows to Central Lake Belt). An adaptive management strategy will be developed specifically for this project which tiers off the strategy that has been developed for CERP, including formation of an interagency adaptive management team.

Current Status: The Project Delivery Team has completed a read-ahead package for the Feasibility Scoping Meeting tentatively scheduled for June 2008. Performance measure consistency review by RECOVER is complete.

Est. Cost: \$325,300,000

Project Schedule:

- 2016 SS (P1 & P2) complete construction.
- 2019 AA, QQ (P1 & P2), and ZZ complete construction.

SS (P1 & P2)	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
PIR/Plans & Specs											
Real Estate											
Construction											

AA, QQ (P1 & P2) & ZZ	2013	2014	2015	2016	2017	2018	2019
PIR/Plans & Specs							
Real Estate							
Construction							

Detailed Project Budget Information (\$1,000):

	Thru 2007	2008	2009	2010	2011	Balance 2012-2019	Total
USACE	4,505	2,160	3,251	3,251	3,251	146,232	162,650
SFWMD	3,056	2,160	3,251	3,251	3,251	147,681	162,650
Total	7,561	6,328	6,502	6,502	6,502	293,913	325,300

Hyperlinks: http://www.evergladesplan.org/pm/projects/proj_12_wca3_1.cfm
http://www.evergladesplan.org/pm/projects/proj_47_wca_3a_3b.cfm

Contact: Kim Brooks-Hall, Chief Project Execution Branch, USACE
(904) 232-3155, Kimberly.Brooks-Hall@usace.army.mil

Source: Detailed budget and schedule information based on the FY09 budget submission to OMB and the *Master Implementation Sequencing Plan* (MISP) and updated to reflect current price levels in October 2007 dollars. Original project description summarized from the *Central and Southern Florida Project Comprehensive Review Study*. Current project status includes information summarized from the April 1 2008 status report and from the project manager.

Program Name: Infrastructure
Project Name: Raise and Bridge East Portion of Tamiami Trail and Fill Miami Canal within Water Conservation Area 3 (QQ)
Project ID: Part of 1301
Lead Agency: USACE / SFWMD
Authority: QQ WRDA 2000 *Initially Authorized Project*
Funding Source: Corps/State

Strategic Plan Goal(s) Addressed: Primary: 1-A.3 **Secondary:** 2-A.3

Measurable Output(s): Restoration of sheet flow in historical Everglades

Est. Cost: \$43,800,000 (*October 2007 price level*)

During planning, it was determined that certain Initially Authorized Projects and closely related CERP projects should be combined. Thus, the Initially Authorized Projects contained in this report will be de-authorized in order to be included as sub-features within larger CERP projects.

This Initially Authorized Project and its associated costs are included in the WCA 3 Decomartmentalization and Sheetflow Enhancement project (ID 1301; CERP Project WBS #12, 13, and 47).

Program Name: Infrastructure
Project Name: North New River Improvements (SS) part of (1301) WCA 3 Decomartmentalization and Sheetflow Enhancement
Project ID: Part of 1301
Lead Agency: USACE / SFWMD
Authority: SS WRDA 2000 *Initially Authorized Project*
Funding Source: Corps/State

Strategic Plan Goal(s) Addressed: Primary: 1-A.3 **Secondary:** 2-A.3

Measurable Output(s): Restoration of sheet flow in historical Everglades

Est. Cost: \$110,600,000 (*October 2007 price level*)

During planning, it was determined that certain Initially Authorized Projects and closely related CERP projects should be combined. Thus, the Initially Authorized Projects contained in this report will be de-authorized in order to be included as sub-features within larger CERP projects.

This Initially Authorized Project and its associated costs are included in the WCA 3 Decomartmentalization and Sheetflow Enhancement project (Project ID 1301; CERP Project # WBS 12, 13, and 47).

Program Name: Infrastructure
Project Name: C&SF: CERP Florida Keys Tidal Restoration (OPE)
Project ID: 1302 (CERP Project WBS# 31)
Lead Agency: USACE / SFWMD
Authority: WRDA 2000 (Programmatic Authority)
Funding Source: Corps/State

Strategic Plan Goal(s) Addressed: 1-A.3

Measurable Output(s): 0.6 miles of impediments removed

Project Synopsis: The purpose of this project is to restore the tidal connection that was eliminated in the early 1900's during the construction of Mr. Flagler's railroad. Restoring the circulation to areas of surface water that have been impeded and stagnant for decades will significantly improve water quality, benthic floral and faunal communities, larval distribution of both recreational and commercial species (e.g. spiny lobster), and the overall hydrology of Florida Bay.

The *Central and Southern Florida Project Comprehensive Review Study* (Restudy) included the use of bridges or culverts to restore the tidal connection between Florida Bay and the Atlantic Ocean in Monroe County. The four locations are as follows: (1) Tarpon Creek, just south of Mile Marker 54 on Fat Deer Key (width 150 feet); (2) Unnamed Creek between Fat Deer Key and Long Point Key, south of Mile Marker 56 (width 450 feet); (3) tidal connection adjacent to Little Crawl Key (width 300 feet); and (4) tidal connection between Florida Bay and Atlantic Ocean at Mile Marker 57 (width 2,400 feet).

Current Status: Since issuance of the Restudy, various studies and other projects have refined this project's scope. This project provides for the removal of approximately 0.6 miles of impediments and will restore an historic flow way between the Atlantic Ocean and the Gulf of Mexico blocked during the construction of US Highway 1. An existing tidal creek restoration project near the proposed restoration project was fully successful. One tidal creek near Marathon, Florida has been selected for restoration. Culverts to maximize flow will be located, sized, and placed under U.S. 1 between Fat Deer Key and Long Point Key (MM56) to allow tidal exchange and flushing. Monitoring of water quality, benthic community composition, and sediment particle size will be performed before construction, at six months, and one year after construction completion. Additional tidal flow way restoration projects will be subsequently identified based upon the results. The project had begun its PIR when it was suspended.

Est. Cost: \$15,100,000

Project Schedule:
 2018 Construction completed.

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
PIR/Plans & Specs															
Real Estate															
Construction															

Detailed Project Budget Information (in \$1,000s):

	Thru 2007	2008	2009	2010	2011	Balance 2012-2018	Total
USACE	847	0	0	500	2,965	3,238	7,550
SFWMD	659	0	0	500	3,059	3,332	7,550
Total	1,506	0	0	1,000	6,024	6,570	15,100

Hyperlink: http://www.evergladesplan.org/pm/projects/proj_31_fl_keys_tidal.cfm

Contact: Kim Brooks-Hall, Chief Project Execution Branch, USACE
(904) 232-3155, Kimberly.Brooks-Hall@usace.army.mil

Source: Budget information based on the *Central and Southern Florida Project Comprehensive Review Study, April 1999* and the updated Project Implementation Report (PIR) cost included in the approved Project Management Plan (PMP). Detailed budget and schedule information based on the FY09 budget submission to OMB and the *Master Implementation Sequencing Plan (MISP)* and updated to reflect current price levels in October 2007 dollars. Original project description summarized from the *Central and Southern Florida Project Comprehensive Review Study*. Current project status includes information summarized various studies and the project manager.

Program Name: Infrastructure
Project Name: E&SF: Critical Projects Southern CREW Project Additions and Imperial Flowway
Project ID: 1303 (CERP OPE)
Lead Agency: USACE / SFWMD
Authority: WRDA 1996 (Critical Project); WRDA 2000 (Programmatic Authority)
Funding Source: Corps/State

Strategic Plan Goal(s) Addressed: 1-A.3

Secondary: 2-A.3

Measurable Output(s): 4,090 acres of restored wetlands (proposed footprint)

Project Synopsis: With SFER Task Force nomination, and input from the Governor's Commission for a Sustainable South Florida and the public, the USACE conducted an abbreviated study and produced a report transmitted to the Secretary of the Army for approval. This is one of the 12 "Critical Projects" for the restoration of the south Florida ecosystem having the Secretary of the Army's approval (WRDA 1996).

The *Central and Southern Florida Project Comprehensive Review Study* (Restudy) included an (OPE) under Programmatic Authority for the acquisition and restoration of 4,670 acres of land, replacement of the Imperial Bonita Estates Bridge on the Imperial River, and replacement of the Kehl Canal Weir in southern Lee County, adjacent to Corkscrew Sanctuary. This project will restore historical sheetflow in the project area; reduce excessive freshwater discharges to Estero Bay during the rainy season; improve habitat for listed species and other wildlife, reduce loading of nutrients and pollutants to the Imperial River and Estero Bay, and reduce flooding of homes and private lands west of the project area. It includes the removal of canal and road berms, house pads and ditches to allow historic sheetflow to be re-established in the Southern Corkscrew Regional Ecosystem Watershed (CREW).

With SFER Task Force nomination, and input from the Governor's Commission for a Sustainable South Florida and the public, the USACE conducted an abbreviated study and produced a report transmitted to the Secretary of the Army for approval. This is one of the 12 "Critical Projects" for the restoration of the south Florida ecosystem having the Secretary of the Army's approval (WRDA 1996).

Current Status: Land acquisition, restoration construction, and exotics control for the project is ongoing. Exotic removal has taken place over approximately 2,560 acres. Several hundred acres of exotic species, primarily *Melaleuca*, have been treated. Land acquisition has been accomplished with state and federal cost sharing. In addition, a number of canals have been plugged and berms breached and dirt roads removed to restore sheet flow in areas of the project footprint, restoring hydropatterns on approximately 640 acres of wetlands.

Because of escalating land costs in the region, particularly in proximity to Bonita Beach Road, and the difficulty in restoring the hydrology in the areas south of Kehl Canal, the project team is considering changes in the project footprint. The SFWMD is proposing to reduce the footprint by excluding the southern half of sections 32 and 33, south of the Kehl Canal, and also those areas impacted by the proposed alignment of County Road 951.

Even with the change in footprint due to removal of these lands, the SFWMD will be able to maintain a flow way and corridor along the Kehl Canal and Imperial River connecting and restoring lands within Southern CREW and CREW Trust lands. Approximately 45 acres in the northwestern corner of Section 32 and 15 acres in the southwestern corner of Section 34 would also be removed from the project.

Project 1303 E&SF: Critical Projects Southern CREW Project Additions and Imperial Flowway page 1 of 2

The District may be able to partner with Lee County Conservation 20/20 to advance acquisition of remaining project lands. Lee County Conservation 20/20 is considering the acquisition of lands already purchased by the SFWMD south of the Kehl Canal in Section 34. These lands would be preserved and the funds paid to the SFWMD could be used to acquire other lands within the project footprint. The SFWMD continues to acquire land and construct the project.

Est. Cost: \$60,104,000

Project Schedule:

1999 Start
 2015 Finish

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Design											
Construction											

Detailed Project Budget Information (in \$1,000s):

	Thru 2007	2008	2009	Balance to Complete 2010-2015	Total
USACE	282	0	0	0	282
DOI	7,000	0	0	0	7,000
SFWMD	20,112	7,322	0	25,388	52,822
Total	27,394	7,322	0	25,388	60,104

Hyperlink: <http://www.saj.usace.army.mil/projects/proj9.htm>

Contacts: Kim Brooks-Hall, Chief Project Execution Branch, USACE
 (904) 232-3155, Kimberly.Brooks-Hall@usace.army.mil

Jeffrey Needle, Lead Project Manger, Everglades Restoration, SFWMD
 (561) 681-2563 ext 3717, jneedle@sfwmd.gov

Source: Detailed budget and schedule information based on the FY09 budget submission to OMB and the *Master Implementation Sequencing Plan (MISP)* and updated to reflect current price levels in October 2007 dollars. Original project description summarized from the *Central and Southern Florida Project Comprehensive Review Study*. Current project status includes information summarized from the project manager.

Program Name: Infrastructure
Project Name: Kissimmee River Restoration
Project ID: 1306
Lead Agency: USACE / SFWMD
Authority: WRDA 1986, 1988, 1992
Funding Source: Corps/State

Strategic Plan Goal(s) Addressed:Primary: 1-A.3

Secondary: 2-A.3

Measurable Output(s):

- 31 miles of impediments removed
- 27,000 acres of floodplain wetlands improved

Project Synopsis: Authorized by Section 1135 of the WRDA of 1986 and funding for preparation of a Feasibility Report/Environmental Impact Statement was authorized by WRDA of 1990. As part of the Corps planning process, several alternative plans were reviewed and the Tentatively Selected Plan (TSP) was identified in 1992. The *Central and Southern Florida Project Comprehensive Review Study* (Restudy) included backfilling the 30-foot deep Canal 38 and restoring flow to over 25 miles of presently isolated river channel to restore an estimated 27,000 acres of floodplain wetlands and associated fish and wildlife resources. The project would also provide more natural seasonal flow to Lake Okeechobee.

This project includes 3,000 square miles stretching from Orlando to Lake Okeechobee in central Florida and involves the ecosystem restoration of the historic floodplain to reestablish wetland conditions through modifications to the operation of the lakes, modification of Structure 65, enlargement of canals 36 and 37, backfilling of 22 miles of C-38, excavation of about nine miles of new river channel, removal of two water control structures and locks, and land acquisition [Lower Basin Land Acquisition (SFWMD 68,332 acres); Upper Basin Land Acquisition (SFWMD 36,763 acres)]. The project will restore the ecological integrity of the historical Kissimmee River/floodplain ecosystem by recreating approximately 40 square miles of the river/floodplain ecosystem, including 43 miles of contiguous river channel and 27,000 acres of floodplain wetlands.

Current Status: DOI recommends that the current scheduled completion date of 2011 be adhered to, as the completion of river restoration is not anticipated to disrupt restoration efforts to the south, provided the additional water is delivered to the remaining natural system in an uninterrupted seasonal flow pattern.

All 102,061 acres of land needed for the restoration have been acquired. Natural flow has been reestablished for an 18 mile section of the Kissimmee River, including 4 miles reconnected during the past period and the 14 miles that were reconnected in 2001. These first two (of four) restoration phases required backfilling a total of 10 miles of canal C-38 and have resulted in about 6,300 acres of formerly drained portions of the river's floodplain now experiencing enhanced inundation and converting back to wetland habitat.

This restoration project, which is being jointly implemented and cost-shared by the SFWMD and the USACE, has two remaining construction phases. When complete, the project will have backfilled a total of 22 miles of C-38 and eliminated two major water control structures. Flow will be reestablished to approximately 40 miles of meandering river channel and over 12,000 acres of wetlands will be restored within a river/floodplain ecosystem over 40 square miles in area.

A comprehensive evaluation program for tracking environmental responses to the restoration is in place to gauge the success of the project in meeting its goal of ecological integrity for the river and the floodplain. The evaluation program predicts and tracks ecological changes that are expected to result from the project, including changes in hydrology, water quality, and major biological communities such as plants, invertebrates, fish, and birds. Restoration evaluation research is required to be continued by the SFWMD for at least 5 years following completion of the final phase of construction (currently projected for 2013), or until environmental responses stabilize.

The SFWMD is also conducting the Kissimmee Basin Modeling and Operations Study (KB MOS) to evaluate alternative water regulation schedules for the Upper Kissimmee Basin. This project will help meet the water needs of the Kissimmee River Restoration Project in the Lower Kissimmee Basin while maintaining flood protection. KB MOS continues to involve the SFWMD, the USACE, and many other participating local, state, and federal entities, as well as the public.

Est. Cost: \$634,000,000

Project Schedule:

1994 Start
 2013 Finish

	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Design																		
Real Estate																		
Construction																		

Detailed Project Budget Information (in \$1,000s):

	Thru 2007	2008	2009	2010	2011	2012	2013	Total
USACE	157,291	30,968	31,015	23,055	23,055	24,933	26,683	317,000
SFWMD	41,136	30,968	31,015	20,059	20,059	85,206	88,557	317,000
Total	198,427	61,936	62,030	43,114	43,114	110,139	115,240	634,000

Hyperlinks: <http://www.saj.usace.army.mil/dp/krr/index.htm>.

https://my.sfwmd.gov/portal/page?_pageid=2294,4946313,2294_4947316:2294_11158132&_dad=portal&_schema=PORTAL.

Contact: Jeff Couch, Senior Project Manager, USACE
 (904) 232-1464, Jeffery.D.Couch@usace.army.mil.

Source: Detailed budget and schedule information based on the current price levels in October 2007 dollars. Original project description summarized from the *Central and Southern Florida Project Comprehensive Review Study*.

The project has historically been funded through the DOI as a part of its annual construction appropriations. Due to the increase in the estimated cost of the project and the focus of much of the remaining work on construction, funding was also requested through USACE appropriations. Specifically, beginning in FY06 \$35 M was requested through USACE appropriations, primarily to support the construction of the 8.5 SMA, while \$25 M was requested through DOI appropriations to support real estate transactions, CSOP development, monitoring, and other efforts. The request included a similar split for future appropriations to support completion of the project.

The MWD project is being implemented in conjunction with acquisition of 109,504 acres in the East Everglades as part of the Everglades National Park expansion. Acquisition of land within the East Everglades Addition is necessary to limit further losses suffered by the park due to habitat destruction outside former boundaries and to restore natural water flow patterns that are critical to the ecological integrity and long-term viability of park resources.

Due to concerns over delays and the development of the larger CERP in WRDA 2000, Congress made the appropriation of funds for construction of components of the CERP DECOMP project and the Central Lakebelt Storage project contingent upon the completion of the MWD¹

Current Status: The USACE has completed an Integrated Limited Reevaluation Report (LRR) and Environmental Assessment (EA) re-analyzed the plan approved in the 2005 Revised General Reevaluation Report (RGRR) to determine additional, less costly alternatives and the direction for the TTM project. While the current approved CAP for the project is \$398.4 M, the cost for MWD is estimated at \$523 M with the new plan identified in the LRR. The plan includes building a one-mile long bridge approximately two miles west of the intersection of Tamiami Trail and Krome Avenue, allowing water levels in the L-29 Canal to reach 8.5 feet and reinforcing the roadway to mitigate for possible impacts of the increased water levels. Construction of the new plan will commence in FY 09 and be completed in FY 12.

Changes to the TTM project will require adjustments to the C&SC component. Therefore, an Engineering Design Report (EDR) and related NEPA documentation will be initiated for the C&SC components in FY 09.

(1) Construction was just completed in FY 08 relative to flood mitigation for the 8.5 Square Mile Area and all lands have been acquired in the project area. The East Everglades residential area, also referred to as the 8.5 SMA, was provided with perimeter levees and a seepage collector canal. A new pump station S-357 was constructed to remove water from the seepage collector canal and prevent increased water levels inside the 8.5 SMA after project implementation. Work continues on land preparations necessary for operations.

(2) The 1992 General Design Memorandum (GDM) specified the construction of the conveyance and seepage control features - gated structures, spillways, and pump stations. Several features are now complete as noted below:

- Structures S-345 A, B, and C through the L-67A and C Levees (pending)
- Structures S-349 A, B, and C in the L-67A Borrow Canal (pending)
- Osceola Camp elevation design and construction (pending)
- L-29 weirs (pending)
- Degradation of the L-67 Extension Canal and Levee (4 of 9 miles degraded)
- S-331 Command and Control (in progress-adding telemetry & remote control of conveyance features)
- Spillway structures S-355A and B in the L-29 Levee (complete)
- S-333 modifications (complete)
- Tigertail Camp elevation (complete - raised to 12.00 ft. with 1st floor elevations of at least 12.5 feet)
- Pump Station S-356 between L-31N Canal and L-29 Canal (for MWD - complete)

Project 1307 Modified Water Deliveries to Everglades National Park page 2 of 3

The USACE will address any remaining design modifications to existing C&SF project features for this component in an Engineering Documentation Report, with supporting NEPA documentation in FY09.

(3) The revised *Final General Reevaluation Report and Supplemental Environmental Impact Statement* for the Tamiami Trail modifications component of the MWD Project was completed in November 2005. The Record of Decision was signed in January 2006 and a real estate supplement was prepared in March 2006. The selected plan (Alternative 14) included constructing approximately three miles of bridges and raising the remaining road to allow conveyance of higher water stages expected to occur under the Combined Structural and Operational Plan (CSOP) for the MWD ENP and C-111 projects.

The USACE initiated design of the bridges and road raising; and has completed the initial geotechnical investigation and boundary surveys. However, estimated costs for the Tamiami Trail feature have grown dramatically since the 2005 Record of Decision. In response to cost increases in fuel, steel, Portland cement, and asphalt, the USACE initiated an integrated Limited Reevaluation Report (LRR) and Environmental Assessment (EA). A draft LRR was released for public comment in April 2008. It included a tentatively selected plan that included a one-mile eastern bridge, allowing L-29 Canal stage to reach 8.5 feet NGVD, and reinforcing the road to mitigate for road impacts from the 8.5-foot stage. The Final Integrated LRR and EA were completed in August 2008.

(4) The Project Implementation Support component includes project and program management support by the DOI and USACE, hydrological stream gage monitoring and wildlife monitoring, and operational plan development and closeout.

The cost and schedule below reflect the current estimates. New MCASES may adjust these estimates for construction with completion of the LRR and EDR.

Est. Cost: \$523,016,000

Project Schedule:

Start Date: 1990
 Finish Date: 2013

	< 2006	2007	2008	2009	2010	2011	2012	2013
Design								
Real Estate								
Construction								

Detailed Project Budget Information (\$1,000s):

	Thru 2007	2008	2009	Balance to Complete 2010-2013	Total
USACE	31,089	46,404	50,000	49,901	177,394
DOI	196,925	47,949	10,000	86,248	341,122
Total	228,014	94,353	60,000	140,649	523,016

**Recent New MCASES might change cost estimates.*

Hyperlink: <http://www.saj.usace.army.mil/dp/mwdenp-c111/index.htm>

Contact: Mark Wolff, Department of the Interior/National Park Service, 904-232-1125

Program Name: Infrastructure
Project Name: E&SF: Critical Projects Tamiami Trail Culverts
Project ID: 1308 (formerly 1400)
Lead Agency: USACE / SFWMD
Authority: WRDA 1996
Funding Source: USACE/State

Strategic Plan Goal(s) Addressed: 1-A.3

Measurable Output(s): 16 miles of impediments removed

Project Synopsis: This project will improve the natural sheetflow of surface water within the watersheds of the Ten Thousand Islands National Wildlife Refuge & Aquatic Preserve, Southern Golden Gate Estates, Fakahatchee Strand State Preserve, Big Cypress National Preserve and Everglades National Park. By creating a more diffuse flow way beneath Tamiami Trail, a more natural hydro pattern will be established north and south of this highway. Improvement of the natural hydrology will also enhance biological restoration of the region. This project will directly support objectives for several other south Florida projects such as the L-28 modification and restoration of Southern Golden Gate Estates.

This project consisted of two phases. Phase I involved planning, project design and construction of 62 culverts and associated improvement of hydrologic sheetflow under 16 miles of Tamiami Trail (US 41) and 15 under Loop Road between SR 92 and Collier/Miami-Dade County line. Phase I effort improves sheet flow of surface water within the watersheds of Ten Thousand Islands National Wildlife Refuge and Aquatic Preserve, Southern Golden Gate Estates, and Fakahatchee Strand State Preserve. It is not to increase the flows but to redistribute them from the north side of the road to the south side. By providing additional culverts under the Tamiami Trail, a more natural hydro pattern will be established both north and south of the highway. Improvement of the natural hydrology will enhance biological restoration for the region. Other components of the project include specific plug sites, as well as specific milling and resurfacing of the road. The plugs are simply large earthen ditch blocks that could serve as driveway access across the canal. Some of the existing driveways have pipe culverts that will need either to be removed or have the existing culvert replaced if its size is substandard.

Phase II involved resurfacing of the roadway of the Tamiami Trail pursuant to construction of the culverts. State Road 29 West was planned as part of the Southern Golden Gate Estates Hydrologic Restoration (Picayune Strand).

Current Status: Since the initial planning, the scope of the project was modified due to budget and time constraints. The SFWMD completed the acquisition of land and is constructing the project according to the revised plan. Per the revised plan and scope of work: The Tamiami Trail Culvert Phase I project begins at the intersection of US 41 and CR 92 and extends from this intersection eastward along the Tamiami Trail corridor to the intersection of US 41 and SR 29, a distance of approximately 16 miles. Construction of the western portion of the project (Phase I), located west of State Road 92, started in June 2004 and was completed in March 2006. The cost estimates for completion of this project in combination with the other eight Critical Projects previously exceeded the USACE appropriation cap of \$75million set by WRDA 1996. Phase I of the project has now been included as a component of the Picayune Strand Restoration Project, authorized for construction by Congress as part of WRDA 2007, which will make Phase I of the culvert project eligible for federal cost-share. USACE may be able to contribute to the construction costs based on the recent WRDA 2007 authorization, which increased the Federal funding cap up to \$95 million.

Est. Cost: \$16,506,000 for the original plan
Project 1308 E&SF: Critical Projects Tamiami Trail Culverts Page 1 of 2

Project Schedule:

1998 Start
 2003 Revisions on design
 2011 Finish

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Design										
Construction										

Detailed Project Budget Information (\$1,000):

	Thru 2007	2008	2009	2010	2011	Total
USACE	2,622	0	0	4,954	677	8,253
SFWMD	692	0	0	4,954	2,607	8,253
Total	3,314	0	0	9,908	3,284	16,506

Hyperlink: <http://www.saj.usace.army.mil/projects/proj2.htm>

Contact: Kim Brooks-Hall, Chief Project Execution Branch, USACE
 (904) 232-3155, Kimberly.Brooks-Hall@usace.army.mil

Source: Detailed budget and schedule information based on the FY09 budget submission to OMB and the *Master Implementation Sequencing Plan* (MISP) and updated to reflect current price levels in October 2007 dollars.

Program Name: Infrastructure
Project Name: Biscayne Bay Feasibility Study
Project ID: 1401
Lead Agency: USACE / Miami-Dade County
Authority: WRDA 1996
Funding Source: Corps/State

Strategic Plan Goal(s) Addressed: Other

Measurable Output(s): Report

Project Synopsis: Biscayne Bay is a shallow, well-mixed estuary located along the southeastern coast of Florida. It includes most of Biscayne National Park, and adjacent lands provide fresh surface- or groundwater to Biscayne Bay. The Central and Southern Florida (C&SF) Project is believed to have changed the timing, distribution and amount of freshwater reaching the bay. Those changes affect the natural salinity patterns and ecology of that bay.

Current Status: The Comprehensive Everglades Restoration Plan (CERP) is modifying the C&SF project to improve flows needed for the environment, including Biscayne Bay. Proposed modifications to this hydrologically connected system may affect Biscayne Bay. Although not part of CERP, this study will allow Miami-Dade County resource managers to assess potential impacts and determine if further studies of Biscayne Bay are needed. This study allows resource managers to assess those impacts and determine if further studies of Biscayne Bay are needed. Work on this project has been suspended due to limited funding.

Est. Cost: \$6,370,000

Project Schedule:

1996 Start
 2010 Finish

	Thru 2004	2005	2006	2007	2008	2009	2010
Planning & Design							

Detailed Project Budget Information (in \$1,000s):

	Thru 2007	Balance 2008 - 2010	Total
USACE	1,086	2,334	3,420
Miami-Dade Co.	557	2,393	2,950
Total	1,643	4,727	6,370

Contact: Kim Brooks-Hall, Chief Project Execution Branch, USACE
 (904) 232-3155, Kimberly.Brooks-Hall@usace.army.mil

Source: Detailed budget and schedule information based on the FY09 budget submission to OMB and the *Master Implementation Sequencing Plan* (MISP) and updated to reflect current price levels in October 2007 dollars.

Program Name: Infrastructure
Project Name: C&SF: CERP Broward County Secondary Canal System (CC)
Project ID: 1403 (CERP Project WBS# 24)
Lead Agency: USACE / SFWMD
Authority: WRDA 2000 (Programmatic Authority)
Funding Source: Corps/State

Strategic Plan Goal(s) Addressed: Other

Measurable Output(s): Water control structures, pumps, and canal improvements

Project Synopsis: Includes 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. Excess water in the basins will be pumped into the coastal canal systems to maintain canal stages at optimum levels. When basin water is not sufficient to maintain canal stages, the canals will be maintained from other construction features such as the Site 1 Impoundment (Fran Reich Preserve) and the North Lake Belt Storage Area and then from Lake Okeechobee and the Water Conservation Areas.

Current Status: This project adheres to the original concept outlined in the *Central and Southern Florida Project Comprehensive Review Study (Restudy)*, but has not yet begun.

Est. Cost: \$19,100,000

Project Schedule:

2016 Construction completed.

	2008	2009	2010	2011	2012	2013	2014	2015	2016
PIR/Plans & Specs									
Real Estate									
Construction									

Detailed Project Budget Information (in \$1,000s)

	Thru 2007	2008	2009	2010	2011	2012	Balance 2013-2016	Total
USACE	20	0	1,112	1,112	1,112	1,112	5,082	9,550
SFWMD	42	0	1,109	1,109	1,109	1,109	5,072	9,550
Total	62	0	2,221	2,221	2,221	2,221	10,154	19,100

Hyperlink: http://www.evergladesplan.org/pm/projects/proj_24_broward_canal.cfm

Contact: Kim Brooks-Hall, Chief Project Execution Branch, USACE
(904) 232-3155, Kimberly.Brooks-Hall@usace.army.mil

Source: Detailed budget and schedule information based on the FY09 budget submission to OMB and the *Master Implementation Sequencing Plan (MISP)* and updated to reflect current price levels in October 2007 dollars. Original project description summarized from the *Central and Southern Florida Project Comprehensive Review Study*.

Program Name: Infrastructure
Project Name: C&SF: CERP Loxahatchee National Wildlife Refuge Internal Canal Structures (KK)
Project ID: 1408 (CERP Project WBS #14)
Lead Agency: USACE / SFWMD
Authority: WRDA 2000 (Programmatic Authority)
Funding Source: Corps/State

Strategic Plan Goal(s) Addressed: Other

Measurable Output(s): Water control structures

Project Synopsis: The *Central and Southern Florida Project Comprehensive Review Study* (Restudy) included two water control structures in the northern ends of the perimeter canals encircling the Loxahatchee National Wildlife Refuge (Water Conservation Area 1) located in Palm Beach County. The purpose is to improve the timing and location of water depths within the Refuge. It is assumed that these structures will remain closed except to pass Stormwater Treatment Area 1 East and Stormwater Treatment Area 1 West outflows and water supply deliveries to the coastal canals.

Current Status: This project adheres to the original concept outlined in the *Central and Southern Florida Project Comprehensive Review Study* (Restudy), but has not yet begun.

Est. Cost: \$9,600,000

Project Schedule:

2020 Construction completed.

	2013	2014	2015	2016	2017	2018	2019	2020
PIR/Plans & Specs								
Real Estate								
Construction								

Detailed Project Budget Information (in \$1,000s) :

	Thru 2007	2008-2013	2014	2015	2016	2017	Balance 2018-2020	Total
USACE	49	0	224	498	1,119	1,119	1,791	4,800
SFWMD	0	0	226	500	1,132	1,132	1,810	4,800
Total	49	0	450	998	2,251	2,251	3,601	9,600

Hyperlink: http://www.evergladesplan.org/pm/projects/proj_14_loxahatchee.cfm

Contact: Kim Brooks-Hall, Chief Project Execution Branch, USACE
 (904) 232-3155, Kimberly.Brooks-Hall@usace.army.mil

Source: Detailed budget and schedule information based on the FY09 budget submission to OMB and the *Master Implementation Sequencing Plan* (MISP) and updated to reflect current price levels in October 2007 dollars. Original project description summarized from the *Central and Southern Florida Project Comprehensive Review Study*.

Program Name: Infrastructure
Project Name: C&SF: CERP Seminole Tribe Big Cypress Reservation Water Conservation Plan (OPE)
Project Name: 1409 (CERP Project WBS #96)
Lead Agency: USACE / Seminole Tribe
Authority: Not authorized.
Funding Source: Corps/State

Strategic Plan Goal(s) Addressed: Supports 3-A.4 and 3-B.1

Measurable Output(s): Plan to reduce phosphorus level

Project Synopsis: This project was included in the *Central and Southern Florida Project Comprehensive Review Study (Restudy)* as an (OPE) to address the legislated funding limits of the Critical Projects program (see *E&SF Critical Projects sheet*), that allowed only the west portion of this project to be nominated as a Critical Project. The Restudy included construction of water control, management, and treatment facilities to improve the quality of water and runoff from phosphorus generating agricultural sources within the Reservation.

This comprehensive watershed management system is designed to achieve environmental restoration on the Reservation, the Big Cypress Preserve, and the Everglades Protection Area. In addition, the project will reduce flood damage and promote water conservation. The removal of pollutants will be achieved using natural treatment processes in pretreatment cells and water storage areas. A phosphorus level of 50 ppb is the goal; also the level to be achieved by STAs in the Everglades Construction Project.

Current Status: Should design performance levels for phosphorus become more stringent, this project has sufficient flexibility to incorporate additional alternative technology. The Project Cooperation Agreement (PCA) between the SFWMD and the Corps was executed in 2005. Planned for future.

Current Status: The Project Cooperation Agreement (PCA) between the SFWMD and the Corps was executed in 2005. Planned for the future.

Est. Cost: \$127,700,000

Project Schedule:

2022 Construction completed.

	2015	2016	2017	2018	2019	2020	2021	2022
Planning & Design								
Real Estate								
Construction								

Detailed Project Budget Information (in \$1,000s):

	2015	2016	2017	2018	2019	2020	Balance 2021-2022	Total
USACE	3,053	6,106	6,106	12,211	12,211	9,159	15,004	63,850
Tribe	3,053	6,106	6,106	12,211	12,211	9,159	15,004	63,850
Total	6,106	12,211	12,211	24,423	24,423	18,317	30,008	127,700

Hyperlink: <http://www.saj.usace.army.mil/projects/proj6.htm>

Contact: Kim Brooks-Hall, Chief Project Execution Branch, USACE
 (904) 232-3155, Kimberly.Brooks-Hall@usace.army.mil

Source: Detailed budget and schedule information based on the FY09 budget submission to OMB and the *Master Implementation Sequencing Plan (MISP)* and updated to reflect current price levels in October 2007 dollars. Original project description summarized from the *Central and Southern Florida Project Comprehensive Review Study*. Current project status includes information summarized from the Congressional Fact Sheet (January 2008) and the project manager.

Program Name: Infrastructure
Project Name: C&SF: CERP Caloosahatchee(C-43) River Aquifer Storage & Recovery - Pilot
Project ID: 1411 (CERP Project WBS# 33)
Lead Agency: USACE / SFWMD
Authority: WRDA 2000 (pilot project)
Funding Source: Corps/State

Strategic Plan Goal(s) Addressed: Other – supports 1-A.2

Measurable Output(s): Pilot (*output is temporary*)

Project Synopsis: The *Central and Southern Florida Project Comprehensive Review Study* (Restudy) included Aquifer Storage and Recovery wells to maximize the benefits associated with the Caloosahatchee River Storage Reservoir. A pilot project for these wells is necessary to evaluate and reduce the technical and regulatory uncertainties of implementing the full-scale Caloosahatchee ASR Project. The pilot will identify the most suitable sites for the aquifer storage and recovery wells near the reservoir and determine the optimum configuration of those wells. It will provide information regarding the characteristics of the aquifer system within the Caloosahatchee River Basin as well as determine the hydrogeological and geotechnical characteristics of the upper Floridan Aquifer. The pilot will also determine the specific water quality characteristics of waters to be injected, the water quality characteristics; and the amount of water recovered from the aquifer and those within the receiving aquifer.

The CERP Caloosahatchee River ASR Pilot was initially sited just west of LaBelle, along the Caloosahatchee River, on SFWMD-owned land in western Hendry County. The pilot includes the construction of one five-million gallons per day ASR well and associated monitoring wells and surface facilities. The full-scale project includes the construction of up to 220 mgd of ASR capacity (approximately 44 ASR wells) and a surface water reservoir (impoundment). The full-scale system will store excess water from the Caloosahatchee River Basin when available (typically in the wet season) and release water into the Caloosahatchee River during dry periods.

Installation of exploratory wells has been completed. The project was refined to include providing information regarding the hydrogeological and geotechnical characteristics of the Hawthorn Aquifer.

Current Status: A Pilot Project Design Report (PPDR) was completed in September 2004. An exploratory well was drilled, however the geological formations at the site were not appropriate for open-hole high-capacity ASR wells. This pilot project is currently suspended pending the C-43 Watershed PDT's determination of the location of the second surface reservoir on the Caloosahatchee River. Once the location is determined, another exploratory well will be drilled in the vicinity. If the aquifer characteristics at the site are appropriate the design and installation of a single ASR well pilot facility will be constructed and cycle tested.

Est. Cost: \$8,928,000

Project Schedule:

2012 Construction completed.

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Feasibility & Design														
Construction														
Cycle Testing														

Detailed Project Budget Information (in \$1,000s):

	Thru 2007	2008	2009	2010	2011	2012	Total
USACE	1,206	0	0	715	1,500	1,043	4,464
SFWMD	2,065	0	0	284	1,057	1,058	4,464
Total	3,271	0	0	999	2,557	2,101	8,928

Hyperlink: http://www.evergladesplan.org/pm/projects/proj_33_cal_river_c43_asr_pilot.cfm

Contact: Kim Brooks-Hall, Chief Project Execution Branch, USACE
 (904) 232-3155, Kimberly.Brooks-Hall@usace.army.mil

Source: Schedule information based on the *Master Implementation Sequencing Plan (MISP)*. Detailed budget information based on the final Pilot Project Design Report (PPDR). Original project description summarized from the *Central and Southern Florida Project Comprehensive Review Study*.

Program Name: Infrastructure
Project Name: C&SF: CERP WCA 2B Flows to Everglades National Park (YY)
Project ID: 1412 (CERP Project WBS# 48)
Lead Agency: USACE / SFWMD
Authority: Not Authorized.
Funding Source: Corps/State

Strategic Plan Goal(s) Addressed: Other – supports 2-A.3 and 1B.1

Measurable Output(s): Water control structures, canals, pumps and canal improvements

Project Synopsis: The *Central and Southern Florida Project Comprehensive Review Study (Restudy)* included both components (YY) and (ZZ) together. This feature consisted of pumps, water control structures, canals, and conveyance improvements located adjacent to Water Conservation Areas 2 and 3 in Broward County. The purpose of this feature is to transport excess water that has been attenuated in Water Conservation Areas 2 and 3 to the North (YY) and Central (ZZ) Lake Belt Storage Areas where it will be stored to meet downstream demands in Shark River Slough, Water Conservation Area 3B or Biscayne Bay.

The purpose is to store excess water from WCA 2 [and 3] and provide environmental water supply deliveries to: (1) Northeast Shark River Slough, (2) WCA 3B, and (3) to Biscayne Bay, in that order, if available. The Restudy included diverting excess water from Water Conservation Area (WCA) 2 [and 3] and into the L-37, L-33, and L-30 Borrow Canals, which run along the eastern boundaries of the Water Conservation Areas, and pumped into the Central Lake Belt Storage Area. Water supply deliveries will be pumped through a stormwater treatment area prior to discharge to the Everglades via the L-30 Borrow Canal and a reconfigured L-31N Borrow Canal. If available, deliveries will be directed to Biscayne Bay through the Snapper Creek Canal at Florida’s Turnpike. A structure will be provided on the Snapper Creek Canal to provide regional system deliveries when water from the Central Lake Belt Storage Area is not available.

Since the *Central and Southern Florida Project Comprehensive Review Study (Restudy)*, feature (S), which was part of the Central Lake Belt Storage Project (WBS # 26), was divided into (SP1) and (SP2). YY was combined with SP1 within this project (WBS # 48). In 2008, SP1 was recombined with SP2 within Central Lake Belt Storage Area (WBS # 26). ZZ was also divided from YY to become WBS #47 and was subsequently incorporated into WCA 3 Decompartmentalization and Sheetflow Enhancement (WBS #12).

Current Status: *Items in [brackets] were included in the Restudy description, but the feature was divided into two these now belong to a different part.*

Est. Cost: \$95,950,000

Project Schedule:
 2025 Construction completed.

YY & S P1	2014	2015	2016	2017	2018	2018	2019	2020	2021	2022
Planning & Design										
Real Estate										
Construction (YY)										

Detailed Project Budget Information (in \$1,000s):

	Thru 2007	2008-2017	Balance to Complete 2018-2025	Total
USACE	284	0	47,833	48,117
SFWMD	0	0	47,833	47,833
Total	284	0	95,666	95,950

Hyperlink: http://www.evergladesplan.org/pm/projects/proj_48_wca_2b.cfm

Contact: Kim Brooks-Hall, Chief Project Execution Branch, USACE
(904) 232-3155, Kimberly.Brooks-Hall@usace.army.mil

Source: Detailed budget and schedule information based on the FY09 budget submission to OMB and the *Master Implementation Sequencing Plan* (MISP) and updated to reflect current price levels in October 2007 dollars. Original project description summarized from the *Central and Southern Florida Project Comprehensive Review Study*.

Program Name: Infrastructure
Project Name: C&SF: CERP L-31N Seepage Management – Pilot (V)
L-31N (L-30) Seepage Management - Pilot
Project ID: 1416 (CERP Project WBS #36)
Lead Agency: USACE / SFWMD
Authority: WRDA 2000 (pilot project)
Funding Source: Corps/State

Strategic Plan Goal(s) Addressed: Primary: Other – supports 1A.2 and 2-A.3

Measurable Output(s): Pilot (*output is temporary*)

Project Synopsis: The purpose of this feature is to reduce levee seepage flow across L-31N adjacent to Everglades National Park (ENP) via a levee cutoff wall. Additionally, the feature was designed to reduce groundwater flows during the wet season by capturing groundwater flows with a series of groundwater wells adjacent to L-31N, then backpumping those flows to ENP. The pilot project is necessary to determine the appropriate technology to best control seepage from ENP. The pilot will also provide necessary information to determine the appropriate amount of wet season groundwater flow to return that will minimize potential impacts to Miami-Dade County’s West Wellfield and freshwater flows to Biscayne Bay.

Current Status: In early 2005, after further study of the L-31N site, it was determined that a seepage management feature located along L-31N could reduce some seepage. However, the L-31N site is located within an area that may be modified under the CERP, which could render it less useful for long-term effects. As a result, the team was tasked to review seepage management alternatively on L-30).

The USACE Jacksonville District is proposing to further study a seepage management feature located along a portion of the L-30 levee, north of U.S. Highway 41, in Miami-Dade County, Florida, allowing testing of uncertainties related to the constructability of a seepage barrier at a predetermined length and depth. In addition, a seepage management feature along the L-30 levee would help reduce seepage lost from Water Conservation Area 3B, which, in turn, will reduce water flowing farther south into the L-30/L-31N system. Field tests, seepage reports and historical data have independently shown the L-30 levee, north of U.S. Highway 41, as having a higher seepage rate than L-31N.

A change in study area was endorsed at the October 2005 Quality Review Board meeting in Fort Lauderdale. As a follow up, the Jacksonville District prepared a memo to Headquarters through South Atlantic Division (SAD) to request official approval to prepare a PPDR for the L-30 site and officially change the project name to L-30 Seepage Management Pilot Project. The Pilot Project Design Report (PPDR) focuses on a seepage management feature along the L-30 site in lieu of the previous location along the L-31N canal and will be useful prior to recommending full-scale implementation. The Draft PPDR was released for independent technical review late in May, 2008 and is scheduled for public comments in Summer 2008. The PPDR recommends construction of a roughly 1,000 foot linear barrier of sheet pile and soil cement bentonite mixture for testing of constructability and effectiveness. A detailed monitoring plan has been developed for the measurement of the seepage reduction achieved by the constructed barrier.

Est. Cost: \$15,000,000

Project Schedule:
2010 Construction completed.

Project 1416 C&SF: CERP L-31N Seepage Management – Pilot Page 1 of 2

	2007	2008	2009	2010	2011	2012	2013	2014
PPDR/Plans & Specs								
Installation & Testing								
Monitoring								
Technical Data Report								

Detailed Project Budget Information (in \$1,000s):

	Thru 2007	2008	2009	2010-2012	2013	Total
USACE	2,913	1,223	5,985	840	839	11,800
SFWMD	1,355	1,223	150	236	236	3,200
Total	4,268	2,446	6,135	1,076	1,075	15,000

Hyperlink: http://www.evergladesplan.org/pm/projects/proj_36_l31n_seepage.cfm

Contact: Kim Brooks-Hall, Chief Project Execution Branch, USACE
 (904) 232-3155, Kimberly.Brooks-Hall@usace.army.mil

Source: Detailed budget and schedule information based on the FY09 budget submission to OMB and the *Master Implementation Sequencing Plan (MISP)* and updated to reflect current price levels in October 2007 dollars. Original project description summarized from the *Central and Southern Florida Project Comprehensive Review Study*. Current project status includes information summarized from the Congressional Fact Sheet (January 2008) and the project manager.

Program Name: Infrastructure
Project Name: C&SF: CERP Lake Belt In-Ground Reservoir Technology – Pilot
Project ID: 1417 (CERP Project WBS# 35)
Lead Agency: USACE / SFWMD
Authority: WRDA 2000 (pilot project)
Funding Source: Corps/State

Strategic Plan Goal(s) Addressed: Other – supports 1-A-2

Measurable Output(s): Pilot (*output is temporary*)

Project Synopsis: The pilot project is required to determine construction technologies, storage efficiencies, impacts on local hydrology, and water quality effects. Water quality assessments will include a determination as to whether the in-ground reservoirs and seepage barriers will allow for storage of untreated waters without concerns of groundwater contamination.

This project adheres to the original concept outlined in the *Central and Southern Florida Project Comprehensive Review Study* (Restudy). The initial design of these reservoirs includes subterranean seepage barriers around their perimeter in order to enable drawdown during dry periods, prevent seepage losses, and prevent water quality impacts due to transmissivity of the aquifer in these areas. Several features recommend the use of areas where lime rock mining will have occurred

Current Status: Project Management Plan is completed. Work on this project has been suspended since June 3, 2006 due to resource constraints.

Est. Cost: \$27,800,000

Project Schedule:

2017 Construction completed.

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
PPDR/ Plans & Specs											
Construction											
Monitoring											

Detailed Project Budget Information (in \$1,000s):

	Thru 2007	2008	2009	2010	2011	2012	2013	2014	Balance to Complete 2015-2020	Total
USACE	1,387	0	0	596	596	596	596	596	9,533	13,900
SFWMD	532	0	0	639	639	639	639	639	10,173	13,900
Total	1,919	0	0	1,235	1,235	1,235	1,235	1,235	19,706	27,800

Hyperlink: http://www.evergladesplan.org/pm/projects/proj_35_lake_belt_pilot.cfm

Contact: Kim Brooks-Hall, Chief Project Execution Branch, USACE
(904) 232-3155, Kimberly.Brooks-Hall@usace.army.mil

Source: Detailed budget and schedule information based on the FY09 budget submission to OMB and the *Master Implementation Sequencing Plan* (MISP) and updated to reflect current price levels in October 2007 dollars. Original project description summarized from the *Central and Southern Florida Project Comprehensive Review Study*. Current project status includes information summarized from the project manager.

Program Name: Infrastructure
Project Name: C&SF: CERP Lake Okeechobee Aquifer Storage and Recovery – Pilot
Project ID: 1418 (CERP Project WBS# 32)
Lead Agency: USACE / SFWMD
Authority: WRDA 1999, WRDA 2007 (*modified cost*)
Funding Source: Corps/State

Strategic Plan Goal(s) Addressed: Other - supports 1-A.2

Measurable Output(s): Pilot (*output is temporary*)

Project Synopsis: The pilot project is necessary to identify the most suitable sites for the aquifer storage and recovery (ASR) wells in the vicinity of Lake Okeechobee and to identify the optimum configuration of those wells. Additionally, the pilot project will determine the specific water quality characteristics of waters to be injected and the water quality characteristics and amount of water recovered from the aquifer. Further information from the pilot project will provide the hydrogeological and geotechnical characteristics of the upper Floridan Aquifer System within the region and the ability of the upper Floridan Aquifer System to maintain injected water for future recovery.

This project was refined during the Pilot Project Design Report (PPDR), completed in September 2004. Additionally, exploratory wells were installed at sites around Lake Okeechobee to obtain the preliminary lithologic, geophysical, and hydrogeologic information. The results of this preliminary investigation were evaluated to confirm that these are viable sites for ASR purposes. These results were incorporated into the PPDR that includes all three pilot projects (Lake Okeechobee, Hillsboro, and Caloosahatchee River (C-43).

The CERP Lake Okeechobee ASR pilot project will initially consist of up to five ASR wells, each with an estimated capacity of five million gallons per day (mgd) per well. Three of the ASR wells will be located spatially around Lake Okeechobee to demonstrate ASR performance in geographically different areas. A three-well cluster facility will also be installed to demonstrate how multiple-well ASR systems perform. Monitoring wells and surface facilities will also be constructed at each of these systems. The wells will be used to recharge and recover surface water from the Lake and/or its tributaries. Extensive water quality characterization and pilot treatment testing will take place during the permitting and design phase. Once constructed, the Lake Okeechobee ASR pilot project systems will be cycle tested to evaluate their ability to achieve assumed water quality and volumetric levels of performance, and allow recommendations to be made for facility expansion. Well sites are as follows:

- Port Mayaca site includes the construction of three ASR wells and multiple monitoring wells.
- Kissimmee site includes the construction of one ASR well and multiple monitoring wells.
- Moore Haven site includes the construction of one ASR well and multiple monitoring wells.

Current Status: Construction of the Kissimmee River ASR Pilot Facility was completed in mid-2008. Cycle testing operations are scheduled to begin in August 2008 and will last for up to two years. Funding constraints have not allowed construction of the multi-ASR pilot facility at Port Mayaca. Funding authority and availability may also preclude the construction of the ASR pilot facility at Moore Haven

Est. Cost: \$33,131,000

Project Schedule:

2001 Start
 2012 Construction completed.

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
PIR/Plans & Specs														
Construction														
Cycle Testing														

Detailed Project Budget Information (in \$1,000s):

	Thru 2007	2008	2009	2010	2011	2012	2013	2014	2015	Total
USACE	12,334	1,812	1,121	113	113	230	310	310	223	16,566
SFWMD	4,216	1,812	1,121	2,204	2,204	2,204	2,204	300	300	16,565
Total	16,550	3,624	2,242	2,317	2,317	2,434	2,514	610	523	33,131

Hyperlink: http://www.evergladesplan.org/pm/projects/proj_32_lake_o_asr_pilot.cfm

Contact: Kim Brooks-Hall, Chief Project Execution Branch, USACE
 (904) 232-3155, Kimberly.Brooks-Hall@usace.army.mil

Source: Schedule information based on the *Master Implementation Sequencing Plan (MISP)*. Detailed budget information based on the *Final Pilot Project Design Report (PPDR)*. Original project description summarized from the *Central and Southern Florida Project Comprehensive Review Study*.

Program Name: Infrastructure
Project Name: C&SF: CERP Lake Okeechobee Regulation Schedule (F)
Project ID: 1419
Lead Agency: USACE / SFWMD
Authority: No Congressional action is required
Funding Source: Corps/State

Strategic Plan Goal(s) Addressed: Other -supports 1-A.1

Measurable Output(s): Water Management change

Project Synopsis: The Lake Okeechobee Regulation Schedule will be modified in order to take advantage of the additional storage facilities identified in the construction features. Two additional zones will be added to the schedule. The first zone will trigger discharges to the north of Lake Okeechobee reservoir and the Everglades Agricultural Area reservoir. The second higher zone will trigger the Lake Okeechobee aquifer storage and recovery facilities to begin injecting water from the Lake. Climate based forecasting will be used to guide management decisions regarding releases to the storage facilities.

It is anticipated that all flood control releases through the C-43 and C-44 Canals will be eliminated with the exception of emergency zone A. Zone A levels are expected to be similar to the levels that occur in the current regulation schedule Run 25, however, the number of times that the Lake is above zone A is expected to be dramatically reduced.

Current Status: During the Corps planning process, several alternative plans were reviewed. Currently, regulation schedule revisions are proposed in two phases. The goal of this interim schedule revision is to operate Lake Okeechobee at lower pool elevation while meeting water supply requirements. The second phase studies will be implemented in 2010. This revision will consider the effects of the early CERP projects and the state-expedited projects upon the lake. For both Regulation Schedule revisions, National Environmental Policy Act supplemental Environmental Impact Statements are anticipated.

Est. Cost: TBD as schedule revisions are initiated (C&SF O&M)

Project Schedule: TBD*

*Regulation Schedule revisited when appropriate as other facilities come on-line.

Hyperlink:

https://my.sfwmd.gov/portal/page?_pageid=1314,2554645,1314_19738269:1314_19738234&_dad=portal&_schema=PORTAL.

Contact: Kim Brooks-Hall, Chief Project Execution Branch, USACE
(904) 232-3155, Kimberly.Brooks-Hall@usace.army.mil

Source: Original project descriptions summarized from the *Central and Southern Florida Project Comprehensive Review Study*. Current status summarized from information from project manager.

Program Name: Infrastructure
Project Name: C&SF: CERP Modify Holey Land Wildlife Management Area Operation Plan (DD)
Project ID: 1420 (CERP Project WBS# 15)
Lead Agency: USACE / SFWMD
Authority: No Congressional action is required
Funding Source: Corps/State

Strategic Plan Goal(s) Addressed: Other – supports 2-A.3

Measurable Output(s): Operational changes and water deliveries TBD

Project Synopsis: Modification to the current operating plan for Holey Land Wildlife Management Area will be made to implement rain-driven operations for this area. Water deliveries are made to Holey Land from the Rotenberger Wildlife Management Area or from Stormwater Treatment Area 3/4 if Rotenberger flows are insufficient. The deliveries are assumed to be of acceptable water quality. These new operational rules are intended to improve the timing and location of water depths within the Holey Land Wildlife Management Area.

Current Status: This project adheres to the original concept outlined in the *Central and Southern Florida Project Comprehensive Review Study (Restudy)*, but is not authorized.

Est. Cost: \$ 0 (no budget)

Project Schedule:
 2011 Complete

	2007	2008	2009	2010	2011
Operation Schedule					

Hyperlink: http://www.evergladesplan.org/pm/projects/proj_15_modify_holey.cfm

Contact: Kim Brooks-Hall, Chief Project Execution Branch, USACE
 (904) 232-3155, Kimberly.Brooks-Hall@usace.army.mil

Source: Detailed budget and schedule information based on the FY09 budget submission to OMB and the *Master Implementation Sequencing Plan (MISP)* and updated to reflect current price levels in October 2007 dollars. Original project description summarized from the *Central and Southern Florida Project Comprehensive Review Study*.

Program Name: Infrastructure
Project Name: C&SF: CERP Modify Rotenberger Wildlife Management Area Operation Plan (EE)
Project ID: 1421(CERP Project WBS# 16)
Lead Agency: USACE / SFWMD
Authority: No Congressional action is required
Funding Source: Corps/State

Strategic Plan Goal(s) Addressed: Other – supports 2-A.3

Measurable Output(s): Operational changes and water deliveries TBD

Project Synopsis: Modification to the current operating plan for the Rotenberger Wildlife Management Area will be made to implement rain-driven operations for this area. Water deliveries are made to the Rotenberger Area from Stormwater Treatment Area 5. The deliveries are assumed to be of acceptable water quality. These new operational rules are intended to improve the timing and location of water depths within the Rotenberger Wildlife Management Area.

Current Status: This project adheres to the original concept outlined in the *Central and Southern Florida Project Comprehensive Review Study* (Restudy), but is not currently authorized.

Est. Cost: \$ 0 (no budget)

Project Schedule:

	2011	Completion				
	2007	2008	2009	2010	2011	
Implement Regulation Schedule						

Hyperlink: http://www.evergladesplan.org/pm/projects/proj_16_modify_rotenberger.cfm

Contact: Kim Brooks-Hall, Chief Project Execution Branch, USACE
 (904) 232-3155, Kimberly.Brooks-Hall@usace.army.mil

Source: Detailed budget and schedule information based on the FY09 budget submission to OMB and the *Master Implementation Sequencing Plan* (MISP) and updated to reflect current price levels in October 2007 dollars. Original project description summarized from the *Central and Southern Florida Project Comprehensive Review Study*.

Program Name: Infrastructure
Project Name: C&SF: CERP Operational Modification to Southern Portion of L-31N and C-111 (OO)
Project ID: 1422
Lead Agency: SFWMD / USACE
Authority: No Congressional action is required
Funding Source: Corps/State

Strategic Plan Goal(s) Addressed: Other – supports 3-B.1

Measurable Output(s): Modified operations

Project Synopsis: Modifications to the operations of the C-111 project, currently under construction, will be made to the southern portion of L-31N Borrow Canal and C-111. These operational modifications will be made to improve deliveries to Everglades National Park and decrease flood risk of adjacent agricultural areas in the Lower East Coast Service Area.

Current Status: The first part of the operational changes is being implemented under the Combined Structural and Operational Plan (CSOP) analysis. The balance of change will be implemented in coordination with CERP implementation.

Est. Cost: \$0 budget

Project Schedule:

Implement as part of C-111 project.

Detailed Budget:

Implement as part of C-111 project.

Hyperlink: http://www.evergladesplan.org/pm/projects/proj_29_c111.aspx.

Contact: Kim Brooks-Hall, Chief Project Execution Branch, USACE
(904) 232-3155, Kimberly.Brooks-Hall@usace.army.mil

Source: Original project descriptions summarized from the *Central and Southern Florida Project Comprehensive Review Study*. Current status summarized from information from project manager.

Program Name: Infrastructure
Project Name: C&SF: CERP Hillsboro Aquifer Storage and Recovery (ASR) - Pilot
Project ID: 1423 (CERP Project WBS# 34)
Lead Agency: USACE / SFWMD
Authority: WRDA 1999; WRDA 2007 (modified cost)
Funding Source: Corps/State

Strategic Plan Goal(s) Addressed: 1-A.2

Measurable Output(s): Pilot (output is temporary)

Project Synopsis: The Site 1 aboveground impoundment is proposed to be operated in conjunction with multiple aquifer storage and recovery wells in order to maximize the benefits of the reservoir. The pilot project will include the construction of a five-million gallons per day ASR well. Its purpose is to evaluate and reduce the technical and regulatory uncertainties of implementing the full-scale Hillsboro ASR project, as described in the CERP. The pilot will determine the most suitable sites for the aquifer storage and recovery wells near the reservoir. In addition, identification of the hydrogeological and geotechnical characteristics of the soils and aquifer, the specific water quality characteristics of water within the aquifer, and the quality of water injected and recovered from the aquifer will be determined. Using the pilot project data, the ASR Regional Study team will then determine the optimum configuration and operation of the ASR wells. The CERP Hillsboro ASR Pilot project (Hillsboro Site 1) is located just south of the Loxahatchee National Wildlife Refuge (LNWR) and north of the Hillsboro Canal on a 1,660-acre tract of SFWMD-owned land in south-central Palm Beach County.

Current Status: This project was refined during the Pilot Project Design Report (PPDR) completed in September 2004. Construction and performance testing of the 5-mgd pilot facility will be completed by late summer 2008. Cycle testing is expected to begin thereafter for a period of up to two years.

Est. Cost: \$9,369,000
Project Schedule: 2009 Construction completed.

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
PIR/Plans and Specs										
Construction										
Cycle Testing										

Detailed Project Budget Information (in \$1,000s):

	Thru 2007	2008	2010	Total
USACE	1,663	7	3,015	4,685
Tribe	3,205	7	1,472	4,684
Total	4,868	14	4,487	9,369

Hyperlink: http://www.evergladesplan.org/pm/projects/proj_34_hillsboro_asr_pilot.cfm

Contact: Kim Brooks-Hall, Chief Central Florida Restoration Branch, USACE
(904) 232-3155, Kimberly.Brooks-Hall@usace.army.mil

Source: Detailed budget and schedule information based on the FY09 budget submission to OMB and the *Master Implementation Sequencing Plan (MISP)* and updated to reflect current price levels in October 2007 dollars. Original project description summarized from the *Central and Southern Florida Project Comprehensive Review Study*. Detailed budget information based on the Final Pilot Project Design Report (PPDR). Original project description summarized from the *Central and Southern Florida Project Comprehensive Review Study*. Current status provided by project manager (May, 2008)

Program Name: Infrastructure
Project Name: E&SF: Critical Projects Seminole Big Cypress
Project ID: 1425
Lead Agency: USACE / Seminole Tribe of Florida
Authority: WRDA 1996
Funding Source: Corps/State

Strategic Plan Goal(s) Addressed: Other – supports 1-B.2

Measurable Output(s): Construction of conveyance systems, major canal bypass structures, irrigation storage cells, and water resource areas to meet the 50 ppb phosphorous level goal of the Everglades Construction Project or more stringent performance levels as developed.

Project Synopsis: With SFEER Task Force nomination, and input from the Governor’s Commission for a Sustainable South Florida and the public, the USACE conducted an abbreviated study and produced a report transmitted to the Secretary of the Army for approval. This is one of the 12 “Critical Projects” for the restoration of the south Florida ecosystem having the Secretary of the Army’s approval (WRDA 1996). Due to the legislated funding limits of the Critical Projects program, only the “west” portion of this project was nominated as a Critical Project.

The Seminole Tribe requested the assistance of the Natural Resources Conservation Service (NRCS) to implement the eastern portion of the plan. With uncertainty of the NRCS funding for the east portion and the potential that the west portion may not be entirely funded through the Critical Projects program, the combined project was recommended as an Other Project Element (OPE) of the Comprehensive Plan in the Restudy.

The watershed management system that was outlined in the *Central and Southern Florida Project Comprehensive Review Study* (Restudy) is designed to achieve environmental restoration on the Reservation, the Big Cypress Preserve, and the Central and Southern Everglades. The purpose is to improve quality of agricultural water runoff within the reservation; restore storage capacity, and return native vegetation. In addition, this project will reduce flood damage and promote water conservation on the Reservation. The overall plan has been divided into east and west portions, each of which can provide independent benefits. The project is located on The Seminole Tribe Big Cypress Reservation in Hendry County, directly north of the Big Cypress National Preserve and west of Water Conservation Area 3A (WCA 3A). The Big Cypress Reservation is traversed by the L-28 and L-28I canals and the north and west feeder canals.

The planned network of surface water management structures is designed to accomplish the following four objectives to get the water right through quantity, quality, timing and distribution necessary for restoration: (1) Remove phosphorus and other pollutants from water leaving the Reservation. The removal of these pollutants will be achieved using natural treatment processes, in pretreatment cells and water resource areas (WRAs). The Tribe’s WRAs will take advantage of the natural treatment processes and will serve additional functions in the storage and conveyance of water, (2) Convey and store irrigation water. To make use of water provided by the District (to replace the Tribe’s diverted Compact water rights), the Tribe needs to be able to take this water, when it is available, to move it and to store it. This will be accomplished through water conveyance improvements and irrigation storage cells, (3) Provide improved flood control. Stormwater must be controlled on the Reservation to prevent extended periods of flooding and limit impacts downstream. This will be accomplished by means of stormwater attenuation areas, which will detain water from large storm events. (4) Re-hydrate Big Cypress National Preserve.

The Seminole Water Conservation Project will provide the opportunity to restore more natural hydroperiods in the Big Cypress National Preserve. Bypass structures will be placed under the West Feeder Canal that will sheetflow clean water south along the length of the Feeder Canal into the Big Cypress Addition.

Current Status:

WRDA 2000 stated that “the Seminole Tribe of Florida shall be responsible for 50 percent of the cost of operation, maintenance, repair, replacement, and rehabilitation activities for the Big Cypress Seminole Reservation Water Conservation Plan Project”.

Construction of the conveyance canal system on the east side of the reservation (Phase I) was completed in May 2004. Canal pump stations will connect this conveyance canal system to the North Feeder Canal system. Phase II of this project has been divided into four basins. The USACE awarded a contract for construction of the largest basin, Basin 1, in November 2006. A contract for construction of this feature is scheduled to be completed in May 2008. The construction feature, basin 4, is scheduled to be awarded in July 2008 with an anticipated completion date of March 2009. The last two construction features, basin 2 and basin 3, are scheduled for construction award in spring of 2009 and completion in spring 2010. This project will enhance the Big Cypress Reservation's water storage capacity, improve wetland hydrology, enhance flood protection, and reduce the concentration of phosphorus from water flowing off reservation lands. Outflows from the project will be routed southward and to the current West Feeder Canal system on the reservation to rehydrate the undeveloped native area and the Big Cypress National Preserve.

Est. Cost: \$59,830,942

Project Schedule:

1997 Start
 2011 Finish

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Design												
Real Estate												
Construction												

Detailed Project Budget Information (in \$1,000s):

	Thru 2007	2008	2009	Total
USACE	13,227	5,810	10,959	29,996
Tribe	13,227	7,586	9,022	29,835
Total	26,454	13,396	19,981	59,831

Hyperlink: <http://www.saj.usace.army.mil/projects/proj6.htm>.

Contact: Kim Brooks-Hall, Chief Project Execution Branch, USACE
 (904) 232-3155, Kimberly.Brooks-Hall@usace.army.mil

Source: Original Project description summarized from the *Central and Southern Florida Project Comprehensive Review Study*. Detailed schedule and budget information from U.S. Army Corps of Engineers, Jacksonville District (CESA). Current status summarized from information from the project manager.

Program Name: Infrastructure
Project Name: C&SF: CERP Florida Bay and Florida Keys Feasibility Study (FBFKFS)
Project ID: 1426(CERP Feasibility Study)
Lead Agency: USACE / SFWMD
Authority: WRDA 1996
Funding Source: Corps/State

Strategic Plan Goal(s) Addressed: Other – supports 2-A.3

Measurable Output(s): Recommendations

Project Synopsis: The original concept for this feature was outlined in the *Central and Southern Florida Project Comprehensive Review Study (Restudy)*. Construction of Flagler’s railroad to Key West and subsequent conversion into U.S. Highway 1 (US-1) involved the placement of fill material in wetlands and open water to build the numerous causeways between keys. These causeways altered tidal flows between Florida Bay and the Atlantic Ocean, resulting in adverse water quality and fish and wildlife habitat impacts. One of the House of Representatives Committee on Public Works and Transportation resolutions of September 24, 1992 requested that the Corps of Engineers conduct a study of Florida Bay, including a comprehensive, coordinated ecosystem study with hydrodynamic modeling of Florida Bay and its connections to the Everglades, the Gulf of Mexico, and the Florida Keys Coral Reef ecosystem. Hydrodynamic and water quality models currently under development for Florida Bay will provide the tools necessary for evaluation of the problem in a holistic manner. A comprehensive feasibility study is recommended to evaluate Florida Bay and to determine the types of modifications needed to restore water quality and ecological conditions of the Bay.

The PMP was approved in February 2002, and in March 2002 the Feasibility Cost Sharing Agreement (FCSA) was executed. The project includes various models that were completed in 2006. The early results of these models were reviewed by the PDT. The current focus is on refinement and documentation of the models.

The study goal, developed by the Project Delivery Team (PDT) is: “Evaluate Florida Bay and its connections to the Everglades, the Gulf of Mexico and the Florida Keys marine ecosystem to determine the modifications that are needed to successfully restore water quality and ecological conditions of the Bay, while maintaining or improving these conditions in the Keys’ marine ecosystem.”

Likewise, the PDT has determined that the objectives of the FB&FK FS are:

- Determine the quantity, timing, distribution and quality of freshwater that should flow to Florida Bay and provide recommendations for any modifications of water deliveries that will result from current CERP plans for Everglades wetlands.
- Determine the nutrient sources and loads to the study area, evaluate their impacts to reef and Bay ecosystems, and recommend restoration targets and implementation plans.
- Establish water quality and ecological performance measures.
- Evaluate the effects of restoring historical connectivity between Florida Bay and the Atlantic Ocean.
- Evaluate management alternatives in a holistic manner employing, where necessary, hydrodynamic, water quality and ecological models.

The current FB&FK Feasibility Study (FS) will comprehensively examine the Florida Bay and Florida Keys marine environments, and the actions and land uses upstream, to determine the modifications

that are needed to successfully restore water quality and ecological conditions of the Bay. The study may also include analyses of alternatives for restoration of the marine environment surrounding the Florida Keys, if there are positive impacts on Florida Bay. For example, additional tidal creek restoration projects (beyond those authorized in the Florida Keys Tidal Restoration Project) may be considered.

Current Status: Work on this project has been suspended since January 2007. No TSP has been chosen. A draft "letter" report was completed to document work completed as of January 2007. Originally, a Draft Feasibility Report was planned to be published in the Federal Register in March 2009 and a Final Feasibility Report was to be published in March 2010.

Est. Cost: \$6,300,000

Project Schedule:

2001 Start
 2012 Finish

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Feasibility Study												

Detailed Project Budget Information (in \$1,000s):

	Thru 2007	2008	2009	2010	2011	2012	Total
USACE	1,953	60	0	119	118	119	2,369
SFWMD	3,924	7	0	0	0	0	3,931
Total	5,877	67	0	119	118	119	6,300

Hyperlink: http://www.evergladesplan.org/pm/studies/fl_bay.cfm

Contact: Kim Brooks-Hall, Chief Project Execution Branch, USACE
 (904) 232-3155, Kimberly.Brooks-Hall@usace.army.mil

Sources: Original project description summarized from the *Central and Southern Florida Project Comprehensive Review Study*. Current Description summarized from the *Florida Bay / Florida Keys Feasibility Study Project Management Plan (PMP), Feb 2002 – Final*. Detailed schedule and budget information based on the *Master Implementation Sequencing Plan (MISP)*.

Program Name: Feasibility Studies
Project Name: Southwest Florida Feasibility Study
Project ID: 1431 (WBS # 516)
Lead Agency: USACE / SFWMD
Authority: WRDA 1996, WRAD 1992
Funding Source: Corps/State

Strategic Plan Goal(s) Addressed: Other – supports 3-A.4

Measurable Output(s): Regional Plan

Project Synopsis: Investigate water resources problems and opportunities in approximately 4,300 square miles including all of Lee County, most of Collier and Hendry counties, and portions of Charlotte, Glades, and Monroe counties. The purpose of the study is to determine the feasibility of making structural, non-structural, and operational modifications and improvements in the region in the interest of environmental quality, water supply, and other purposes. Eleven municipalities in the study area: Bonita Springs, Cape Coral, Clewiston, Everglades City, Fort Myers, Fort Myers Beach, LaBelle, Marco Island, Moore Haven, Naples, and Sanibel. In addition, the study area includes the unincorporated areas of Lehigh Acres, Golden Gate Estates, and Immokalee. The project boundary corresponds to that of the South Florida Water Management District (SFWMD) Lower West Coast Water Supply Plan (LWCWSP) Planning Area.

The SWFFS will develop a comprehensive regional plan of action to address the health of aquatic and upland ecosystems; the quantity, quality, timing, and distribution of water flows; agricultural, environmental, and urban water supply; the sustainability of economic and natural resources; flood protection; fish and wildlife; biological diversity; and natural habitat. Because the southwest Florida area was included as a part of the Restudy reconnaissance and feasibility studies, the SWFFS was initiated in August 1999 with a scoping phase instead of another reconnaissance phase. The purpose of the scoping phase was to identify water resources problems and opportunities, gather existing data, develop the scope and cost of the feasibility study, and execute a study cost-share agreement between the Corps and the South Florida Water Management District (SFWMD).

Current Status: As part of Corps planning, several alternative plans were reviewed. The Tentatively Selected Plan (TSP) is anticipated in October 2008. Because of the extensive model development required for this region of the state, the study, though not yet complete, was nearing the limit of the total estimated study cost of \$12,000,000 in the Feasibility Cost-Sharing Agreement, with an estimated total Federal cost of \$6,000,000. A Feasibility Cost- Sharing Agreement amendment was signed in March, 2008.

Est. Cost: \$17,000,000

Project Schedule:

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Feasibility Study										

Detailed Project Budget Information (in \$1,000s):

	Thru 2007	2008	2009	2010	Total
USACE	6,240	1,000	630	630	8,500
SFWMD	5,250	1,000	1,125	1,125	8,500
Total	11,490	2,000	1,755	1,755	17,000

Hyperlink: <http://www.evergladesplan.org/pm/studies/swfl.cfm>

Contact: Kim Brooks-Hall, Chief Project Execution Branch, USACE
(904) 232-3155, Kimberly.Brooks-Hall@usace.army.mil

Source: Detailed budget information based on the approved Project Management Plan (PMP). Schedule information based on the *Central and Southern Florida Project Comprehensive Everglades Restoration Plan 2006 Report to Congress*. Original project description summarized from the *Central and Southern Florida Project Comprehensive Review Study*.

Program Name: Infrastructure
Project Name: C&SF: CERP C-4 Control Structures (T)
Project ID: 1435 (CERP Project WBS #46)
Lead Agency: USACE / SFWMD
Authority: Not authorized
Funding Source: Corps/State

Strategic Plan Goal(s) Addressed: Other – supports 1-A.2

Measurable Output(s): Wellfield recharge; seepage reduction

Project Synopsis: The purpose of this feature will be to enhance wetland hydroperiods and enhance recharge to Miami-Dade County’s Northwest Wellfield. This feature includes two water control structures located in the C-4 Canal in Miami-Dade County. The eastern structure will be operated to reduce regional system deliveries by diverting dry season stormwater flows to the C-2 Canal to provide salt-water intrusion protection and recharge to downstream well fields. The existing western structure, being implemented under the Critical Projects Program, will be operated to control water levels in the C-4 Canal at a higher elevation to reduce seepage losses from the Pennsuco Wetlands and areas to the west of the structure.

Current Status: This project adheres to the original concept outlined in Restudy.

Est. Cost: \$3,400,000

Project Schedule:
 2013 Construction completed.

	2008	2009	2010	2011	2012	2013
PIR/Plans & Specs						
Real Estate						
Construction						

Detailed Project Budget Information (in \$1,000s):

	Thru 2007	2008	2009	2010	2011	2012	2013	Total
USA CE	92	0	210	210	210	418	560	1,700
SFWMD	21	0	221	221	221	414	602	1,700
Total	113	0	431	431	431	832	1,162	3,400

Hyperlink: http://www.evergladesplan.org/pm/projects/proj_46_c4_structure.cfm

Contact: Kim Brooks-Hall, Chief Project Execution Branch, USACE
 (904) 232-3155, Kimberly.Brooks-Hall@usace.army.mil

Source: Detailed budget and schedule information based on the FY09 budget submission to OMB and the *Master Implementation Sequencing Plan* (MISP) and updated to reflect current price levels in October 2007 dollars. Original project description summarized from the *Central and Southern Florida Project Comprehensive Review Study*.

Program Name: Restoration Program: Hydrology

Project Name: Permanent Forward Pumps – Expedited Project –The SFWMD is implementing as part of Northern Everglades Project

Project ID: 1436

Lead Agency: South Florida Water Management District

Authority: Chapter 373, Florida Statutes

Funding Source: State Funds

Strategic Plan Goal(s) Addressed: Other (Hydrology)

Measurable Output(s): Forward pumps to provide water supply

Project Synopsis: The USACE has initiated a process for revising the Lake Okeechobee regulation schedule. The new regulation schedule is expected to result in lower lake levels which have the potential to affect water supply. This potential exists because constraints occur on gravity water supply releases when the Lake reaches 10.5 ft NGVD or less. Therefore, forward pumps are being designed to provide water supply deliveries when Lake levels are between 10.5-7.5 ft NGVD.

Cost:

Total \$135,000,000

Project Schedule:

This project has been put on hold for the following reasons:

The use of temporary forward pumps will be able to meet water supply demands for the Lake Okeechobee Service Area south of Lake Okeechobee at 45% cutback for all but the most extreme conditions that were modeled, and that resulted in a shortfall of only 4 weeks. Solutions to the north of the Lake are being partially addressed through the construction of tail water weirs at S-72 and S-71.

Start Date: January 2006

Finish Date: June 2010

	2005	2006	2007	2008	2009	2010	2011
Project Design							
Prepare Environmental Impact Statement							
Construction and Installation							
Operations and Monitoring							

Detailed Project Budget Information (\$1000)

	2006	2007	2008	2009	2010	Balance to complete	Total
Federal EPA							
State SFWMD	1,000	1,200	10,000	60,000	63,000	133,000	135,000
Tribal							
Local							
Other							
Total	1,000	1,200	10,000	60,000	63,000	133,000	135,000

Hyperlink: N/A

Contact: John Creswell (561) 682-6403/Susan Gray (561) 682-6919

Program Name: Long-Term Plan for Achieving Everglades Water Quality Goals
Program Name: CERP Program Support
Project Name: C&SF: CERP PLA / Information and Data Management
Project ID: 1437
Lead Agency: USACE / SFWMD
Authority: WRDA 2000 (Programmatic Authority)

Strategic Plan Goal(s) Addressed: Other - Support

Project Synopsis: Data Management was originally categorized under Program Controls. The CERP Master Program Management Plan (MPMP) called for the creation of a shared data network. The MPMP directed implementation of these activities under the guidance of the Program Controls Management Plan. Responsibility for the management of geospatial data, real estate data and general programmatic data management was removed from the Program Controls Plan (November 2000) because it did not fall within the adopted scope of "Program Controls." The Design Coordination Team (DCT) recommended the creation of a Program Management Plan for CERP Data Management. The Corporate Review Group (CRG) and the Project Review Board (PRB) approved this concept in December 2000.

Some of the current functions of CERP IDM were described and approved under the CERP Program Controls Program Management Plan dated December 2000 and the Data Management Program Management Plan dated February 2002. The Program Controls PMP included the functional areas of infrastructure, World Wide Web services and electronic document management. These functions were originally developed and put in place in accordance with the Program Controls PMP. The Data Management PMP included the functional areas of GIS and engineering data. Many aspects of the GIS program for CERP were developed and put into place under that PMP.

The Information & Data Management PMP was rewritten and approved in April 2007, superseding the Data Management PMP dated February 2002. The PMP for Quality Assurance and Oversight, which is responsible for the quality of scientific data collected for the program, was also incorporated into the Information & Data Management PMP. The financial management functional area is not included in the new PMP. IDM Programmatic activity is a combination of information services and systems that support the CERP program. These services support the project and program level activities of CERP, as well as aspects of the state-expedited initiative and other South Florida restoration programs.

Under this activity, the South Florida restoration effort operates a common information system used to collaborate during the planning, engineering, construction, and post-construction phases of the program. This system is accessible, upon request, to all Program/Project Delivery Team (PDT) members. Data, which needs to be accessible to all CERP team members in the performance of their current and future roles, is being produced daily. Much of this data has been or will be made available to the public as it moves out of the developmental stage and into completion. This common information system allows sharing of information by all participating agencies thereby increasing efficiency, avoiding duplication, and providing reliable short term and long term repositories for CERP data.

Data Management was separated out in the Data Management Program Management Plan dated February 26, 2002. The scope of this program plan was to provide for a program-wide phased approach to management and acquisition of data. Included in that scope were activities to identify, standardize, organize, document, serve and preserve program data. Then data Quality Assurance and Oversight function was also incorporated into the Information and Data Management PMP by reference.

Hyperlink: http://www.evergladesplan.org/pm/progr_data_mgmt.aspx.

Contact: Eric Bush, USACE, 904-232-1517
Eric.L.Bush@usace.army.mil

Program Name: CERP Program Support
Project Name: C&SF: CERP PLA/Interagency Modeling Center
Project ID: 1438
Lead Agency: USACE / SFWMD
Authority: WRDA 2000 (Programmatic Authority)

Strategic Plan Goal(s) Addressed: Other - Support

Measurable Output(s): Critical models and modeling results.

Project Synopsis: While the authority for the IMC Program Management Plan was not specifically mentioned in the Water Resources Development Act of 2000 it is implicit in the Design Agreement between the Department of the Army and the South Florida Water Management District; and in the Master Program Management Plan that the modeling needs of CERP implementation must be met in a sufficient and adequate manner. Good program and project management require that such a program be implemented to meet the unique modeling needs of CERP implementation.

A collaborative state and federal interagency effort, the Interagency Modeling Center was established in 2003 to provide a centralized pool of resources and expertise to promote greater efficiency and consistency in the hydrologic and ecologic modeling that supports CERP planning. It provides, coordinates, and oversees the modeling needs and efforts for CERP both at the Program Coordination level, such as modeling that will be needed for the MISP updates, and at the project level for individual project analyses.

System-wide computer models are important tools used to simulate South Florida hydrology and water management, and to evaluate the system-wide performance of the Plan. The primary models that are now being used to evaluate the Plan as projects are being evaluated and implemented are the South Florida Water Management Model and the Natural Systems Model. Next generation models such as the Regional Systems Model (RSM) are being developed that will provide more accurate predictions of system-wide performance under CERP.

The Interagency Modeling Center was created to specifically address the modeling needs implicit in the Design Agreement and WRDA 2000.

Hyperlink: http://www.evergladesplan.org/pm/progr_imc_plan.aspx.

Contact: Eric Bush, USACE, 904-232-1517
Eric.L.Bush@usace.army.mil.

Program Name: CERP Program Support
Project Name: C&SF: CERP PLA/Environmental and Economic Equity
Project ID: 1439
Lead Agency: USACE / SFWMD
Authority: Executive Order E012898 (1994)

Strategic Plan Goal(s) Addressed: Other - Support

Project Synopsis: Economic Equity and Environmental Justice have been integrated into restoration efforts. Federal laws and executive orders (EO) directed Federal agencies to promote economic equity and environmental justice through fair treatment of all persons regardless of color, creed, belief, or national origin; and to ensure that no group of people, including racial, ethnic, or tribal groups bear a disproportionate share of the negative environmental impacts resulting from industrial, governmental operations, or execution of Federal actions or local programs or policies. The 1994 President's Executive Order EO12898 directed Federal agencies to make "Achieving Environmental Justice" part of their missions; and requires these agencies to identify and address adverse environmental effects of their programs, policies, and activities on minority and low-income populations, U.S. territories, Commonwealths, and Indian tribes. The USACE's environmental justice mission embodied in its environmental and economic equity and outreach program sees this guiding principle as critical to the long-term success of the Federal Government continuing responsibility to ensure that civil works projects are implemented in ways that do not result in disproportionate impacts on any community(s); and to assure that All Americans, including the unique cultural and ethnic diversity of South Florida's populations, live in "safe, healthful and aesthetically and culturally pleasing surroundings."

In WRDA 2000 Sections 601(K) and 601(l), Congress specifically recognized the importance of ensuring that small business concerns, including those owned or controlled by socially and economically disadvantaged individuals and persons with limited English proficiency are provided with assistance and educational opportunities to review, comment on, and participate in the development and implementation of CERP. The law recognized the importance of ensuring to the maximum extent practicable that public outreach and assistance, and educational opportunities are provided to all and every citizen of South Florida including low-income populations and minority populations. The EEE program develops strategies to manage, avoid or mitigate potentially significant impacts of CERP on the human environment using appropriate and available resources to (1) achieve and maintain benefits to human systems, (2) address adverse impacts resulting from CERP projects, (3) address the social, ecological, and economic changes; and (4) address urban and agricultural land use changes and (5) develop guidance.

Current Status: The U.S. Army Corps of Engineers District Jacksonville, Florida, under its Environmental and Economic Equity and Outreach program has targeted efforts to ensure that these opportunities are provided to realize Everglades Ecosystem restoration benefits to both the natural and human systems, and to ensure the complete success of CERP. In 2005, the USACE has awarded over fifteen CERP and CERP-related contracts valued at over \$40 million to socially and economically disadvantaged firms. In addition, the USACE participated in over 70 business outreach events in South Florida to reach out and educate newly qualifying companies about contracting processes and opportunities with the USACE and other Federal agencies. Other technical efforts are underway to identify and address potential negative impacts of socio-economic, socio-ecological and environmental health effects on the people of South Florida, including low-income and minority populations.

The USACE and SFWMD co-chair the Environmental and Economic Equity Program, which is devised to evaluate cumulative socio-economic, socio-ecological, social and human health effects which may result from CERP implementation on the people of South Florida.

Data collection and model evaluations and certifications have continued in 2007 and 2008. A revised PMP and Strategy Implementation document is expected later in 2008, along with a Report on Socio-economic Impacts and another on Human Health Impacts. A System-wide Cumulative Impact Assessment is expected by 2009 for the next phase.

Hyperlink: http://www.evergladesplan.org/pm/progr_eee.aspx.

Contact: Eric Bush, USACE, 904-232-1517
Eric.L.Bush@usace.army.mil.

Program Name: CERP Program Support
Project Name: C&SF: CERP PLA/Master Recreation Plan (MRP)
Project ID: 1440
Lead Agency: USACE / SFWMD
Authority: WRDA 1996

Strategic Plan Goal(s) Addressed: Supports 3-A2

Measurable Output(s): Critical planning document

Project Synopsis: This programmatic need was not initially identified in the *Central and Southern Florida Project Comprehensive Review Study* (Plan); however, recreation is an authorized purpose of the Central & Southern Florida Project. The purpose of the Master Recreation Plan (MRP) is to support the implementation of the CERP Projects while maintaining and protecting the authorized purpose of recreation.

A significant part of recreation in South Florida is water based. As CERP projects are implemented, the impact to recreation opportunities will be addressed along with the additional recreation opportunities that may be made available by the CERP. A MRP is under development that will identify the best locations for regional recreation sites within the CERP area. The goal of this planning effort is to take a system-wide approach to identify, evaluate, and address the impacts of CERP implementation on existing recreational use within the South Florida Ecosystem and to identify and evaluate potential new recreation, public use and public educational opportunities. A particular focus will be on the identification of additional public use and recreational opportunities to compensate for public use facilities that may be lost as a result of CERP implementation. Promising opportunities may be recommended for further evaluation during the development of Project Implementation Reports for specific CERP Projects; for implementation through other cost-share arrangements between federal, state, local, or not-for-profit entities; or as stand-alone Congressional authorizations. Specific recreation features will not be recommended, opportunities to address deficiencies identified through the Florida Statewide Comprehensive Outdoor Recreation Plan (SCORP) and public involvement will be identified on a regional basis through Conceptual Regional Plans.

Hyperlink: http://www.evergladesplan.org/pm/progr_master_rec_plan.aspx.

Contact: Eric Bush, USACE, 904-232-1517
Eric.L.Bush@usace.army.mil.

Program Name: C&SF: CERP PLA /Restoration Coordination and Verification (RECOVER)
Project ID: 1441
Lead Agency: USACE / SFWMD
Authority: WRDA 2000; Design Agreement

Strategic Plan Goal(s) Addressed: Other

Measurable Output(s):

- System-wide evaluations
- Documentation of individual CERP projects or groups of projects to support project teams in obtaining the goals and objectives of the Plan including identification and evaluation of operational modifications to improve system-wide performance during plan formulation.

Project Synopsis: RECOVER provides essential feedback to project delivery teams relating system-wide goals and objectives to project design and performance as well as incorporating information obtained during project plan formulation into the Plan. CERP is science-based and it is the role of RECOVER to ensure that science continues to guide implementation of the Plan. RECOVER is designed to organize and provide the highest quality scientific and technical support during CERP implementation including assessment of whether the goals and objectives of the CERP are being met.

RECOVER links science and the tools of science in three broad missions of system-wide assessment, evaluation and planning and integration. RECOVER's three missions are as follows:

- Assessment - to physically measure (through monitoring) and interpret actual responses in the natural and human systems as the CERP projects are implemented
- Evaluation - to work with project delivery teams to evaluate (through predictive modeling) and maximize the contribution made by each project to the system-wide performance of the CERP
- Planning and Integration - to identify potential improvements in the design and operation of the CERP, consistent with the CERP objectives, and to strive for consensus regarding scientific and technical aspects of the CERP

At the program level, RECOVER maintains a system-wide focus as it evaluates and assesses the performance of CERP, develops refinements and improvements in the design and operations of the Plan, and reviews the effects that other projects may have on the performance of the CERP. RECOVER will continue to operate throughout the entire duration of the restoration process, continuously seeking ways to improve the Plan as responses measured by a system-wide monitoring program are used to direct the CERP Adaptive Management process.

Examples of the products developed in support of the RECOVER Mission include:

- CERP Conceptual Ecological Models (CEMs)
- System-wide Monitoring and Assessment plan (MAP)
- Hydrologic, Ecological/Biological and Water Quality Performance Measures
- System Status Report

Program C&SF: CERP PLA/RECOVER page 1 of 2

- CERP Adaptive Management Strategy
- CERP Adaptive Management Implementation Guidance Manual
- Recommendations for CERP Interim Goals and Interim Targets

- Reviews of project-level performance measures for consistency with system-level hydrologic, ecological and water quality performance measures
- Identification of improvements for project performance that will improve its system-wide performance
- Maintenance of the most current version of the existing and future without project conditions
- Assessment and identification of opportunities for operational modifications to improve system-wide performance
- System-wide Operating Manual
- Identification of opportunities for refinements to the CERP

RECOVER accomplishes its activities through a partnership amongst the following twelve federal, state and local agencies, and tribal governments: the U.S. Army Corps of Engineers, the South Florida Water Management District, U.S. Environmental Protection Agency, National Oceanic and Atmospheric Administration, U.S. Fish and Wildlife Service, U.S. Geological Survey, National Park Service, Miccosukee Tribe of Indians of Florida, Seminole Tribe of Florida, Florida Department of Agriculture and Consumer Services, Florida Department of Environmental Protection and Florida Fish and Wildlife Conservation Commission. RECOVER also provides opportunities for the public and stakeholders to participate in the review and refinement of RECOVER work products.

Other Components included: As related to RECOVER's Planning and Integration mission, RECOVER will work in concert with other CERP tam elements to incorporate Everglades Rain-Driven Operations (ERDO) *previously ID 1413* into CERP Planning. The Restudy included modifications to the regulation schedules for Water Conservation Areas 2A, 2B, 3A, 3B and the current Rainfall Delivery Formula for Everglades National Park to be made to implement rain-driven operations for all of these areas. These new operational rules are intended to improve timing and location of water depths in the Water Conservation Areas and Everglades National Park and to restore more natural hydropatterns.

Current Status: Restoration Coordination and Verification is continuing to establish baseline conditions (pre-CERP condition) and to provide parameters for comparison pre and post-CERP implementation. Additionally, RECOVER is continuing to develop/refine predictive tools and identify opportunities for Plan and operational modifications to improve system-wide CERP performance.

Hyperlink: <http://www.evergladesplan.org/pm/recover/recover.aspx>

Contact: Dave Tipple, USACE, 904-232-1375
David.A.Tipple@usace.army.mil

Program Name: Infrastructure
Project Name: C&SF: CERP Big Cypress/L-28 Interceptor Modifications (CCC)
Project ID: 1500 (CERP Project WBS# 10)
Lead Agency: USACE / SFWMD
Authority: Not Authorized.
Funding Source: Corps/State

Strategic Plan Goal(s) Addressed: 1-B.1

Measurable Output(s): 1,900 acres STA

Project Synopsis: The purpose of this feature is to reestablish sheetflow from the West Feeder Canal across the Big Cypress Reservation and into the Big Cypress National Preserve, maintain flood protection on Seminole Tribal lands, and ensure that inflows to the North and West Feeder Canals meet applicable water quality standards. Consistency with the Seminole Tribe’s Conceptual Water Conservation System master plan will be maintained.

This feature includes modification of levees and canals, water control structures, pumps, and stormwater treatment areas with a total storage capacity of 7,600 acre-feet located within and adjacent to the Miccosukee and Seminole Indian Reservations in Collier and Hendry Counties. The initial design of the stormwater treatment areas assumed a total acreage of 1,900 acres (water level fluctuating up to 4 feet above grade). Conceptual sizes of the stormwater treatment areas were based on interim phosphorus concentration targets in the conceptual plan for the Everglades Construction Project. Design of the stormwater treatment areas will be based on water quality criteria of the Seminole Tribe and criteria applicable to Big Cypress National Preserve, as appropriate.

Upstream flows entering the West and North Feeder Canals will be routed through two stormwater treatment areas to be located at the upstream ends of the canals. Sheetflow will be reestablished south of the West Feeder Canal by a system to be developed consistent with the Seminole Tribe’s Conceptual Water Conservation System master plan. After conversion to a pump station, S-190 will also push flows south into the L-28 Interceptor Canal where sheetflow to the southwest will be reestablished with backfilling and degradation of the southwest levee of the canal.

Current Status: This project adheres to the original concept outlined in the Restudy. Planned for future.

Est. Cost: \$68,300,000

Project Schedule:
 2019 Construction completed.

	2011	2012	2013	2014	2015	2016	2017	2018	2019
Planning & Design									
Real Estate									
Construction									

Detailed Project Budget Information (in \$1,000s):

	2011	2012	2013	2014	2015	2016	2017	Balance 2018 - 2019	Total
USACE	653	980	3,267	3,267	3,267	6,533	6,533	9,650	34,150
SFWMD	653	980	3,267	3,267	3,267	6,533	6,533	9,650	34,150
Total	1,306	1,960	6,534	6,534	6,534	13,066	13,066	19,300	68,300

Hyperlink: http://www.evergladesplan.org/pm/projects/proj_10_big_cypress.cfm

Contact: Kim Brooks-Hall, Chief Project Execution Branch, USACE
(904) 232-3155, Kimberly.Brooks-Hall@usace.army.mil

Source: Detailed budget and schedule information based on the FY09 budget submission to OMB and the *Master Implementation Sequencing Plan* (MISP) and updated to reflect current price levels in October 2007 dollars. Original project description summarized from the *Central and Southern Florida Project Comprehensive Review Study*.

Program Name: Infrastructure
Project Name: C&SF: CERP Miccosukee Tribe Water Management Plan (OPE)
Project ID: 1502 (CERP Project WBS# 90)
Lead Agency: USACE / Miccosukee Tribe
Authority: Not Authorized
Funding Source: Corps/State

Strategic Plan Goal(s) Addressed: 1-B.1

Measurable Output(s): 900-acre constructed wetland

Project Synopsis: The *Central and Southern Florida Project Comprehensive Review Study* (Restudy) includes construction of a 900-acre wetland retention/detention area on the Miccosukee Tribe's Alligator Alley Reservation. The feature also includes a pump station, levees, trenches and culverts to create the inflow and outflow facilities for the retention/detention area. The purpose of this feature is to provide water storage capacity and water quality enhancement for tribal reservation waters, which discharge from tribal lands and downstream into the Everglades Protection Area.

Current Status: This project adheres to the original concept outlined in the Restudy, but has not yet begun.

Est. Cost: \$30,700,000

Project Schedule:
 2016 Complete

	2010	2011	2012	2013	2014	2015	2016
Water Management Plan							

Detailed Project Budget Information (in \$1,000s):

	2010	2011	2012	2013	2014	2015	2016	Total
USACE	2,074	2,074	2,074	2,074	2,074	2,074	2,906	15,350
Tribe	2,074	2,074	2,074	2,074	2,074	2,074	2,906	15,350
Total	4,148	4,148	4,148	4,148	4,148	4,148	5,812	30,700

Hyperlink: http://www.evergladesplan.org/pm/projects/proj_90_miccosukee.cfm

Contact: Kim Brooks-Hall, Chief Project Execution Branch, USACE
 (904) 232-3155, Kimberly.Brooks-Hall@usace.army.mil

Source: Detailed budget and schedule information based on the FY09 budget submission to OMB and the *Master Implementation Sequencing Plan* (MISP) and updated to reflect current price levels in October 2007 dollars. Original project description summarized from the *Central and Southern Florida Project Comprehensive Review Study*.

Program Name: Infrastructure

Project Name: C&SF: CERP Caloosahatchee Backpumping with Stormwater Treatment (DDD)

Project ID: 1505 (CERP Project WBS# 06)

Lead Agency: USACE / SFWMD

Authority: Not authorized.

Funding Source: Corps/State

Strategic Plan Goal(s) Addressed: 1-B.1

Measurable Output(s): 5,000 acre STA with a total capacity of 20,000 acre-feet

Project Synopsis: This feature includes pump stations and a stormwater treatment area with a total capacity of approximately 20,000 acre-feet located in the C-43 Basin in Hendry and Glades Counties. The initial design of the stormwater treatment area assumed 5,000 acres (water level fluctuating up to 4 feet above grade). The purpose of this feature is to capture excess C-43 Basin runoff, which will be used to augment regional system water supply. The feature operates after estuary and agricultural/urban demands have been met in the basin and when water levels in the C-43 storage reservoir exceed 6.5 feet above grade. Lake Okeechobee must also be considered to have available storage. When these conditions are met, a series of pump stations will back pump excess water from the reservoir and the C-43 Basin to Lake Okeechobee after treatment through a stormwater treatment area.

Current Status: This project adheres to the original concept outlined in the *Central and Southern Florida Project Comprehensive Review Study* (Restudy). The project has not been initiated.

Est. Cost: \$133,000,000

Project Schedule:

2018 Construction completed.

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
PIR/ Plans & Specs										
Real Estate										
Construction										

Detailed Project Budget Information (in \$1,000s):

	2011	2012	2013	2014	Balance 2015-2020	Total
USACE	7,962	7,962	7,962	7,962	34,650	66,498
SFWMD	7,962	7,962	7,962	7,962	34,650	66,498
Total	15,924	15,924	15,924	15,924	69,300	132,996

Hyperlink: http://www.evergladesplan.org/pm/projects/proj_06_cal_backpumping.cfm

Contact: Kim Brooks-Hall, Chief Project Execution Branch, USACE
(904) 232-3155, Kimberly.Brooks-Hall@usace.army.mil

Source: Detailed budget and schedule information based on the FY09 budget submission to OMB and the *Master Implementation Sequencing Plan* (MISP) and updated to reflect current price levels in October 2007 dollars. Original project description summarized from the *Central and Southern Florida Project Comprehensive Review Study*.

Program Name: Infrastructure
Project Name: E&SF: Critical Projects Lake Okeechobee Water Retention/Phosphorous Removal
Project ID: 1506
Lead Agency: USACE / SFWMD
Authority: WRDA 1996
Funding Source: Corps/State

Strategic Plan Goal(s) Addressed: 1-B.1

Measurable Output(s): Two stormwater treatment areas with 940 acres

Project Synopsis: This project reestablishes wetlands currently drained for agriculture. It includes construction of two stormwater treatment areas, which will reduce phosphorous loading to Lake Okeechobee. As part of the Corps planning process, several alternative plans were reviewed. The Tentatively Selected Plan (TSP) was identified in 1998. Construction is underway.

This project focuses on specific land parcels (project elements) located within four key basins of the Lake Okeechobee watershed. These four basins are the lower Kissimmee River basins (S-65D Basin, S-65E Basin, and S-154 Basin) and the Taylor Creek-Nubbin Slough basin (S-191). Wetlands account for between 18 and 25 percent of the land classification in these basins (based on data from US Fish and Wildlife Service 1990 National Wetlands Inventory); however, approximately 37 percent of these wetlands have been ditched to drain the land for agriculture (i.e., improved pasture). Many of these wetlands were isolated depressions that once functioned as small water retention areas in the landscape. Others were more expansive and experienced drying from the regional drainage system.

The current system causes the accelerated loss of water from the watershed as surface water runoff, which is rapidly transported to the tributary system that drains into Lake Okeechobee. The loss of these isolated wetlands has resulted in various environmental impacts. It has contributed to rapid rises in the stage of Lake Okeechobee resulting in the need for damaging freshwater discharges to the estuaries. There has been a loss of the water quality treatment function that used to result from retaining water for short periods in those wetlands, and a loss of wetland habitat for migratory birds and waterfowl.

A two-pronged approach will be taken in this project. The first approach is to restore the hydrology of isolated wetlands by plugging the connection to drainage ditches and the second approach is diversion of the collector canal flows to adjacent wetlands to attenuate peak flows and retain phosphorus in Reservoir-Assisted Stormwater Treatment Areas (RSTAs). The project will result in increased regional water storage north of Lake Okeechobee and restoration of wetland functions in the process. At the sub basin scale, land parcels that were once part of the tributary system's historic flood plain will be re-flooded to add adjacent and/or isolated wetlands back to the landscape.

Current Status: Construction on the Taylor Creek portion was physically complete effective 4 April 2006. The interim construction and testing phase is in progress from 3 October 2006 thru October 2008. Construction on the Nubbin Slough portion is physically complete effective 6 September 2006. The interim construction and testing phase is in progress from September 2007 thru September 2009.

Est. Cost: \$21,902,000

Project Schedule:

1997 Start
 2006 Construction completed.
 2009 Testing complete

	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Planning & Design												
Real Estate												
Construction												

Detailed Project Budget Information (in \$1,000s):

	Thru 2007	2008	2009	Total
USACE	10,861	0	4,897	15,758
SFWMD	6,144	0	0	6,144
Total	17,005	0	4,897	21,902

Hyperlink: <http://www.saj.usace.army.mil/projects/proj10.htm>

Contact: Kim Brooks-Hall, Chief Project Execution Branch, USACE
 (904) 232-3155, Kimberly.Brooks-Hall@usace.army.mil

Source: Detailed budget and schedule information based on the FY09 budget submission to OMB and the *Master Implementation Sequencing Plan (MISP)* and updated to reflect current price levels in October 2007 dollars. Project description from Tentatively Selected Plan (1998), Congressional Fact Sheet (January 2008) and other planning documents.

Program Name: Restoration Program: Hydrological Restoration, Water Quality
Project Name: C&SF: West Palm Beach Canal STA-1E / C-51 West
Project ID: 1513
Lead Agency: USACE / SFWMD
Authority: FCA 1968, WRDA 1996
Funding Source: N/A - Completed

Strategic Plan Goal(s) Addressed: Primary: 1-B.1 Secondary: 3-B.1

Measurable Output(s): 6,500-acre stormwater treatment area

Project Synopsis: The project is located in Palm Beach County and runs east/west from Water Conservation Area 1 (Loxahatchee National Wildlife Refuge) to West Palm Beach at Lake Worth. The authorized project will provide 30-year flood protection to the urbanized eastern basin and 10-year flood protection to the western basin. All eastern basin features have been completed. This project will operate in parallel with STA 1W to reduce the total phosphorus in runoff from both the C-51 West and S 5A basins prior to their discharge into Water Conservation Area 1.

Current Status: During mediation of the Everglades litigation, a technical mediated plan was developed for resolution of the litigation. The technical mediated plan included a substantially modified C-51 project. The modified plan expands the original 1,600-acre floodwater detention area into a 6,500-acre STA. In addition to the flood damage, reduction benefits provided by the original project, the modified plan provides water quality treatment, reduction of damaging freshwater discharges to Lake Worth, and increased water supply for the Everglades and other users. Major project components include, but are not limited to, construction of the following: STA 1E works, pumping station S-319 and S-362, Canal C-51 enlargement, and gated structure S-155A. These works have been completed and transferred to the SFWMD.

A field test of periphyton treatment is underway and is expected to continue into 2009-2010. Periphyton is utilized to aid in the removal and monitoring of total phosphorus (P) found in agricultural and stormwater runoff. Additional work included in the project is the design and construction of the L-40 improvements, which should be completed in 2008.

Est. Cost: \$319,800,000

Project Schedule:

1994 Start
 2013 Finish

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Planning & Design												
Real Estate												
Construction												
O&M												

Detailed Project Budget Information (in \$1,000s):

	Thru 2007	2008	2009	2010	Balance 2011-2013	Total
USACE	214,370	5,416	2,000	9,060	6,219	237,065
SFWMD	29,319	5,416	2,000	0	0	36,735
DOI	46,000	0	0	0	0	46,000
Total	289,689	10,832	4,000	9,060	6,219	319,800

Hyperlink: <http://www.saj.usace.army.mil/restore/projects/C-51.htm>

Contact: Kim Brooks-Hall, Chief Project Execution Branch, USACE
(904) 232-3155, Kimberly.Brooks-Hall@usace.army.mil

Source: Detailed budget and schedule information based on the FY09 budget submission to OMB and the *Master Implementation Sequencing Plan* (MISP) and updated to reflect current price levels in October 2007 dollars. Original project description summarized from the *Central and Southern Florida Project Comprehensive Review Study*.

Program Name: Infrastructure
Project Name: State Expedited project includes Agricultural Area (EAA) Stormwater Treatment Areas (STAs) Expansion
Project ID: 1514 A
Lead Agency: SFWMD
Authority: Everglades Forever Act
Funding Source: State

Strategic Plan Goal(s) Addressed: Primary: 1.B.1

Measurable Output(s): ~18,000 acre STA expansion, water quality

Project Synopsis: This SFWMD expedited project will expand the size and enhance the performance of existing stormwater treatment areas created as part of the Everglades Construction Project. These constructed wetlands naturally reduce stormwater runoff pollution levels flowing from the Everglades Agricultural Area before entering the Everglades. This Project will add approximately 18,000 acres of additional treatment area to the existing Everglades Agricultural Area Stormwater Treatment Areas (EAA STAs). The Expansions are being built in Compartment B, an approximately 9,500-acre parcel of land located in southern Palm Beach County, and Compartment C, an approximately 8,800-acre parcel of land located in eastern Hendry County.

The first phase of implementation was the EAA STA Initial Expansion Projects and involved expanding STA-2 into Compartment B and expanding STA-5 into Compartment C. Phase 1 became flow capable on December 31, 2006.

The second phase of implementation, the EAA STA Compartment B and Compartment C Build-out Projects, involves STA construction in the remaining areas of Compartment B and Compartment C. The second phase is currently in design.

Total Estimated Project Cost: TBD

Scheduled Construction Start Date: Jan., 2009

Scheduled Project Completion Date: Dec, 2010 (Flow Capable STA)
 Dec., 2011 (Pump Stations completed)

Actual Expenditures to date by SFWMD*:

	Thru 2005	2006	2007	2008	Total
SFWMD	\$3,975,288	\$45,541,198	\$36,377,772	\$8,468,665	\$94,362,923

Contact: Matthew Alexander, 561-242-5520, x4079

Program Name: Restoration Program: Water Quality and Hydrology
Project Name: Lakeside Ranch STA - Expedited Project - The SFWMD is implementing as part of Northern Everglades Project
Project ID: 1515
Lead Agency: South Florida Water Management District
Authority: Chapter 373, Florida Statutes
Funding Source: Lake Okeechobee Trust Fund

Strategic Plan Goal(s) Addressed: 1.B.1

Measurable Output(s): 2,700 acre STA

Project Synopsis: In 2007, the Florida legislature enacted the Northern Everglades Initiative which expands the Lake Okeechobee Protection Act to the entire Northern Everglades system, including the Lake Okeechobee watershed as well as the Caloosahatchee and St. Lucie rivers and estuaries. The plan identifies five construction projects north of Lake Okeechobee, including the Lakeside Ranch STA, as expedited projects. The Lakeside Ranch STA involves construction of a 2,700 acre STA at Lakeside Ranch which will provide approximately 9-19 metric ton phosphorus reduction.

Total Estimated Project Cost: \$140,683,688

Project Schedule:

Start Date: October 2005
 Finish Date: December 2012

	2005	2006	2007	2008	2009	2010	2011	2012
Project Design								
Construction and Installation								
Operations and Monitoring								

Detailed Project Budget Information (\$1000)

	2006	2007	2008	2009	2010	Balance to complete	Total
Federal EPA							
State SFWMD	1,391	621	5,718	15,470	53,273	64,210	140,683
Tribal							
Local							
Other							
Total	1,391	621	5,718	15,470	53,273	64,210	140,683

Hyperlink: N/A

Contact: Mark Long (561) 242-5520 x4061

Program Name: Infrastructure
Project Name: C&SF: CERP Henderson Creek/Belle Meade Restoration (OPE)
Project ID: 1518 (CERP Project WBS# 93)
Lead Agency: USACE / FDEP
Authority: WRDA 2000 (Programmatic Authority)
Funding Source: Corps/State

Strategic Plan Goal(s) Addressed: 1-B.1

Measurable Output(s): 10-acre stormwater lake/marsh filtering system

Project Synopsis: The area known as Belle Meade is the primary drainage basin for the Henderson Creek Estuary, which drains into Rookery Bay. Changes in land use within the primary watersheds draining into Rookery Bay have been identified as the highest priority resource issue that threatens the long-term preservation of the research reserve's estuarine resources.

The concept for this feature outlined in the *Central and Southern Florida Project Comprehensive Review Study* (Restudy) included the combination of multiple individual elements to complement each other to form a larger-scale combined effect. The purpose of this feature in Collier County is to restore historic sheetflow to the estuary, treatment of stormwater, improvement of water quality and increase in habitat value and wetland functions. This feature includes a 10-acre stormwater lake/marsh filtering system; four culverts under State Road 951; hydrologic restoration around Manatee Basin including culverts, 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.

Current Status: Work on this project is suspended while discussions are held between the SFWMD and the FDEP on who should be the local sponsor.

The Design Agreement is being coordinated with the Florida Department of Environmental Protection with a view towards execution in Summer 2008 followed by initiation of the Project Implementation Report. The sponsor has indicated that funds may be available through the state of Florida's "Save Our Everglades Trust Fund" for project implementation.

Est. Cost: \$7,000,000

Project Schedule:
 2018 Construction completed.

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
PIR/Plans & Specs												
Real Estate												
Construction												

Detailed Project Budget Information (in \$1,000s):

	Thru 2007	2008	2009	2010	2011	2012	Balance 2013-2018	Total
USACE	128	0	0	193	1,017	1,017	1,145	3,500
FDEP	0	0	0	193	1,059	1,059	1,189	3,500
Total	128	0	0	386	2,076	2,076	2,334	7,000

Hyperlink: http://www.evergladesplan.org/pm/projects/proj_93_henderson.cfm

Contact: Kim Brooks-Hall, Chief Project Execution Branch, USACE
(904) 232-3155, Kimberly.Brooks-Hall@usace.army.mil

Source: Detailed budget and schedule information based on the FY09 budget submission to OMB and the *Master Implementation Sequencing Plan (MISP)* and updated to reflect current price levels in October 2007 dollars. Original project description summarized from the *Central and Southern Florida Project Comprehensive Review Study*.

Program Name: Restoration Program: Water Quality
Project Name: C-43 Water Quality Treatment Area
Project ID: 1519
Lead Agency: South Florida Water Management District
Authority: Chapter 373, Florida Statutes
Funding Source: State Funds

Strategic Plan Goal(s) Addressed: 1.B.1

Measurable Output(s): 1,200 acre Water Quality Treatment Area (WQTA)

Project Synopsis: In 2007, the Florida legislature enacted the Northern Everglades Initiative which expands the Lake Okeechobee Protection Act to the entire Northern Everglades system, including the Lake Okeechobee watershed as well as the Caloosahatchee and St. Lucie rivers and estuaries. The C-43 Water Quality Treatment Area Project involves the construction of approximately 1,200 acres of water quality treatment area, a pump station, and other water control structures which will provide total nitrogen (TN) reduction, with a focus on organic nitrogen and other incidental nutrients, in the Caloosahatchee River Basin upstream of the S-79 structure.

Total Estimated Project Cost: \$163,980,000

Project Schedule:

Start Date: September 2007
 Finish Date: December 2012

	2006	2007	2008	2009	2010	2011	2012
Project Design							
Construction and Installation							
Operations and Monitoring							

Detailed Project Budget Information (\$1000)

	2007	2008	2009	2010	Balance to complete	Total
Federal EPA						
State SFWMD	90	3,000	8,000	112,650	40,240	163,980
Tribal						
Local						
Other						
Total	90	3,000	8,000	112,650	40,240	163,980

Hyperlink: N/A

Contact: Karen Counes (561) 242-5520 x4098

Project Name: Long-Term Plan for Achieving Everglades Water Quality Goals
Project ID: 1520 (Formerly project ID 1723)
Lead Agency: South Florida Water Management District
Authority: Florida's Everglades Forever Act

Strategic Plan Goal(s) Addressed: 1.B.1

Secondary: 1.A.3

Measurable Output(s): 36,070 acres STA, 8.5 miles of impediments.

Project Synopsis: The Long-Term Plan was developed with the goal of achieving compliance with water quality standards, including the phosphorus criterion established in Rule 62-302.540, in the Everglades Protection Area. The Long-Term Plan was subsequently identified in the 2003 amendment to the Everglades Forever Act (EFA) (s. 373.4592 F.S.) as the Best Available Phosphorus Reduction Technology (BAPRT) for achieving Everglades water quality standards. The Long-Term Plan includes a variety of projects and components, such as structural and vegetative enhancements in the STAs, Operations and Maintenance of the STAs, STA optimization research, monitoring, source controls programs, hydropattern restoration projects, as well as projects designed to accelerate recovery in the impacted areas of the Everglades Protection Area. The Long-Term Plan is being implemented through a process of adaptive implementation, whereby the plan is revised when new information becomes available, however per the 2003 amended EFA, the FDEP must approve all revisions to the Long-Term Plan. The Long-Term Plan cost estimates are updated after revisions are approved by the FDEP. The original overall cost estimate for implementation of the Long-Term Plan shown in the October 27, 2003 document was \$444 million. The cost estimates shown herein reflect all approved revisions to the Long-Term Plan since development of the original document and cost estimates. The Long-Term Plan addresses the initial 13-year phase (FY 2004-2016, inclusive) defined in that 2003 amendment to the EFA.

*** Cost (Estimate):** Total for Long-Term Plan: \$749.8 million

Project Schedule: Expected Completion Date: Initial 13-year phase covers the period FY2004 through FY2016

	FY 2003 - FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010 - FY 2016
Project Development (included in Implementation)						
Land Acquisition						
Implementation						
Operations and Maintenance (included in Implementation)						

*** Detailed Project Budget Information**

	Actual FY 2003-07	Actual Thru June 2008	Projected FY 2009	Projected FY 2010	Projected FY 2011	Balance to complete	Total
Federal							
State	\$157,642,978 ⁽¹⁾	\$10,822,444	\$76,321,567	\$78,611,214	\$81,578,940	\$344,821,857	\$749,800,000
Tribal							
Local							
Other							
Total	\$157,642,978	\$10,822,444	\$76,321,567	\$78,611,214	\$81,578,940	\$344,821,857	\$749,800,000

- (1) Cost data reflects actual inception-to-date expenditures through September 30, 2007 and current preliminary cost estimate projections.
- (2) Project Development includes Design Phase [contracts & staff costs] costs.
- (3) Implementation includes all Construction [contracts & contingency] and Construction Management [contracts & staff costs] costs.

Contact: Tracey Piccone, P.E., SFWMD (561) 682-6495

Program Name: Water Quality
Project name: Total Maximum Daily Load (TMDL) for South Florida
Project ID: 1600
Lead Agency: Florida Department Of Environmental Protection
Authority: 403.067, F.S.

Strategic Plan Goal(s) Addressed: 1.B.2

Measurable Output(s): Basin Assessments, Identifying Impaired Waters, Supplemental Data Collection, Develop TMDLs, Implementation Plans, Verification WQ Standards have been met

Project Synopsis: During the first phase, the water quality data for each basin will be assessed in detail, including the identification of waters for which TMDLs will be developed. Once a basin assessment report and a Plan of Study are completed, intensive monitoring will be conducted in the basin to supply any additional data needed to model the impaired waters in the basin and generate TMDLs. During the third phase, TMDLs will be calculated and then allocated to individual point sources and the major categories of nonpoint sources. After TMDLs are approved, a consensus-based basin management action plan (BMAP), which will include a TMDL implementation plan, will be developed during the fourth phase. The implementation plan will include more detailed allocations to nonpoint sources, but the allocations will be voluntary if the sources are currently outside of the State’s regulatory authority. Once these plans have been adopted and implemented, verification (using added WQ monitoring data, evaluations of beach closure reports, or number of fish kills, for example) will allow waters to be certified as meeting water quality standards.

Cost:
 Total: \$1,000,000/yr
 Project Development: \$1,000,000/yr
 Land Acquisition: Unknown
 Implementation: Unknown
 Operations and maintenance: Unknown

Project Schedule:
 Start Date: July 1, 2000
 Finish Date: Upon Completion (Current schedule runs to 2011)

Detailed Project Budget Information(1000s)

	Thru 2007	2008	TOTAL
Federal			
State	4,660	1,000	
Tribal			
Local			
Other			
Total	4,660	1,000	TBD

Hyperlink: <http://www.dep.state.fl.us/water/tmdl/index.htm>
Contact: Florida Dept. of Environmental Protection

Program Name: Infrastructure
Project Name: C&SF: CERP Comprehensive Integrated Water Quality Feasibility Study
Project ID: 1701
Lead Agency: USACE / FDEP
Authority: WRDA 1996
Funding Source: Corps/State

Strategic Plan Goal(s) Addressed: Other – supports 3-A.4

Measurable Output(s): Recommendations

Project Synopsis: There is no comprehensive plan for achieving water quality restoration in south Florida, which links together water quality restoration programs in the context of comprehensive planning for ecosystem restoration. It is also recognized that achieving all of the water quality goals for ecosystem restoration in all use-impaired water bodies within the study area will depend on actions outside the scope of the *Central and Southern Florida Project Comprehensive Review Study* (Restudy). However, the degree to which some of the existing water quality improvement programs have been implemented has been limited. To ensure that south Florida ecosystem restoration objectives are achieved, a Comprehensive Integrated Water Quality (CIWQ) Plan that links water quality restoration targets and remediation programs to the hydrologic restoration objectives of the recommended plan must be developed for the entire study area. In its July, 1998 Interim Report on the C&SF Project Restudy (GCSSF, 1998), the Governor's Commission recommended that a water quality implementation plan for the Restudy be developed with Florida Department of Environmental Protection as the lead agency, in cooperation with the U.S. Environmental Protection Agency, U.S. Army Corps of Engineers, South Florida Water Management District, the Seminole and Miccosukee Native American Tribes, and local governments. In order to resolve water quality problems on an ecosystem wide basis, the Governor's Commission recommended that a comprehensive water quality plan be initiated as a feature of the Restudy.

The Comprehensive Integrated Water Quality Plan for south Florida would involve identifying pollution-impaired water bodies, quantifying types and sources of pollution, establishing interim and final pollution load reduction targets necessary to achieve ecosystem restoration, recommendations for development of potential source reduction programs, recommendations for baseline and future water quality monitoring programs to assess ecological responses to water quality changes, and recommendations for designing and constructing water quality treatment facilities, if necessary. Although the scope of the feasibility study has not yet been developed, it is envisioned that the feasibility study would also address issues of fragmented, uncoordinated water quality sampling, data quality, and climatological effects and trends; recommendations for oversight and support of improved water quality modeling efforts in south Florida; development of additional water quality restoration targets, where needed; recommendations for remediation programs to achieve those targets; recommendations for Best Management Practices in specific agricultural and urban areas where appropriate (including identifying those urban areas where participation in the NPDES municipal stormwater program is needed); and, recommendations for synchronizing water quality restoration programs with the implementation schedule for the components of the recommended plan. The Comprehensive Integrated Water Quality Plan would also include recommendations for locations of water storage and treatment areas and design features for optimizing recommended plan components to achieve water quality restoration targets. The comprehensive integrated water quality plan may also lead to recommendations for additional features (e.g., polishing cells, operational features) for recommended plan components currently lacking specific water quality performance elements.

DEP agreed to participate in the Project Management Plan (PMP) phase of the feasibility study as the local sponsor. The Project Delivery Team identified the issues to be addressed by the feasibility study, and a Project Management Plan (PMP) was prepared and approved by the project’s design coordination team.

Current Status: Suspended for more than three years. Upon availability of funds, a Feasibility Cost Sharing Agreement (FCSA) between the USACE and FDEP would need to be negotiated. The project scope may change and the PMP would require revisions.

Est. Cost: \$8,884,000

Project Schedule:

2001 Start
 2014 Complete

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Planning & Design												

Detailed Project Budget Information (in \$1,000s):

	Thru 2007	2008	2009	2010	2011	2012	2013	2014	Total
USACE	735	0	0	786	786	786	786	561	4,442
FDEP	0	0	0	933	933	933	933	708	4,442
Total	735	0	0	1,720	1,720	1,720	1,720	1,269	8,884

Note: PMP never formalized; would need to be re-evaluated.

Hyperlink: <http://www.evergladesplan.org/pm/studies/ciwq.cfm>

Contact: Kim Brooks-Hall, Chief Project Execution Branch, USACE
 (904) 232-3155, Kimberly.Brooks-Hall@usace.army.mil

Sources: Detailed budget and schedule information based on the FY09 budget submission to OMB and the *Master Implementation Sequencing Plan* (MISP) and updated to reflect current price levels in October 2007 dollars. Original project description and current status information summarized from the original PMP, additional discussion documents and the project manager. Cost estimates need to be re-determined as the PMP was never finalized.

Program Name: Infrastructure
Project Name: E&SF: Critical Projects Lake Trafford Restoration
Project ID: 1702 (CERP OPE)
Lead Agency: USACE / SFWMD
Authority: WRDA 1996

Strategic Plan Goal(s) Addressed: 2-A.3

Measurable Output(s): 2.85 million cubic yards of organic sediments removed

Project Synopsis: Lake Trafford is located in north Collier County and is the largest lake south of Lake Okeechobee with a surface area of approximately 1,494 acres. It is the headwaters of the Corkscrew Swamp Sanctuary to the southwest, the Corkscrew Regional Ecosystem Watershed (CREW) to the west, and the Fakahatchee Strand system, which includes the Florida Panther National Wildlife Refuge, to the south. Lake Trafford has poor water quality, extensive muck accumulations, loss of native submerged plant communities, periodic aquatic weed infestations, and numerous moderate fish kills. Poor water quality is attributed to internal nutrient cycling from extensive organic muck deposits throughout the lake basin. The project as described in the *Central and Southern Comprehensive Review Study (1999)* involves the use of one or more 14-inch portable cutter dredges to accomplish lake-wide organic sediment removal. Approximately 8.5 million cubic yards of loose, flocculent, organic materials blanket the bottom of the lake.

Current Status: The Lake Trafford Restoration Project was initiated in 2004. This project will improve water quality and enhance fish and wildlife habitat in Lake Trafford by removing approximately 2.85 million cubic yards of organic sediments that blanket the bottom of the lake. USACE completed plans and specs, but at that time there was insufficient money to award a contract. The SFWMD assumed 100% of the cost of revamping the detailed design and the construction with the intent of receiving credit and/or reimbursement from the USACE. The containment facility and most of the dredging have been completed.

Est. Cost: \$15,408,000

Project Schedule: 2011

Detailed Project Budget Information (in \$1,000s):

	THRU 2007	2008	2009	2010	2011	TOTAL
USACE	1,602	0	0	4,955	1,147	7,704
SFWMD	6,385	0	0	1,319	0	7,704
TOTAL	7,987	0	0	6,274	1,147	15,408

Hyperlink: <http://www.saj.usace.army.mil/projects/proj15.htm>

Contact: Kim Brooks-Hall, Chief Project Execution Branch, USACE
 (904) 232-3155, Kimberly.Brooks-Hall@usace.army.mil

Source: Detailed budget and schedule information based on the FY07 budget submission to OMB and the *Master Implementation Sequencing Plan (MISP)* and updated to reflect current price levels in October 2006 dollars. Original project description summarized from the *Central and Southern Florida Project Comprehensive Review Study*.

Program Name: Phosphorus Source Controls for Basins Tributary to the Everglades
Project Name: Everglades Regulation Division
Project ID: 1706
Lead Agency: South Florida Water Management District
Authority: Everglades Forever Act (EFA)
Funding Source: Long-term Plan allocated funds and Everglades Agricultural Privilege Tax

Strategic Plan Goal(s) Addressed: Other

Measurable Output(s): Mandatory BMP Program Compliance Model Results; Updates on Implementation of Basin Specific Water Quality Improvement Plans; Reporting on the Long-term Compliance Permit requirements.

Project Synopsis: As a result of the EFA, the SFWMD established the Everglades Regulation Division. The Division includes two main sub-components of the Everglades Construction Project (ECP) and the Non-ECP permits, respectively, the Best Management Practices (BMPs) Regulatory Program in the ECP tributary basins and the BMP cooperative programs in the Non-ECP tributary basins. The ECP source controls include a regulatory program developed to decrease phosphorus loads from the Everglades Agricultural Area (EAA) and C-139 basins by reducing phosphorus from permittee discharges prior to downstream treatment in stormwater treatment areas. For the 12 years that the program has been in place in the EAA, the total phosphorus loads have been reduced by greater than 50% on average. The C-139 basin BMP regulatory program was initially implemented in 2002, and as of 2007, BMPs are being implemented at the highest level described by rule. The District is in rule development to amend the C-139 Basin BMP program to optimize water quality improvement efforts. Water Quality Improvement Plans were developed for each of the Non-ECP basins that discharge to the Everglades to ensure that all basins discharging directly to the Everglades meet state water quality standards. These strategies include best management practices, regulatory programs, public outreach, and construction of public works projects. The District is currently developing TBELS for the Non-ECP basins to comply with FDEP requirements.

Cost:
 Total N/A
 Project Development N/A
 Land Acquisition N/A
 Operations and Maintenance N/A

Project Schedule:

Start Date: March 1998
 Finish Date: N/A - This is an on-going mandated regulatory program with no end date.

Detailed Project Budget Information (1000s)

	Thru 1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009*	Total
Federal												
State	4,000	1,954	1,960	1,866	1,998	2,245	3,446	4,236	2,722	2,924	3,033	
Tribal												
Local												
Other												
Total	4,000	1,954	1,960	1,866	1,998	2,245	3,446	4,236	2,722	2,924	3,033	TBD

*estimated

Hyperlink: <http://www.sfwmd.gov/org/reg/esp/index.html>

Contact: Pamela Wade (561) 682-6901

Program Name: Management
Project name: Floridan Aquifer Restoration
Project ID: 1707
Lead Agency: USDA - NRCS
Authority: PL-46

Strategic Plan Goal(s) Addressed: Primary: Other

Measurable Output(s): Reduced Aquifer Contamination

Project Synopsis: Saline aquifer water will cause well casings to corrode and eventually leak causing cross aquifer contamination caused by artesian flow from the Floridan. This project seeks to permanently decommission irrigation wells via plugging in St. Lucie County in order to reduce saline water from the Floridan Aquifer by leaking well casings transferring groundwater into the surficial aquifer used for drinking. This project has been put on hold due to a lack of funding.

Cost:
 Total: \$900,000
 Project Development
 Land Acquisition
 Implementation \$900,000
 Operations and maintenance:

Project Schedule:
 Start Date: 2002
 Finish Date: TBD

Detailed Project Budget Information (\$1000s)

	Thru 2004	2005	2006	2007	2008	2009	2010	Total
Federal	\$50	\$100	\$100					\$250
State	\$150	\$150	\$150					\$450
Tribal								
Local								
Other	\$100	\$50	\$50					\$200
Total	\$300	\$300	\$300					\$900

Hyperlink: N/A
Contact: Donna Smith - 772-467-9779 USDA - NRCS

Program Name: Surface Water Management
Project Name: Seminole Tribe Best Management Practices for the Big Cypress Reservation
Project ID: 1714
Lead Agency: Seminole Tribe of Florida
Authority: Tribal Resolution

Strategic Plan Goal(s) Addressed: Other

Measurable Output(s):

The project will result in immediate, measurable improvements in the quality of water discharged to the Everglades Protection Area. It will also provide tangible improvement of the water quality leaving the Western Basins, an area not addressed completely by the Everglades Construction Project and the Everglades Forever Act.

Project Synopsis:

The Seminole Tribe has contracted with the NRCS to implement a comprehensive system of best management practices (BMP) for all seven basins in the Big Cypress Reservation. Enhanced water management will be accomplished through BMP that include: conservation irrigation systems; nutrient loading reduction; application procedure training; fencing of WRA and irrigation cells as detailed in the Water Conservation Plan; cross fencing for grazing management; livestock watering facilities; grazing management plans; closed-end irrigation systems; and will function independently of the Water Conservation Project, the two will work best together to create the most benefit for the ecosystem.

Cost:

Total: 4,779,000
 Project Development:
 Land Acquisition:
 Implementation:
 Operations and maintenance:

Project Schedule:

Start Date: June 1996
 Finish Date: December 2010

Detailed Project Budget Information (\$1000)

	2004	2005	2006	2007	2008	2009	2010	Balance to complete	Total
Federal	358.4	358.4	358.4	358.4	358.4	358.4	358.4	1,075.3	3,584.1
State									0
Tribal	119.5	119.5	119.5	119.5	119.5	119.5	119.5	358.2	1,194.7
Total	477.9	477.9	477.9	477.9	477.9	477.9	477.9	1,433.5	4,778.8

Hyperlink: N/A

Contact: Craig Tepper 954-965-4380, Seminole Tribe of Indians

Program Name: Infrastructure
Program Name: Surface Water Management
Project Name: Seminole Tribe Best Management Practices for the Brighton Reservation
Project ID: 1715
Lead Agency: Seminole Tribe of Florida
Authority: Tribal Resolution

Strategic Plan Goal(s) Addressed: Other

Measurable Output(s):

Implementation of BMP's will provide immediate water quality benefits for the watershed which includes Lake Okeechobee. They will also compliment a comprehensive system of surface water management works planned for the Brighton Reservation.

Project Synopsis:

The Seminole Tribe has contracted with NRCS to design a comprehensive system of best management practices (BMP's) for the Brighton Reservation. Enhanced water management will be accomplished through application of field-level BMP's which might include: conservation irrigation systems; nutrient loading reduction; application procedure training; cross-fencing for grazing management; livestock watering facilities; grazing management plans; closed-end irrigation systems; and a tail-water recovery system where appropriate.

Cost:

Total	\$338,000
Project Development	
Land Acquisition	
Implementation	
Operations and maintenance	

Project Schedule:

Start Date: January, 1998
 Finish Date: December, 2010

Detailed Project Budget Information (1000s)

	2004	2005	2006	2007	2008	2009	2010	Balance to complete	Total
Federal	36	36	36	36	36	36	36	1.5	253.5
State									0
Tribal	12	12	12	12	12	12	12	.5	84.5
Total	48	48	48	48	48	48	48	2	338

Hyperlink: N/A

Contact: Craig Tepper 954-965-4380, Seminole Tribe of Indians

Program Name: Surface Water Management

Project Name: Seminole Tribe Comprehensive Surface Water Management System for the Brighton Reservation

Project ID: 1716

Lead Agency: Seminole Tribe of Florida

Authority: Tribal Council by Resolution

Strategic Plan Goal(s) Addressed: Other

Measurable Output(s):

This plan would provide positive water management benefits to the Indian Prairie Basin which discharges into Lake Okeechobee. Water quality will be improved by reducing nutrient loadings through detaining discharges from Tribal lands in each group. Flood control will be enhanced through the implementation of additional sites in each sub-basin. Storage and conveyance of surface waters will be increased and enhanced in each and between sub-basins. Re-hydration of slough systems in each group will also be accomplished.

Project Synopsis:

A comprehensive surface water management system will be designed and implemented for the Brighton Reservation which will include supplemental irrigation, storage, improved flood control, surface water conveyance and water quality treatment.

Cost:

Total	15,818,000
Project Development	
Land Acquisition	
Implementation	
Operations and maintenance	

Project Schedule:

Start Date:	1999
Finish Date:	2013

Detailed Project Budget Information (1000s)

	2004	2005	2006	2007	2008	2009	Balance to complete	Total
Federal	20	4,344	970	679	853	853	655	8,374
State								0
Tribal	0	4,343	970	679	852	426	174	7,444
Total	20	8,687	1,940	1,358	1,705	1,279	829	15,818

Hyperlink: N/A

Contact: Craig Tepper 954-965-4380, Seminole Tribe of Indians

Program Name: Surface Water Management
Project Name: Seminole Tribe Water Conservation Project for the Big Cypress Reservation
Project ID: 1717
Lead Agency: Seminole Tribe of Florida
Authority: Tribal Council Resolution / USDA WRP / PL-53-866 UDSA

Strategic Plan Goal(s) Addressed: Other

Measurable Output(s):

This network of surface water management structures will produce the following substantial restoration, preservation, and protection benefits and will do so immediately and independently of the completion of any other projects:

Remove phosphorus and other pollutants from water leaving the Reservation and flowing to the Big Cypress National Preserve into Mullet Slough to the Everglades Protection Area. The removal of these pollutants will be achieved using natural treatment processes in pretreatment cells and water resource areas (WRA's). Unlike the stormwater treatment areas in the Everglades Construction Project, the Tribe's WRA's will take advantage of the natural treatment processes and will serve additional functions of water storage and conveyance.

Rewater the Big Cypress National Preserve. This project will provide the opportunity to restore more natural hydroperiods in the Big Cypress National Preserve. The clean water sent in a sheetflow over the Preserve and into Mullet Slough will improve the hydrology in the Everglades Protection Area as well.

Convey and store irrigation water. To make use of water provided by the SFWMD to replace the Tribe's diverted Compact water rights, the Tribe needs to be able to move and store such water, when it is available. Water conveyance improvements and irrigation storage cells will move and store the Compact water converted for Everglades restoration. This diversion allowed for treatment of water flowing to the Everglades Protection Area.

Provide improved flood control. To prevent extended periods of flooding and to limit downstream impacts of flooding, stormwater must be controlled. Stormwater attenuation areas will detain water from large storm events.

Project Synopsis:

The Seminole Tribe's Big Cypress Reservation is located in Hendry and Broward Counties, directly north of the Big Cypress National Preserve. And the federal Miccosukee Reservation. This project provides for the design and construction of water control, management, and treatment facilities in Basins 5, 6 & 7 composing the eastern portion of the Big Cypress Reservation. The project elements include conveyance systems, including major canal bypass structures, irrigation storage cells, and water resources areas. This project is designed to meet 50 ppb. phosphorus, which is the current performance level designed to be achieved by the Everglades Construction Project. Should design performance levels for phosphorus become more stringent, this project is designed to be able to incorporate additional technology to meet stricter levels. This project will enhance the hydroperiod in Big Cypress National Preserve through Mullet Slough and improve the water quality in the Everglades Protection Area.

Cost:

Total \$60,000,000

Project Schedule:

Start Date: 2002
 Finish Date: 2012

Detailed Project Budget Information (1000s)

	2004	2005	2006	2007	2008	2009	2010	Balance to complete	Total
Federal	1,500	3,500	3,500	3,500	3,500	8,000	12,500	0	36,000
State									0
Tribal	0	1,625	1,625	1,625	1,625	4,000	6,400	7,100	24,000
Total	1,500	5,125	5,125	5,125	5,125	12,000	18,900	7,100	60,000

Contact: Craig Tepper 954-965-4380, Seminole Tribe of Indians

Program Name: Lake Okeechobee Restoration: Water Quality
Project Name: Lake Okeechobee Protection Plan
Project ID: 1722
Lead Agency: South Florida Water Management District
Funding Source: State of Florida Appropriation

Strategic Plan Goal(s) Addressed: Other

Measurable Output(s): Improve the health of Lake Okeechobee through the reduction of total phosphorus loads from the watershed to meet the Lake's Total Maximum Daily Load (TMDL) of 140 MT/year.

Project Synopsis: Although there has been a long history of regulatory and voluntary incentive-based programs to control phosphorus inputs to Lake Okeechobee, there has not been any substantial reduction in loading during the last decade. As a result, the Florida legislature passed the Lake Okeechobee Protection Act (LOPA) in 2000, mandating that the TMDL be met by 2015 and that the SFWMD, FDEP, and FDACS work together to implement an aggressive program to address the issues of excessive phosphorus loading and exotic species expansion. The SFWMD, in cooperation with FDEP and FDACS, developed the Lake Okeechobee Protection Plan (LOPP) as required by LOPA, which was submitted to the Florida Legislature in January 2004, and was updated in February 2007. In addition, in 2007 the Florida Legislature expanded the Lake Okeechobee Protection Act to the Northern Everglades and Estuaries Protection Program. The new legislation promotes a comprehensive, interconnected watershed approach to protecting Lake Okeechobee and the Caloosahatchee and St Lucie rivers and estuaries and required development of the Lake Okeechobee Watershed Construction Project Phase II Technical Plan (LOWCP P2TP) by February 2008.

The LOPP contains a phased, watershed-based, comprehensive approach to reduce phosphorus loading to the lake. Because the legislature has provided substantial funding for the implementation of the LOPP since 2000, the cooperating agencies have been able to implement a large number of phosphorus reduction projects including phosphorus source control grant programs for agricultural landowners, dairy best available technology pilot projects, soil amendment projects, isolated wetland restoration, remediation of former dairies and regional public/private partnerships. In addition, the LOPP contains elements of research and monitoring as specified by the act. A comprehensive monitoring program for water quality in the lake and watershed and ecological indicators in the lake has been implemented. The LOWCP P2TP identifies construction projects, along with on-site measures that prevent or reduce pollution at its source such as agricultural and urban best management practices, needed to achieve water quality targets for the Lake. The next LOPP update, due in 2010, will provide updated information on all elements of the LOPP including the LOWCP P2TP and will provide estimated costs for plan implementation.

Cost:

Total TBD- costs will be estimated in future plan update

Project Schedule:

Start Date: 1999
 Finish Date: 2015

Detailed Project Budget Information (1000s)

	FY 1999-2004	2005	2006	2007	2008	Balance to complete	Total
Federal EPA							
*State SFWMD	\$41,850	\$14,400	25,000	\$35,439	54,000	TBD	TBD
**Other	\$52,522	\$9,844	8,331	\$14,195	30,336		
Total	\$94,372	\$24,244	\$33,331	\$49,634	84,336	TBD	TBD

Sources:

- * 2007 SFER; Vol. 1 Chapter 10, Lake Okeechobee Protection Program – State of the Lake and Watershed (Lake Okeechobee Program adopted budget - state appropriations)
- ** Lake Okeechobee Program adopted budget – non-state appropriations

Contact: Susan Gray (561) 682-6919

Goal 2 Project Sheets

**Restore, Preserve, and Protect
Natural Habitats and Species**



THIS PAGE INTENTIONALLY LEFT BLANK

Program Name: Land Acquisition
Project Name: Allapattah Flats
Project ID: 2100
Lead Agency: Department of Environmental Protection/South Florida Water Management District
Authority: Florida Forever/Save Our Rivers (SOR)

Strategic Plan Goal(s) Addressed: 2.A.1 Secondary: 1.A.1

Measurable Output(s): 40,363 Acres Acquired

Project Synopsis: The Allapattah Flats/Ranch project covers 40,363 acres in western Martin County. The site is dominated by poorly drained flatwoods soils, which are saturated for much of the wet season. Historically, this area was a flatwoods matrix, interspersed with depression marshes and wet prairies. With the exception of the four northern sections that drain to Canal-23, the entire site drains slowly to the southeast to the South Fork of the St. Lucie River. Over the past 30 years, the project area has undergone a change in land use from native range grazing to improved pasture, sod farms, and row crops. Most of the understory has been cleared and planted in non-native pasture grasses. Most of the depression marshes remain; however, most of the wet prairies have been drained and the extreme western boundary. There is good species diversity and many large trees remain.

Restoration of Allapattah Flats will play a key role in the effort to reduce flows from C-23 into the St. Lucie Estuary. Regional attenuation facilities, or Water Preserve Areas, are proposed which would store discharges into the St. Lucie Estuary. After acquisition, about 8,000 acres of the project adjacent to C-23 would be converted to a reservoir to provide approximately 32,000 acre-feet of water storage. Estimates indicate that this would reduce wet season stormwater flows into the estuary by 39%. It is estimated that an additional 14% reduction in discharge to the estuary could be achieved by not draining the property. Completely eliminating stormwater discharges is not possible; however, significant reductions could probably be made by blocking existing drainage ditches.

The Florida Fresh Water Fish and Wildlife Commission would be the lead manager for the non-reservoir areas. The District will take the lead on all hydrologic restoration efforts.

Cost: Total: Project size 40,363. 21,709 acres have been acquired at a cost of \$63,031,278
 Land Acquisition: 18,654 acres remain to be acquired.

Project Schedule:
 Start Date: 1997
 Finish Date: Upon completion

Detailed Project Budget Information (1000s)

	Thru 2008	2008	2009	Balance to complete	Total
State*	43,374.92				
Local	15,323.384				
Federal	4,332.974				
Total	63,031.278				TBD

*State expenditures may include local government contributions on CARL, Florida Forever, FCT and SOR projects.

Contact: John Outland (850) 245-2089

Program Name: Land Acquisition
Project Name: Atlantic Ridge Ecosystem
Project ID: 2101
Lead Agency: Florida Department of Environmental Protection/South Florida Water Management District
Authority: Florida Forever/Save Our Rivers (SOR)

Strategic Plan Goal(s) Addressed: 2.A.1

Measurable Output(s): 16,002 Acres Acquired

Project Synopsis: The project area is located in southern Martin County, between I-95 and U.S. 1. The project area includes approximately 16,002 acres, which is extremely diverse ecologically. It contains large areas of forested sloughs and high quality flatwoods, as well as one of the largest remaining islands of coastal scrub. The current land use is mostly cattle grazing on unimproved pasture with intense agriculture and residential development occurring around the edges of the project area. However, the project also contains extensive wetland and upland systems. Currently, none of this project is in public ownership.

The purpose of this project is to conserve and protect the high quality habitats and to protect water quality of the South Fork of the St. Lucie River and the North Fork of the Loxahatchee River. The project area forms the headwaters to these rivers and the extensive wetland systems provide a source of groundwater base flow to both rivers. This project will conserve and protect significant habitat for endangered and threatened species such as the Florida scrub jay, the Florida sandhill crane, and the Florida scrub lizard. The area is extremely important for aquifer recharge and water supply to the coastal portion of Martin County.

Cost: Total: Project size 16,002. 5,910 acres have been acquired at a cost of \$41,897,324
 Project Development
 Land Acquisition: 10,092 acres remaining to be acquired
 Implementation
 Operations and Maintenance

247.34 acres plus 100 acres of the Atlantic Ridge Ecosystem and South Fork of the St. Lucie projects respectively, are currently being managed as part of Halpatiokee Park (Martin County).

Project Schedule:

Start Date: 1995
 Finish Date: Upon completion

Detailed Project Budget Information (1000s)

	Thru 2008	2009	Balance to complete	Total
State*	35,394			
Local	6,503			
Total	41,897			TBD

*State expenditures may include local government contributions on CARL, Florida Forever, FCT and SOR projects.

Contact: John Outland (850) 245-2089

Program Name: Land Acquisition
Project Name: Belle Meade
Project ID: 2104
Lead Agency: Florida Forever
Authority: CARL Program

Strategic Plan Goal(s) Addressed: 2.A.1

Measurable Output(s): 28,506 Acres acquired

Project Synopsis: This area of 28,506 acres includes some of the most extensive examples of mature old-growth hydric pine flatwoods in southwest Florida not within other CARL projects. The hydrology of the hydric pine flatwoods and dwarf cypress communities within the project is relatively intact. Three archaeological sites have been recorded within the project boundaries, and additional sites may be present. The area is vulnerable to changes in the timing and amount of water flowing through it. Residential and commercial development spreading from Naples threatens it.

Cost: Total: Project size 28,506 acres. 18,238 acres have been acquired at a cost of \$39,412,158 million
 Project Development
 Land Acquisition: 10,268 acres remaining to be acquired.
 Implementation
 Operations and maintenance

Project Schedule:

Start Date: 1993
 Finish Date: Upon completion

Detailed Project Budget Information (1000s)

	Thru 2008	2009	2010	Balance to complete	Total
Federal					
State*	39,412				
Tribal					
Local					
Other					
Total	39,412				TBD

*State expenditures may include local government contributions on CARL, Florida Forever, FCT and SOR projects.

Contact: John Outland (850) 245-2089

Program Name: Land Acquisition
Project Name: Big Bend Swamp/Holopaw Ranch
Project ID: 2105
Lead Agency: Florida Department of Environmental Protection
Authority: Florida Forever

Strategic Plan Goal(s) Addressed: 2.A.1

Measurable Output(s): 59,656 Acres acquired

Project Synopsis: Many kinds of wildlife in the expanses of palmetto prairies, pine flatwoods, and cypress swamps in Osceola County. The Big Bend Swamp project will acquire certain rights from landowners to maintain a link of natural lands between the Bull Creek and Three Lakes Wildlife Management Area, and help the ensure survival of caracara, red-cockaded woodpeckers, sandhill cranes, and other wildlife that require these large natural areas.

Cost: Total: Project size is 59,656** acres. 4,151 acres have been acquired at a cost of \$6,829,000.
 Project Development
 Land Acquisition: 55,505 acres remaining to be acquired.
 Implementation
 Operations and maintenance

Project Schedule:

Start Date: 2000
 Finish Date: TBD

Detailed Project Budget Information (1000s)

	Thru 2008	2009	2010	Balance to complete	Total
Federal					
State*	6,829				TBD
Tribal					
Local					
Other					
Total	6,829				TBD

**State expenditures may include local government contributions on CARL, Florida Forever, FCT and SOR projects.*

***This project is not entirely within SFWMD; the numbers here are that portion of the project within the SFWMD. Expenditures are pro-rated for that portion of the project.*

Contact: John Outland (850) 245-2089

Program Name: Land Acquisition
Project Name: Biscayne Coastal Wetlands
Project ID: 2106
Lead Agency: South Florida Water Management District, Miami-Dade County and Florida Communities Trust
Authority: Florida Forever/Save Our Rivers (SOR)

Strategic Plan Goal(s) Addressed: 2.A.1

Measurable Output(s): Target 2,026 Acres

Project Synopsis: The Biscayne Coastal Wetlands are divided into three units that total 2,241 acres. The units lie east of L-31E canal, and adjacent to other protected lands acquired as part of Biscayne National Park and Homestead Bayfront Park. All are a mixture of red, black and white mangroves. The three units appear to be in good condition and relatively exotic-free, except along the western edge and along mosquito ditches, where there are Brazilian Pepper and Australian Pine. Acquisition of these areas would add another layer of protection to Biscayne National Park and provide opportunities for a better distribution of fresh water from L-31E. Some of the properties in this land acquisition project are necessary for the Biscayne Bay Coastal Wetlands-Phase 1, CERP Project.

Cost: Total: Project size is 2,026 acres. 1,190 acres acquired at a cost of \$7,238,714
 Project Development
 Land Acquisition: 836 acres remaining to be acquired.
 Implementation
 Operations and maintenance

Project Schedule:

Start Date: 1998
 Finish Date: TBD

Detailed Project Budget Information (1000s)

	Through 2008	2009	2010	Balance to Complete	Total*
Federal					
State*	5,460.5				
Tribal					
Local	1,778.2				
Other					
Total	7,238.7				

*State expenditures may include local government contributions on CARL, Florida Forever, FCT and SOR projects.

Contact: Wanda Caffie-Simpson, (561) 682-6445

Additional information available at www.sfwmd.gov under the heading "Major Projects"

Program Name: Land Acquisition
Project Name: Bombing Range Ridge
Project ID: 2107
Lead Agency: Florida Department of Environmental Protection
Authority: Florida Forever

Strategic Plan Goal(s) Addressed: 2.A.1

Measurable Output(s): 44,439 Acres acquired

Project Synopsis: Public acquisition of the 44,439 acre Bombing Range Ridge project will conserve and protect significant habitat for native species and endangered and threatened species. Additionally, public acquisition will provide areas, including recreational trails for natural resource based recreation.

Cost: Total: Project size 44,439 with 6,357 acquired at a cost of \$15,003,388.
 Project Development
 Land Acquisition: 38,082 acres remaining to be acquired
 Implementation
 Operations and maintenance

Project Schedule:
 Start Date: 1998
 Finish Date: Upon completion

Detailed Project Budget Information (1000s)

	Thru 2008	2009	2010	Balance to complete	Total
Federal					
State*	15,003				
Tribal					
Local					
Other					
Total	15,003				TBD

**State expenditures may include local government contributions on CARL, Florida Forever, FCT and SOR projects.*

Contact: John Outland (850) 245-2089

Program Name: Land Acquisition
Project Name: Caloosahatchee Ecoscape
Project ID: 2108
Lead Agency: Florida Department of Environmental Protection
Authority: Florida Forever

Strategic Plan Goal(s) Addressed: 2.A.1

Measurable Output(s): 18,497 acres acquired

Project Synopsis: The project encompasses a mosaic of wet prairie, cypress basin and dome swamp, mesic flatwoods, wet flatwoods, depressional marshes and scrub. Clearing and drainage from improved pasture development or farming have impacted the majority of the natural communities on the site. Despite the disturbed plant communities, the project provides important habitat for a variety of listed wildlife species. Most of the land is within the Barron Water Control District and canals have altered the natural hydrology to the extent that no significant natural water resources remain. Eleven archaeological sites are known from the project area; some with material dated to the archaic period.

Cost: Total: Project size 18,497 acres. 3,180 acres acquired at a cost of \$1,948,038
 Project Development
 Land Acquisition: 15,317 acres remaining to be acquired
 Implementation
 Operations and maintenance

Project Schedule:
 Start Date: 1998
 Finish Date: Upon completion

Detailed Project Budget Information (1000s)

	Thru 2008	2009	2010	Balance to complete	Total
Federal					
State*	\$1,948				
Tribal					
Local					
Other					
Total	1,948				TBD

**State expenditures may include local government contributions on CARL, Florida Forever, FCT and SOR projects.*

Contact: John Outland (850) 245-2089

Project Name: Catfish Creek
Project ID: 2109
Lead Agency: Florida Department of Environmental Protection
Authority: Florida Forever

Strategic Plan Goal(s) Addressed: 2.A.1

Measurable Output(s): 19,029 Acres acquired

Project Synopsis: Catfish Creek is a diverse natural area extending over high scrub ridges, interspersed with lakes, next to the pristine shore of Lake Pierce. Natural communities include sandhill, scrub, scrubby flatwoods, mesic flatwoods, xeric hammock, bottomland hardwood forest, basin swamp, sandhill upland lake, wet flatwoods, blackwater stream, seepage slopes, and floodplain swamp, all are in excellent condition. The tract harbors at least 18 state listed rare plant and animal species. Rare or endangered animals include the bald eagle, wood stork, gopher tortoise, and scrub jay.

Cost: Total: Project size 19,029 acres. 10,184 acres have been acquired at a cost of \$47,444,266
 Project Development
 Land Acquisition: 8,845 acres remain to be acquired.
 Implementation
 Operations and maintenance

Project Schedule:
 Start Date: 1990
 Finish Date: Upon completion

Detailed Project Budget Information (1000s)

	Thru 2008	2009	2010	Balance to complete	Total
Federal					
State*	\$47,444				
Tribal					
Local					
Other					
Total	\$47,444				TBD

**State expenditures may include local government contributions on CARL, Florida Forever, FCT and SOR projects.*

Contact: John Outland (850) 245-2089

Program Name: Land Acquisition
Project Name: Charlotte Harbor Estuary/Flatwoods/Cape Haze
Project ID: 2111
Lead Agency: Florida Department of Environmental Protection
Authority: Florida Forever

Strategic Plan Goal(s) Addressed: 2.A.1

Measurable Output(s): 14,990 Acres acquired

Project Synopsis: The project area, located northwest of Fort Myers in Charlotte and Lee Counties, includes 14,990 acres containing the largest and highest quality slash-pine flatwoods left in Southwest Florida. The area contains pockets of old growth that provide habitat for red-cockaded woodpeckers, black bears, and bald eagles, and an occasional Florida panther ranges in the area. Additionally, the tract provides habitat for rare plant communities. Several drainages flow through these flatwoods into the Charlotte Harbor Aquatic Preserve.

Cost: Total: Project size 14,990**. 10,631 acres acquired at a cost of \$17,781,504
 Project Development
 Land Acquisition: 4,359 acres remaining to be acquired
 Implementation
 Operations and maintenance

Project Schedule:
 Start Date: 1986
 Finish Date: Upon completion

Detailed Project Budget Information (\$1000s)

	Thru 2008	2009	2010	Balance to complete	Total
Federal					
State*	17,174				
Tribal					
Local	607				
Other					
Total	17,781				TBD

*State expenditures may include local government contributions on CARL, Florida Forever, FCT and SOR projects.

**This project is not entirely within SFWMD; the numbers here are that portion of the project within the SFWMD. Expenditures are pro-rated for that portion of the project.

Contact: John Outland (850) 245-2089

Program Name: Land Acquisition
Project Name: Corkscrew Regional Ecosystem Watershed (CREW)
Project ID: 2112
Lead Agency: Florida Department of Environmental Protection/South Florida Water Mgmt District
Authority: Florida Forever/Save Our Rivers (SOR)

Strategic Plan Goal(s) Addressed: 2.A.1

Measurable Output(s): Target 69,500 Acres

Project Synopsis: CREW covers 69,500 acres in Lee and Collier counties and is located at the top of the western Big Cypress watershed. It conveys surface water to private, state, and federally protected natural areas, including Corkscrew Swamp Sanctuary, Florida Panther National Wildlife Refuge, and the Everglades National Park. The area supports populations of at least two species of rare and endangered orchids and includes an unusual stand of dwarf bald cypress. Land management will be carried out the SFWMD and the Florida Fish and Wildlife Commission under contract with the SFWMD.

Hydrologic restoration of CREW will restore and protect important habitat for the Florida panther and black bear and will protect the quality of water delivered to Corkscrew Swamp Sanctuary, Florida Panther National Wildlife Refuge, ENP, and Estero Bay. NOTE: Lee County has agreed to cost share this project by purchasing properties equaling the \$10,000,000 appropriated. These properties have been turned over to SFWMD for management.

Cost: Total: Project size is 69,500** acres of which 27,460 have been acquired for a cost of \$45,312,713.
 Project Development
 Land Acquisition: 42,040 acres remaining to be acquired.
 Implementation
 Operations and maintenance

Project Schedule:

Start Date: 1991
 Finish Date: Upon completion

Detailed Project Budget Information (\$1000s)

	Thru 2008	2009	2010	Balance to complete	Total
Federal	5,410.8				
State*	39,374.3				
Tribal					
Local	527.5				
Other					
Total	45,312.7				

*State expenditures may include local government contributions on CARL, Florida Forever, FCT and SOR projects.

**This total includes Critical CREW project lands.

Contact: John Outland (850) 245-2089

Program Name: Land Acquisition
Project Name: Coupon Bight/Key Deer/Big Pine Key
Project ID: 2114
Lead Agency: Florida Department of Environmental Protection
Authority: CARL Program

Strategic Plan Goal(s) Addressed: 2.A.1

Measurable Output(s): 4,014 Acres acquired

Project Synopsis: The project encompasses virtually all of the undeveloped land between the Coupon Bight Aquatic Preserve and the National Key Deer Refuge on Big Pine Key. It includes the only significant sources of freshwater in the lower Keys which are critical to the survival of the endangered Key Deer. The Pine Rocklands are the best remaining anywhere. The project is habitat for 24 FNAI special plant species and 41 FNAI listed animal species.

Cost: Total: Project size 4,014 acres. 1,558 acres have been acquired at a cost of \$30,650,827
 Project Development
 Land Acquisition: 2,456 acres remaining to be acquired
 Implementation
 Operations and maintenance

Project Schedule:
 Start Date: 1985
 Finish Date: Upon completion

Detailed Project Budget Information(\$1000s)

	Thru 2008	2009	2010	Balance to complete	Total
Federal					
State*	30,650.8				
Tribal					
Local					
Other					
Total	30,650.8				TBD

**State expenditures may include local government contributions on CARL, Florida Forever, FCT and SOR projects.*

Contact: John Outland (850) 245-2089

Program Name: Restoration Program: Habitat and Species
Project Name: Cypress Creek/Loxahatchee
Project ID: 2172
Lead Agency: South Florida Water Management District
Authority: Florida Forever/Save Our Rivers (SOR)

Strategic Plan Goal(s) Addressed: 2.A.1

Measurable Output(s): Target 4,374 Acres

Project Synopsis: Cypress Creek/Loxahatchee project is located in southern Martin and northern Palm Beach Counties, near lands recently acquired in Pal-Mar, and adjacent to Jonathan Dickinson State Park. It is a mixture of land uses and community types. Nearly 3,000 acres are mostly undisturbed natural area, containing a mixture of pine flatwoods, cypress swamps, depression marshes, and wet prairies. This area forms the headwaters of Cypress Creek, which drains to the Northwest Fork of the Loxahatchee River. The remainder of the site is cleared and drained for intense agriculture, including row crops and citrus.

Cost: Total: Project size is 4,374 acres of which 4,180 has been acquired at a cost of \$76,992,058
 Project Development
 Land Acquisition: 194 acres remaining to be acquired.
 Implementation
 Operations and maintenance

Project Schedule:

Start Date: November 2002
 Finish Date: Until completed

Detailed Project Budget Information (\$1000s)

	Through 2005	2006	Balance to Complete	Total
Federal				
State**	35,407.6			
Tribal				
Local	41,584.4			
Other				
Total	76,992			TBD

*State expenditures may include local government contributions on CARL, Florida Forever, FCT and SOR projects.

Additional information available at www.sfwmd.gov under the heading "Major Projects"

Contact: Wanda Caffie-Simpson, (561) 682-6445

Program Name: Land Acquisition
Project Name: Cypress Creek/Trail Ridge Land Acquisition
Project ID: 2115
Lead Agency: South Florida Water Management District
Authority: Florida Forever/Save Our Rivers (SOR)

Strategic Plan Goal(s) Addressed: 2.A.1

Measurable Output(s): Target 31,999 Acres

Project Synopsis: Cypress Creek/Trail Ridge is in southwestern St. Lucie County. The project gets its name from a large forested wetland system that once extended along the entire eastern edge of the Orlando Ridge south of Indian River County, through Allapattah Flats, and drained into the South Fork St. Lucie River. The Cypress Creek portion is also a CARL project.

Cost: Total: Project size is 31,999 acres of which 3,285 have been acquired at a cost of \$23,760,859
 Land Acquisition: 28,714 acres remaining to be acquired.
 Implementation
 Operations and maintenance

Project Schedule:

Start Date: 1997
 Finish Date: Upon Completion

Detailed Project Budget Information (1000s)

	Thru 2007	2008	2009	Balance to Complete	Total
Federal					
State*	22,040.5				
Tribal					
Local	1,720.3				
Other					
Total	23,760.8				TBD

*State expenditures may include local government contributions on CARL, Florida Forever, FCT and SOR projects.

Additional information available at www.sfwmd.gov under the heading "Major Projects"

Contact: Wanda Caffie-Simpson, (561) 682-6445

Program Name: Land Acquisition
Project Name: Devil's Garden
Project ID: 2183
Lead Agency: Florida Department of Environmental Protection
Authority: Florida Forever

Strategic Plan Goal(s) Addressed: 2.A.1

Measurable Output(s): 82,508 acres acquired

Project Synopsis: The Devil's Garden project is located in Hendry and Collier Counties, and is approximately 82,508 acres. This vast project is being proposed to fill a gap in a corridor that will provide a large landscape for the federally endangered Florida panther. There are numerous records of panther use of the property for several years as well as numerous other rare and threatened plants and animals.

Cost: Total: 82,508 acres needed.
 Project Development:
 Land Acquisition: 82,508 acres remaining to be acquired
 Implementation
 Operations and maintenance

Project Schedule:
 Start Date: 2002
 Finish Date: When completed

Detailed Project Budget Information (\$1000s)

	Thru 2008	2009	2010	Balance to complete	Total
Federal					
State	0				
Tribal					
Local					
Other					
Total	0				TBD

Contact: John Outland (850) 245-2089

Program Name: Land Acquisition
Project Name: East Coast Buffer- Natural Lands
Project ID: 2117
Lead Agency: Florida Department of Environmental Protection/South Florida Water Management District/U.S. Department of the Interior
Authority: Florida Forever/Save Our Rivers (SOR)

Strategic Plan Goal(s) Addressed:2.A.1

Measurable Output(s): Target 49,643 Acres

Project Synopsis: The East Coast Buffer/Water Preserve Areas project involves acquisition of land located along the eastern side of the Everglades Protection Area in western Palm Beach, Broward, and Miami-Dade Counties. Most of the lands in this project area are undeveloped and include a considerable amount of wetland habitat. Current land uses include very low intensity development, pastureland, and limestone mining. The original East Coast Buffer footprint was based on a land suitability analysis which selected lands primarily on the basis of those needed for controlling seepage from the Everglades.

In addition, these lands are needed to implements several components of the Everglades Restoration Plan developed under the C&SF Project Comprehensive Review Study (CERP). The overall purposes of the CERP projects are to: (1) hold more water in the system by controlling seepage from the Everglades; (2) capture, store, and clean up excess stormwater currently lost to tide; (3) provide a buffer between the urban area and the Everglades; and (4) protect and conserve wetlands and habitat values outside the remaining Everglades. Restoration benefits include improved water supply for restoring hydropatterns of the Everglades, improved water quality and preservation of wetland habitat.

The project acres under the Florida Forever/SOR program are directed toward the purchase of natural lands acquired for their conservation, preservation value --high quality flood plains, wetlands and uplands that continue providing recreation, water resource protection, and wildlife habitat for future generations. Acres used or to be used for construction of facilities, such as STAs, reservoirs, and impoundments for Critical Restoration Projects (CRP) and Comprehensive Everglades Restoration Plan (CERP) initiatives have been removed from the Natural Lands project boundary.

Cost: Total: Project size is 49,643 acres of which 14,737 have been acquired at a cost of \$142,460,890
 Land Acquisition: 34,906 acres remaining to be acquired.

Project Schedule:

Start Date: 1994
 Finish Date: Upon completion

Detailed Project Budget Information (\$1000s)

	Thru 2008	2009	2010	Balance to complete	Total
Federal	14,532.4				
State*	123,064.5				
Local	4,863.9				
Total	142,460.9				TBD

This project is no longer on the Florida Forever –BOT list (66,809 acres). The total federal grant for the East Coast Buffer/Water Preserve Area was \$72,614,143.

**State expenditures may include local government contributions on CARL, Florida Forever, FCT and SOR projects.*

Contact: John Outland (850) 245-2089

Program Name: Land Acquisition
Project Name: Estero Bay
Project ID: 2118
Lead Agency: Florida Department of Environmental Protection
Authority: Florida Forever

Strategic Plan Goal(s) Addressed: 2.A.1

Measurable Output(s): 14,378 Acres acquired

Project Synopsis: Much of the Estero Bay Project is comprised of wetlands fronting Estero Bay (mangrove swamp, salt marsh, and salt flats). These communities provide nutrients to the Bay, contributing substantially to its biological productivity. The Bay, one of the most productive estuaries in the State, supports a diversity of wildlife, including the federally endangered bald eagle. These communities provide an important nutrient for the Bay, thus contributing to biological productivity. The wetlands are in a natural condition and help maintain high quality of water in the Estero Bay Aquatic Preserve. The project also includes the largest remaining block of rosemary scrub in southwest Florida. Several archaeological sites attributed to the Calusa Indians and their prehistoric ancestors are known to be within the project area. The project is threatened by the rapid residential development in the area.

Cost: Total: Project size 14,378 acres. 9,149 acres have been acquired at a cost of \$ 59,220,290.
 Project Development
 Land Acquisition: 5,229 acres to be acquired
 Implementation
 Operations and maintenance

Project Schedule:
 Start Date: 1985
 Finish Date: Upon completion

Detailed Project Budget Information (1000s)

	Thru 2008	2009	2010	Balance to complete	Total
Federal					
State*	51,970				
Tribal					
Local	7,250				
Other					
Total	59,220				TBD

*State expenditures may include local government contributions on CARL, Florida Forever, FCT and SOR projects.

Contact: John Outland (850) 245-2089

Program Name: Land Acquisition
Project Name Fakahatchee Strand
Project ID: 2120
Lead Agency: Florida Department of Environmental Protection
Authority: Florida Forever

Strategic Plan Goal(s) Addressed: 2.A.1

Measurable Output(s): 80,332 Acres acquired

Project Synopsis: Fakahatchee Strand is located in Collier County. Of the subtropical swamps in South Florida, Fakahatchee Strand is perhaps the most significant, being the richest in orchids and other rare tropical plants. It is the most critical to the survival of the Florida panther, and the most important for the mangrove swamps of the Ten Thousand Islands. The project area is probably the best example of the strand swamp found in the United States. It is linked hydrologically to the Everglades system and is important to the estuarine ecosystem of the Ten Thousand Islands.

Cost: Total: Project size 80,332. 61,054 acres have been acquired at a cost of \$24,894,138
 Project Development
 Land Acquisition: 19,278 acres remaining to be acquired
 Implementation
 Operations and maintenance

Project Schedule:
 Start Date: 1980
 Finish Date: Upon completion

Detailed Project Budget Information (\$1000s)

	Thru 2008	2009	Balance to complete	Total
Federal				
State*	24,894			
Tribal				
Local				
Other				
Total	24,894			TBD

**State expenditures may include local government contributions on CARL, Florida Forever, FCT and SOR projects.*

Contact: John Outland (850) 245-2089

Project Name: Fisheating Creek Ecosystem
Project ID: 2121
Lead Agency: Department of Environmental Protection
Authority: Florida Forever

Strategic Plan Goal(s) Addressed: 2.A.1

Measurable Output(s): 176,876 Acres Acquired

Project Synopsis: Fisheating Creek, the only free-flowing tributary to Lake Okeechobee, is an extensive riverine swamp flowing through Glades County and emptying into the Lake. The total project area is 176,876 acres. Currently, none of this acreage is in public ownership. The project area contains relatively undisturbed upland and wetland habitats that serve as habitat for the endangered Florida Panther and a number of threatened species, including the Florida black bear, the bald eagle, the Florida scrub jay, and the Florida sandhill crane. The federally listed wood stork and state listed white ibis are known to use the area.

This acquisition will preserve the water quality and critical habitat of this large watershed. Additionally, the acquisition will provide both hydrologic and water quality benefits for Lake Okeechobee, located downstream. When states in Lake Okeechobee are high, Fisheating Creek serves as an important feeding area for wading birds, which typically use the lake marshes. Restoration requirements would be minimal if any, as most of the property remains in a natural state.

Cost: Total: Project size 176,876 acres. 59,910 acres have been acquired at a cost of \$101,928,563
 Project Development
 Land Acquisition: 116,966 remaining to be acquired
 Implementation
 Operations and Maintenance

Project Schedule:

Start Date: 1999
 Finish Date: Upon completion

Detailed Project Budget Information (1000s)

	Thru 2008	2009	2010	Balance to complete	Total
Federal					
State*	\$101,928.5				
Tribal					
Local					
Other					
Total	\$101,528.5				TBD

**State expenditures may include local government contributions on CARL, Florida Forever, FCT and SOR projects. Breakdown of Fisheating Creek total acres acquired is 59,910.07 - 9,879.80 fee, 50,030.27 conservation easement*

Contact: John Outland, (850) 245-2089

Project Name: Florida Keys Ecosystem
Project ID: 2122
Lead Agency: Florida Department of Environmental Protection
Authority: Florida Forever

Strategic Plan Goal(s) Addressed: 2.A.1

Measurable Output(s): 15,336 Acres acquired

Project Synopsis: This project, in conjunction with the Complete National Key Deer Refuge proposal, includes the remaining 15,336 acres of tropical hardwood hammocks and pine rocklands of significant size and quality remaining in the Florida Keys from southern Key Largo to Sugarloaf Key.

Cost: Total: Project size 15,336 acres. 2,760 acres have been acquired at a cost of \$94,623,804.
 Project Development
 Land Acquisition: 12,576 acres remaining to be acquired
 Implementation
 Operations and maintenance

Project Schedule:
 Start Date: 1992
 Finish Date: Upon completion

Detailed Project Budget Information (1000s)

	Thru 2008	2009	2010	Balance to complete	Total
Federal					
State*	94,623.8				
Tribal					
Local					
Other					
Total	94,623.8				TBD

*State expenditures may include local government contributions on CARL, Florida Forever, FCT and SOR projects.

Contact: John Outland (850) 245-2089

Program Name: Land Acquisition
Project Name: Half Circle L Ranch
Project ID: 2185
Lead Agency: Florida Department of Environmental Protection
Authority: Florida Forever

Strategic Plan Goal(s) Addressed: 2.A.1.

Measurable Output(s): 11,269 Acres acquired

Project Synopsis: Located in Collier & Hendry Counties the project is approximately 11,269 acres. There are two owners and sponsored by Turrell and Associates. The project is proposed for fee simple acquisition. FNAI ranks the biological conservation priority for the project as medium high. The project is located within primary habitat zones for the Florida panther and the Florida Black bear, and compliments ongoing conservation efforts in the region.

Cost: Total: 11,269 acres needed.
 Project Development:
 Land Acquisition: 11,269 acres remaining to be acquired.
 Implementation
 Operations and maintenance

Project Schedule:
 Start Date: 2003
 Finish Date: when completed

Detailed Project Budget Information (1000s)

	2008	2009	2010	Balance to complete	Total
Federal					
State	0				
Tribal					
Local					
Other					
Total	0				TBD

Contact: John Outland (850) 245-2089

Program Name: Land Acquisition

Project Name: Indian River Lagoon Blueway**

Project ID: 2124

Lead Agency: Department of Environmental Protection and South Florida Water Management District

Authority: Florida Forever/Save Our Rivers (SOR)

Strategic Plan Goal(s) Addressed: 2.A.1

Measurable Output(s): 1,385 Acres Acquired

Project Synopsis: This project consists of wetlands, dominated by red and black mangroves, with a few freshwater wetlands.

This acquisition is part of a larger effort by several counties in both the SFWMD and St. Johns River WMD to protect, preserve and restore the Indian River Lagoon. These lands represent the only two undeveloped parcels along the Indian River in St. Lucie County that are not in public ownership. Mosquito control impoundments are present on both tracts. Public ownership of these parcels would allow installation of operable water control structures that allow flushing of the mosquito control impoundments during most of the year. This flushing will provide an important source of mangrove detrital matter, which is critical to the health of the estuary. Public ownership will also prevent aerial applications of chemical pesticides for mosquito control.

In 1997, protection was expanded to include lands in Martin County as well.

Cost: Total: Project size 1,385 acres. 750 acres have been acquired by the state at a cost of \$17,846,530
 Project Development
 Land Acquisition: 635 acres remaining to be acquired
 Implementation
 Operations and Maintenance

Project Schedule:

Start Date: 1998

Finish Date: Upon completion

Detailed Project Budget Information (\$1000s)

	Thru 2008	2009	2010	Balance to complete	Total
Federal	\$3,333				
State*	\$11,615				
Tribal					
Local	\$2,898				
Other					
Total	\$17,846				TBD

*State expenditures may include local government contributions on CARL, Florida Forever, FCT and SOR projects.

**This project is not entirely within SFWMD; the numbers here are that portion of the project within the SFWMD. Expenditures are pro-rated for that portion of the project.

Contact: Wanda Caffie-Simpson, (561) 682-6445

Project name: Juno Hills/Dunes
Project ID: 2125
Lead Agency: Florida Department of Environmental Protection
Authority: Florida Forever

Strategic Plan Goal(s) Addressed: 2.A.1

Measurable Output(s): 590 Acres acquired

Project Synopsis: This 590-acre site in Palm Beach County contains one of the largest and best remaining examples of the now rare coastal scrub. The extremely rare four-petal pawpaw, known only from a few sites in the Southeast Florida coastal scrub, and at least three other rare species of scrub plants occur in the Juno Hills project. Such rare animals as the scrub jay, scrub lizard, gopher tortoise, and red widow spider also inhabit the scrub here. Endangered sea turtles nest on the Atlantic beach/dune portion of the property. A remnant portion of coastal hammock is located west of the dune system. Scrubby slash pine flatwoods, disturbed basin swamps, and estuarine tidal swamps cover parts of the project area.

Cost: Total: Project size 590 acres. 576 acres have been acquired at a cost of \$41,892,718
 Project Development
 Land Acquisition: 14 acres remaining to be acquired
 Implementation
 Operations and maintenance

Project Schedule:
 Start Date: 1994
 Finish Date: Upon completion

Detailed Project Budget Information (\$1000s)

	Thru 2008	2009	2010	2011	Balance to complete	Total
Federal						
State*	15,023					
Tribal						
Local	26,869					
Other						
Total	41,892					TBD

*State expenditures may include local government contributions on CARL, Florida Forever, FCT and SOR projects.

Contact: John Outland (850) 245-2089

Program Name: Land Acquisition
Project Name: Jupiter Ridge
Project ID: 2176
Lead Agency: Florida Department of Environmental Protection
Authority: Florida Forever

Strategic Plan Goal(s) Addressed: 2.A.1

Measurable Output(s): 287 Acres acquired

Project Synopsis: The Jupiter Ridge Natural Area is one of the best remaining examples of the Florida Scrub ecosystem in Palm Beach County. Less than 2% of the historic Florida scrub still exists in the county, making preservation of this endangered natural community extremely important. This 287-acre natural area is located in the Town of Jupiter. It is bordered on the north by commercial development, on the east by U.S. Highway 1, on the west by the Intracoastal Waterway, and on the south by the Bluffs residential development. Small areas of scrubby flatwoods, mangrove swamp and freshwater wetland ecosystems also are present. These diverse habitats support many threatened and endangered species.

Cost: Total: Project size is 287 acres of which 271 has been acquired for a cost of \$23,099,950

Project Development
 Land Acquisition: 16 acres remaining to be acquired.
 Implementation
 Operations and maintenance

Project Schedule: On-going
 Start Date: 1991
 Finish Date: TBD.

Detailed Project Budget Information (\$1000s)

	Thru 2008	2009	2010	Balance to complete	Total
Federal					
State*	\$11,047				\$11,047
Tribal					
Local	\$12,052				\$12,052
Other					
Total	\$23,099				TBD

**State expenditures may include local government contributions on CARL, Florida Forever, FCT and SOR projects.*

Contact: John Outland (850) 245-2089

Program Name: Land Acquisition
Project name: Kissimmee-St. Johns Connector**
Project ID: 2126
Lead Agency: Florida Department of Environmental Protection
Authority: Florida Forever Program

Strategic Plan Goal(s) Addressed: 2.A.1

Measurable Output(s): 9,463 Acres acquired

Project Synopsis: Encompassing the watersheds of the Kissimmee and St. Johns Rivers, the Kissimmee-St. Johns Connector project will provide an approximately 9,463 acre hydrological and habitat connection. Though most of the area has been farmed and ranched for years many of the natural communities are in fair condition. Portions of the project provide habitat for Florida sandhill crane, crested caracara, hard ferns and numerous other plants and animals. The project is proposed primarily as a less-than-fee simple acquisition.

The project lies in northeastern Okeechobee and southwestern Indian River counties. It is contiguous with the Ordway-Whittell Kissimmee Prairie Sanctuary (OWKPS) to the west and the Fort Drum Marsh Conservation Area to the east. Kissimmee Prairie Preserve State Park lies immediately to the west of the OWKPS.

Cost: Total: The project consists of approximately 9,463 acres.
 Project Development
 Land Acquisition: 9,463 acres remaining to be acquired.
 Implementation
 Operations and maintenance

Project Schedule:
 Start Date: 2001
 End Date: TBD

Detailed Project Budget Information (\$1000)

	Thru 2008	2009	2010	Balance to complete	Total
Federal					
State					
Total	\$0				TBD

***This project is not entirely within SFWMD; the numbers here are that portion of the project within the SFWMD. Expenditures are pro-rated for that portion of the project.*

Contact: John Outland (850) 245-2089

Program Name: Restoration Program: Hydrological Restoration
Project Name: Kissimmee River (Lower Basin) Land Acquisition
Project ID: 2127
Lead Agency: South Florida Water Management District
Authority: Florida Forever/Save Our Rivers (SOR)

Strategic Plan Goal(s) Addressed: 2.A.1

Measurable Output(s): Target 75,617 Acres

Project Synopsis: The Lower Basin project includes those lands in the historic river floodplain and along the C-38 canal in Pools B, C and D; Pool A, Chandler Slough, and Istokpoga Canal Basin; all of which are components of the Kissimmee River Restoration Project.

Cost: Total: Project size is 75,617 acres of which 71,642 acres have been acquired for a cost of \$181,530,258.
 Project Development
 Land Acquisition: 3,975 acres remaining to be acquired.
 Implementation
 Operations and maintenance

Project Schedule:

Start Date: 1985
 Finish Date: TBD

Detailed Project Budget Information (1000s)

	Thru 2008	2009	2010	Balance to complete	Total*
Federal					
State**	181,530				
Tribal					
Local					
Other					
Total	181,530				TBD

*Total includes lands for several components of the Kissimmee River Restoration project.

**State expenditures may include local government contributions on CARL, Florida Forever, FCT and SOR projects.

Contact: Wanda Caffie-Simpson, (561) 682-6445

Program Name: Restoration Program: Hydrological Restoration
Project Name: Kissimmee River (Upper Basin) Land Acquisition (a/k/a Kissimmee Chain of Lakes)
Project ID: 2128
Lead Agency: South Florida Water Management District
Authority: Florida Forever/Save Our Rivers (SOR)

Strategic Plan Goal(s) Addressed: Getting the Water Right

Measurable Output(s): Target 38,273 Acres

Project Synopsis: In the early 1990s it was determined that not enough water would be available in the upper chain of lakes to provide year round base flow for the restored Kissimmee River. As a result the scope of the Kissimmee River Restoration project includes the acquisition of land around the shoreline of the Kissimmee Chain of Lakes between elevations 52.5' and 54.0'. This land is needed to support the KRR Headwaters Revitalization Regulation Schedule, which will raise the seasonal high stage in Lakes Kissimmee, Hatchineha and Cypress 1.5' to 54.0' NGVD. This project is completed.

Cost: Total: Project size is 38,273 acres of which 35,831 has been acquired for a cost of \$100,011,311
 Project Development
 Land Acquisition: 2,442 acres remaining to be acquired.
 Implementation
 Operations and maintenance

Project Schedule:

Start Date: 1990
 Finish Date: TBD

Detailed Project Budget Information(\$1000s)

	Thru 2008	2009	2010	Balance to complete	Total*
Federal					
State**	100,011				100,011
Tribal					
Local					
Other					
Total	100,011				TBD

*The total includes Kissimmee River Restoration Project Lands.

**State expenditures may include local government contributions on CARL, Florida Forever, FCT and SOR projects.

Additional information available at www.sfwmd.gov under the heading "Major Projects"

Contact: Wanda Caffie-Simpson, (561) 682-6445

Program Name: Land Acquisition
Project name: Lake Wales Ridge Ecosystem**
Project ID: 2129
Lead Agency: Florida Department of Environmental Protection
Authority: Florida Forever

Strategic Plan Goal(s) Addressed: 2.A.1

Measurable Output(s): 16,455 Acres acquired

Project Synopsis: The proposed refuge was authorized in November 1992 and would comprise 13,848 acres in Osceola and Polk Counties. The area forms the headwaters boundary between the Kissimmee River basin and the Peace River basin. It is the oldest terrestrial ecosystem in the southeast region of the US, and is probably the most threatened ecosystem in South Florida due to citrus conversion, residential housing construction, and commercial development. It supports 24 species of endangered, threatened, and candidate plant species as well as four threatened or endangered animal species.

Cost: Total: Project size 16,455 acres. 9,782 acres acquired at a cost of \$31,737,827
 Project Development
 Land Acquisition: 6,673 acres remaining to be acquired.
 Implementation
 Operations and maintenance

Project Schedule:
 Start Date: 1992
 Finish Date: Upon completion

Detailed Project Budget Information (\$1000)

	Thru 2008	2009	2010	Balance to complete	Total
Federal	6,928				
State*	24,809.8				
Tribal					
Local					
Other					
Total	31,737.8				TBD

*State expenditures may include local government contributions on CARL, Florida Forever, FCT and SOR projects.

**The SFWMD Henscratch Ranch project falls within the boundary of the Lake Wales Ridge project. Acres acquired and dollars spent are included in the reported Lake Wales Ridge numbers.

Contact: John Outland (850) 245-2089

Program Name: Land Acquisition
Project Name: Loxahatchee Slough Land Acquisition
Project ID: 2132
Lead Agency: South Florida Water Management District/Palm Beach County
Authority: Florida Forever/Save Our Rivers (SOR)

Strategic Plan Goal(s) Addressed: 2.A.1

Measurable Output(s): Target 13,099 Acres

Project Synopsis: The Loxahatchee Slough Project is located in Palm Beach County and covers approximately 13,099 acres. It contains a mixture of habitat types, including pine flatwoods, cypress forest, and wet prairie. The present land use is native range. These lands are adjacent to the Loxahatchee Slough Corridor, an area that has been pledged for protection by the current landowner. Palm Beach County will lead the land management effort for this project and holds title to land.

The purpose of this project is to provide additional wetland and upland buffer to the Loxahatchee Slough Corridor and to preserve critical foraging and nesting sites for wildlife in an area that is undergoing rapid urban development. This system is important for storing surface water runoff and providing groundwater base flow to Canal 18 and the Loxahatchee River. The slough, which is the initial headwaters of the Loxahatchee River, can also spill over to the south and contribute to the Everglades watershed under certain hydrologic conditions.

Cost: Total: Project size is 13,099 acres. 12,395 acres acquired for \$35,920,793
 Project Development
 Land Acquisition: 704 acres remaining to be acquired.
 Implementation
 Operations and maintenance

Project Schedule:

Start Date: 1996
 Finish Date: Upon Completion

Detailed Project Budget Information (\$1000)

	Thru 2008	2009	2010	Balance to complete	Total
Federal					
State*	6,756				6,756
Tribal					
Local	29,164				29,164
Other					
Total	35,920				TBD

*State expenditures may include local government contributions on CARL, Florida Forever, FCT and SOR projects.

Additional information available at www.sfwmd.gov under the heading "Major Projects"

Contact: Wanda Caffie-Simpson, (561) 682-6445

Program Name: Land Acquisition
Project name: Dade County Archipelago
Project ID: 2134
Lead Agency: Florida Department of Environmental Protection
Authority: Florida Forever

Strategic Plan Goal(s) Addressed: 2.A.1

Measurable Output(s): 884 Acres acquired

Project Synopsis: This project includes 884 acres in Miami-Dade County and contains some of the most outstanding examples of rockland hammock that remain in Miami-Dade County, as well as the best remaining examples of the highly endangered pine rockland natural community outside of Everglades National Park. The Miami Rockridge Pinelands sites located within the County's urban development boundary are considered upland and developable. All sites are zoned residential, agricultural, or general use. The trees and endemics are also sensitive to adjacent development and agricultural activities.

Cost: Total: Project size 884 acres. 505 acres have been acquired at a cost of \$23,524,235
 Project Development
 Land Acquisition: 379 acres remaining to be acquired
 Implementation
 Operations and maintenance

Project Schedule:
 Start Date: 1994
 Finish Date: Upon completion

Detailed Project Budget Information (1000s)

	Thru 2008	2009	2010	Balance to complete	Total
Federal					
State*	11,524				
Tribal					
Local	12,000				
Other					
Total	23,524				TBD

**State expenditures may include local government contributions on CARL, Florida Forever, FCT and SOR projects.*

Contact: John Outland (850) 245-2089

Program Name: Land Acquisition
Project Name: Model Lands Basin Acquisition
Project ID: 2135
Lead Agency: South Florida Water Management District and Miami-Dade County
Authority: Florida Forever/Save Our Rivers (SOR)

Strategic Plan Goal(s) Addressed: Primary: 2.A.1

Measurable Output(s): Target 54,458 acres

Project Synopsis: The Model Lands project is located in Miami-Dade County and encompasses the lands between US 1 and Biscayne National Park. The project area of 54,458 acres includes a variety of habitats, both freshwater and estuarine. Lands within the project were identified in the Restudy as necessary for treatment of stormwater from the north and L-31E Canal prior to releasing it to tide or into other project lands to the south. Most of the project lands will be included in the Biscayne Bay Coastal Wetland and C-111 North Spreader Canal, CERP projects. The SFWMD and Miami-Dade County partner in the acquisition and management of lands for the project. The northern portions of the project and the areas near canals, roads, and other areas of disturbance are heavily infested with Australian Pine and Brazilian Pepper. The majority of the project area is undisturbed fresh and saltwater wetlands. These lands form a contiguous habitat corridor with Everglades National Park, Southern Glades SOR project, Biscayne National Park, Crocodile Lakes National Wildlife Refuge, and John Pennekamp State Park.

Cost: Total: Project size is 54,458 acres. 14,228 acres acquired at a cost of \$28,750,981
 Project Development
 Land Acquisition: 40,230 acres remaining to be acquired.
 Implementation
 Operations and maintenance

Project Schedule:

Start Date: 1994
 Finish Date: TBD

Detailed Project Budget Information (\$1000)

	Thru 2008	2009	2010	Balance to complete	Total
Federal					
State*	9,126				
Tribal					
Local	19,624.9				
Other					
Total	28,750.9				TBD

*State expenditures may include local government contributions on CARL, Florida Forever, FCT and SOR projects.

Additional information available at www.sfwmd.gov under the heading "Major Projects"

Contact: Wanda Caffie-Simpson, (561) 682-6445

Program Name: Land Acquisition
Project Name: North Fork St. Lucie River
Project ID: 2138
Lead Agency: Florida Department of Environmental Protection/South Florida Water Mgmt District
Authority: Florida Forever/Save Our Rivers (SOR)/CERP

Strategic Plan Goal(s) Addressed: 2.A.1

Measurable Output(s): 3,714 Acres Acquired

Project Synopsis: This 3,714-acre project includes a stretch of the North Fork approximately 6 miles long, extending from the White City bridge to Canal 24. This project will extend the boundary of the existing publicly owned St. Lucie River Aquatic preserve. More than 80 percent of the project area is comprised of wetlands within the river floodplain. In addition to the river floodplain, this project includes 175 acres of high quality uplands habitat such as high hammock, pine flatwoods, and sand pine scrub.

The purpose of this project is to preserve the floodplain habitat and to protect the water quality of the St. Lucie River from the rapidly encroaching urban development. Floodplain wetlands help decrease current velocities in the river, thereby attenuating flood waters. This action also facilitates recharge of the surficial aquifer and filters out nutrients, pollutants and suspended solids. This stretch of the river is classified as an Outstanding Florida Water. Boating, fishing and canoeing are actively pursued on this part of the river.

Cost: Total: Project size 3,714 acres. 1,232 acres have been acquired at a cost of \$5,109,620
 Project Development
 Land Acquisition: 2,482 acres remaining to be acquired
 Implementation
 Operations and Maintenance

Project Schedule:

Start Date: 1988
 Finish Date: Upon completion

Detailed Project Budget Information (\$1000s)

	Thru 2008	2009	2010	Balance to complete	Total
Federal					
State*	3,004				2,962
Tribal					
Local	2,105				1,765
Other					
Total	5,109				TBD

*State expenditures may include local government contributions on CARL, Florida Forever, FCT and SOR projects.

Contact: John Outland (850) 245-2089
 Hyperlink: <http://www.dep.state.fl.us/stland/oes/carlmain.htm>

Program Name: Land Acquisition
Project Name: North Key Largo Hammocks
Project ID: 2139
Lead Agency: Florida Department of Environmental Protection
Authority: Florida Forever

Strategic Plan Goal(s) Addressed: 2.A.1

Measurable Output(s): 5,048 Acres acquired

Project Synopsis: The hammocks of north Key Largo form the largest stand of West Indian tropical forest in the United States. This rapidly disappearing forest, which is called Rockland forest, supports a wide diversity of rare plant and animal species. Degraded water quality is becoming an increasing issue in Florida Bay and the Florida Keys, as natural lands are converted to residential housing and commercial development. The project area has over 10 miles of shoreline that directly influences the adjacent waters of John Pennekamp Coral Reef State Park. As in other parts of the Keys, development seriously threatens this area.

Cost: Total: Project size 5,048 acres. 3,544 acres have been acquired at a cost of \$76,542,140
 Project Development
 Land Acquisition: 1,504 acres to be acquired
 Implementation
 Operations and maintenance

Project Schedule:
 Start Date: 1983
 Finish Date: Upon completion

Detailed Project Budget Information (1000s)

	Thru 2008	2009	2010	Balance to complete	Total
Federal					
State*	76,542				
Tribal					
Local					
Other					
Total	76,542				TBD

**State expenditures may include local government contributions on CARL, Florida Forever, FCT and SOR projects.*

Contact: John Outland (850) 245-2089
Hyperlink: <http://www.dep.state.fl.us/stland/oes/carlmain.htm>

Program Name: Land Acquisition
Project Name: Okaloacoochee Slough
Project ID: 2141
Lead Agency: Florida Department of Environmental Protection
Authority: Florida Forever

Strategic Plan Goal(s) Addressed: 2.A.1

Measurable Output(s): Target 35,201 Acres

Project Synopsis: This site contains more than 35,201 acres in Hendry and Collier Counties. It is a major tributary to Fakahatchee Strand and Big Cypress National Preserve. It is dominated by a central slough, consisting of sawgrass marshes and wet prairies, with fringes of live oak/cabbage palm hydric hammocks. Most of the pines have been logged, but otherwise the site is pristine. Okaloacoochee Slough is critical habitat for the Florida panther.

Some exotic treatment is needed to control minor infestations of Brazilian pepper and melaleuca. Hydrologically, the property remains undisturbed.

Cost: Total: Project size is 35,201 acres. 34,982 acres have been acquired at a cost of \$20,570,673
 Project Development
 Land Acquisition: 219 acres remaining to be acquired.
 Implementation
 Operations and maintenance

Project Schedule:

Start Date: 1996
 Finish Date: Upon completion

Detailed Project Budget Information (\$1000s)

	Thru 2008	2009	2010	Balance to complete	Total
Federal					
State*	20,570				20,570
Tribal					
Local					
Other					
Total	20,570				TBD

*State expenditures may include local government contributions on CARL, Florida Forever, FCT and SOR projects.

Contact: John Outland (850) 245-2089

Program Name: Land Acquisition
Project Name: Okeechobee Battlefield
Project ID: 2142
Lead Agency: Florida Department of Environmental Protection
Authority: Florida Forever

Strategic Plan Goal(s) Addressed: 2.A.1

Measurable Output(s): 211 Acres acquired

Project Synopsis: The Okeechobee Battlefield project represents a portion of one of the last battles of the Second Seminole Indian war. The 211-acre project consists of improved pasture and freshwater marsh, and provides the backdrop for a yearly reenactment of the battle. The site is home to bald eagles, and offers potential habitat for the crested caracara and wood stork. The evaluation team visited the project on September 24, 2001.

The project is situated adjacent to U.S. Highway 441/98 along the northeastern rim of Lake Okeechobee, approximately five miles southeast of the town of Okeechobee in southern Okeechobee County. There are no adjacent or close by conservation lands in the FNAI database, however South Florida Water Management District lands Paradise Run and Kissimmee River are approximately 8 and 12 miles to the west, respectively. St. Lucie County's Bluefield Ranch and St. Lucie Pinelands are approximately 8.5 miles to the east, and 12 miles to the northeast, respectively.

Cost: Total: Project size is 211 acres. 145 acres have been acquired at a cost of \$3,217,250
 Project Development
 Land Acquisition: 66 acres remaining to be acquired.
 Implementation
 Operations and maintenance

Project Schedule:

Start Date: 2001
 Finish Date: Upon completion

Detailed Project Budget Information (\$1000)

	Thru 2008	2009	2010	Balance to complete	Total
Federal					
State*	3,217				
Total	3,217				TBD

**State expenditures may include local government contributions on CARL, Florida Forever, FCT and SOR projects.*

Contact: John Outland (850) 245-2089

Program Name: Land Acquisition
Project name: Osceola Pine Savannas
Project ID: 2143
Lead Agency: Florida Department of Environmental Protection
Authority: Florida Forever

Strategic Plan Goal(s) Addressed: 2.A.1

Measurable Output(s): 6,357 Acres acquired

Project Synopsis: The project covers an area of old beach ridges and intervening swales, with high-quality, longleaf pine flatwoods interrupted by cypress strands, cypress domes, and wet prairies. There are also extensive dry prairies and patches of oak or sand pine scrub, all of which are natural communities of the Kissimmee Prairie. Six FNAI-listed animals occur on the site, including sandhill crane, wood storks, and crested caracara.

Cost: Total: Project size 6,357** acres. 1,333 acres have been acquired at a cost of \$310,000
 Project Development
 Land Acquisition: 5,024 acres remaining to be acquired.
 Implementation
 Operations and maintenance

Project Schedule:
 Start Date: 1995
 Finish Date: Upon completion

Detailed Project Budget Information (\$1000s)

	Thru 2008	2009	2010	Balance to complete	Total
Federal					
State*	310				
Tribal					
Local					
Other					
Total	310				TBD

*State expenditures may include local government contributions on CARL, Florida Forever, FCT and SOR projects.

**This project is not entirely within SFWMD; the numbers here are that portion of the project within the SFWMD. Expenditures are pro-rated for that portion of the project.

Contact: John Outland (850) 245-2089

Program Name: Land Acquisition
Project Name: Pal-Mar
Project ID: 2144
Lead Agency: Florida Department of Environmental Protection/South Florida Water Management District
Authority: Florida Forever/Save Our Rivers (SOR)/CERP

Strategic Plan Goal(s) Addressed: 2.A.1

Measurable Output(s): 35,760 Acres Acquired

Project Synopsis: Pal-Mar is located in Palm Beach and Martin Counties, east of the J.W. Corbett Wildlife Management Area and west of Jonathan Dickinson State Park. The total project encompasses 35,760 acres, including some of the highest quality pine flatwoods in southern Florida in an ecotone between pine flatwoods and the treeless Everglades. It also includes high quality prairie and savanna habitat.

The primary purpose of this project is to conserve and protect environmentally unique lands that contain native, relatively unaltered flora and fauna. Acquisition of this project will form an extensive wildlife corridor connecting Jonathan Dickinson State Park, Pal-Mar, J.W. Corbett Wildlife Management Area, and DuPuis Reserve. By protecting native flatwoods, prairies, and marshes, this project will protect critical habitat for at least four endangered bird species, including the Florida sandhill crane and Everglades snail kite, and for the endangered Florida panther.

Cost: Total: Project size 35,760 acres. 27,878 acres have been acquired at a cost of \$102,051,457
 Project Development
 Land Acquisition: 7,882 acres remaining to be acquired
 Implementation
 Operations and Maintenance

Project Schedule:

Start Date: 1992
 Finish Date: Upon completion

Detailed Project Budget Information (\$1000s)

	Thru 2008	2009	2010	Balance to complete	Total
Federal					
State*	88,756				
Tribal					
Local	13,295				
Other					
Total	102,051.4				TBD

*State expenditures may include local government contributions on CARL, Florida Forever, FCT and SOR projects.

Contact: John Outland (850) 245-2089

Program Name: Land Acquisition
Project name: Panther Glades
Project ID: 2145
Lead Agency: Florida Department of Environmental Protection
Authority: Florida Forever

Strategic Plan Goal(s) Addressed: 2.A.1

Measurable Output(s): 57,604 acres acquired

Project Synopsis: The area consists of a landscape mosaic of forested uplands interspersed among forested wetland communities. The ecosystem encompassed by the project is a large landscape and watershed in south-central Hendry County that includes portions of both the Big Cypress and Kissimmee Billy Strand. The Panther Glades project is important to many wildlife species, particularly those that require extensive areas of habitat to maintain viable populations.

Cost: Total: Project size 57,604. 21,724 acres have been acquired at a cost of \$75,049,836
 Project Development
 Land Acquisition: 35,880 acres remaining to be acquired
 Implementation
 Operations and maintenance

Project Schedule:
 Start Date: 2001
 Finish Date: Upon completion

Detailed Project Budget Information (1000s)

	Thru 2008	2009	2010	2011	Balance to complete	Total
Federal						
State*	\$75,049					
Tribal						
Local						
Other						
Total	\$75,049					TBD

**State expenditures may include local government contributions on CARL, Florida Forever, FCT and SOR projects.*

Contact: John Outland (850) 245-2089

Program Name: Land Acquisition
Project Name: Paradise Run Land Acquisition
Project ID: 2146
Lead Agency: South Florida Water Management District
Authority: Florida Forever/Save Our Rivers (SOR)

Strategic Plan Goal(s) Addressed: 2.A.1

Measurable Output(s): Target 3,841 Acres

Project Synopsis: This acre project lies west of canal C-38, between Water Control Structure S-65E and Lake Okeechobee in Glades and Okeechobee Counties. Current land use is predominantly improved pasture and cattle grazing but agricultural activities in the area are intensifying as exemplified by new, nearby row crops (potatoes), sod extraction, and citrus. The remnant river run and adjacent wetlands remain largely intact but have no continuous water flow; hence water quality (especially dissolved oxygen) has become poor and organics have accumulated deeply in the remnant river run. This area consistently has greater wading bird and waterfowl use than most any area of the Kissimmee River. Its close proximity to Lake Okeechobee puts it in foraging flight distance of the large wading bird rookeries. Restoration would be fairly simple because the remnant river run and wetlands are largely intact, and water could gravity flow from Pool E (elevation 21 feet msl) one-half mile to Paradise Run (elevation 16 feet msl). The C-38 canal would be bypassed.

Cost: Total*: Project size 3,841 acres. 3,308 acres have been acquired at a cost of \$4,908,582
 Project Development
 Land Acquisition: 533 acres remaining to be acquired
 Implementation
 Operations and maintenance

Project Schedule:

Start Date: 1998
 Finish Date: TBD

Detailed Project Budget Information (1000s)

	Thru 2008	2009	2010	2011	Balance to complete	Total
Federal						
State*	\$4,908					\$4,908
Tribal						
Local						
Other						
Total	\$4,908					TBD

*State expenditures may include local government contributions on CARL, Florida Forever, FCT and SOR projects.

Additional information available at www.sfwmd.gov under the heading "Major Projects"

Contact: Wanda Caffie-Simpson, (561) 682-6445

Program Name: Restoration Program: Hydrological Restoration, Habitat and Species
Project Name: Lake Hatchineha Watershed/ Parker-Poinciana
Project ID: 2147
Lead Agency: Department of Environmental Protection
Authority: Florida Forever

Strategic Plan Goal(s) Addressed: 2.A.1

Measurable Output(s): Target 6,437 Acres

Project Synopsis: Parker - Poinciana is located in Osceola and Polk counties, and is located between the Disney Wilderness Preserve and District owned lands already acquired as part of the Kissimmee Chain of Lakes SOR project along the north shore of Lake Hatchineha. It contains a variety of community types, including mesic flatwoods, a large cypress/bay head, logged over flatwoods and hydric hammock along the Lake Hatchineha shoreline. The total project acreage is 6,437 acres.

Cost: Total: Project size 6,437 acres.
 Project Development
 Land Acquisition: 6,437 acres remaining to be acquired
 Implementation
 Operations and maintenance

Project Schedule:

Start Date: 1996
 Finish Date: Upon completion

Detailed Project Budget Information (\$1000s)

	Thru 2008	2009	2010	Balance to Complete	Total
Federal					
State	0				
Tribal					
Local					
Other					
Total	0				TBD

Additional information available at www.sfwmd.gov under the heading "Major Projects"

Contact: John Outland, (850) 245-2089

Program Name: Restoration Program: Hydrological Restoration, Water Quality, Habitat and Species,
Project Name: Pine Island Slough Ecosystem
Project ID: 2186
Lead Agency: Department of Environmental Protection/South Florida Water Management District
Authority: Florida Forever

Strategic Plan Goal(s) Addressed: 2.A.1

Measurable Output(s): 21,583 Acres

Project Synopsis: The Pine Island Slough Ecosystem project consists of approximately 49,583 acres in Osceola and Indian River Counties, Florida. About 21,583 acres are within the South Florida Ecosystem boundary. This landscape - intact ecological upland and wetland habitat - is reminiscent of the kind of landscape that once dominated Central Florida in pre-European settlement times. It is contiguous with the Kissimmee Prairie Preserve State Park, which is noted for its high quality resource values, and the project's acquisition would allow for the protection of and management of additional high ecological quality habitats in an area of Florida with significant vertebrate wildlife, hydrological values and other important natural resource attributes.

Cost: Total: Project size 21,583*.
 Project Development
 Land Acquisition: 21,583 acres remain to be acquired.
 Implementation
 Operations and Maintenance

Project Schedule:
 Start Date:
 Finish Date: TBD

Detailed Project Budget Information (1000s)

	Thru 2008	2009	2010	Balance to complete	Total
Federal					
State	0				
Tribal					
Local					
Total	0				TBD

**This project is not entirely within SFWMD; the numbers here are that portion of the project within the SFWMD. Expenditures are pro-rated for that portion of the project.*

Contact: John Outland (850) 245-2089

Program Name: Land Acquisition
Project name: Pineland Site Complex
Project ID: 2148
Lead Agency: Florida Department of Environmental Protection
Authority: Florida Forever

Strategic Plan Goal(s) Addressed: 2.A.1

Measurable Output(s): 206 Acres acquired

Project Synopsis: This internationally significant archaeological site was inhabited by the Calusa for over a thousand years, and includes substantial midden mounds, a burial mound, remnants of an Indian-engineered canal, and buried deposits containing organic remains. Natural habitats within the project area include tidal saltern, a tidal creek, intertidal shoreline, and a large tract of mangrove wetland. Ponds on the site are important to white ibis, egrets, herons, and wood stork.

Cost: Total: Project size 206 acres. 57 acres have been acquired at a cost of \$1,751,874
 Project Development
 Land Acquisition: 149 acres to be acquired
 Implementation
 Operations and maintenance

Project Schedule:
 Start Date: 1996
 Finish Date: Upon completion

Detailed Project Budget Information (1000s)

	Thru 2008	2009	2010	2011	Balance to complete	Total
Federal						
State*	1,355					
Tribal						
Local	396.87					
Other						
Total	1,751.87					TBD

**State expenditures may include local government contributions on CARL, Florida Forever, FCT and SOR projects.*

Contact: John Outland (850) 245-2089

Program Name: Land Acquisition
Project Name: Ranch Reserve
Project ID: 2178
Lead Agency: Florida Department of Environmental Protection
Authority: Florida Forever

Strategic Plan Goal(s) Addressed: 2.A.1

Measurable Output(s): 2,217Acres acquired

Project Synopsis: The project consists of four cattle ranches on the Osceola Plain west of and above the St. Johns River marshes. Mesic flatwoods interrupted by depression marshes cover about 40 percent of the project area. Swamps and hammocks make up much of the remaining natural communities. At least 24 FNAI-listed animals are known or reported from the project, including red-cockaded woodpeckers and one of the best populations of sandhill cranes in Florida.

Cost: Total: 2,217** acres. 67 acres have been acquired at a cost of \$39,286
 Project Development:
 Land Acquisition: 2,150 acres remaining to be acquired
 Implementation
 Operations and maintenance

Project Schedule:

Start Date: 1997
 Finish Date: TBD

Detailed Project Budget Information (\$1000s)

	Thru 2008	2009	2010	2011	Balance to complete	Total
Federal						
State*	39	0				
Tribal						
Local						
Other						
Total	39	0				TBD

*State expenditures may include local government contributions on CARL, Florida Forever, FCT and SOR projects.

**This project is not entirely within SFWMD; the numbers here are that portion of the project within the SFWMD. Expenditures are pro-rated for that portion of the project.

Contact: John Outland (850) 245-2089

Program Name: Land Acquisition
Project name: Rookery Bay
Project ID: 2149
Lead Agency: Florida Department of Environmental Protection
Authority: Florida Forever

Strategic Plan Goal(s) Addressed: 2 - Restore and Enhance the Natural System

Measurable Output(s): 18,721 acres acquired

Project Synopsis: This project consists of 18,721 acres in Collier County and provides an outstanding example of a subtropical estuarine system. Its mangroves shelter important nesting colonies of water birds, and feed and protect many aquatic animals, which are the foundation of a commercial and sport fishery. The natural communities associated with the estuary are relatively undisturbed and range from mangrove and marsh to flatwoods and maritime hammock. As part of the national estuarine research reserve system, Rookery Bay is representative of the West Indian biogeographic type. The area is believed to have good potential for archaeological investigations. The area is threatened by dredging and filling associated with the rapid development of the area.

Cost: Total: Project size 18,721 acres. 18,636 acres have been acquired at a cost of \$45,500,833
 Project Development
 Land Acquisition: 85 acres remaining to be acquired
 Implementation
 Operations and maintenance

Project Schedule:
 Start Date: 1980
 Finish Date: Upon completion

Detailed Project Budget Information (1000s)

	Thru 2008	2009	2010	Balance to complete	Total
Federal					
State*	\$45,500.8				45,500
Tribal					
Local					
Other					
Total	\$45,500.8				TBD

**State expenditures may include local government contributions on CARL, Florida Forever, FCT and SOR projects.*

Contact: John Outland (850) 245-2089

Program Name: Land Acquisition
Project name: Rotenberger-Holey land Tract
Project ID: 2150
Lead Agency: Florida Department of Environmental Protection
Authority: Florida Forever

Strategic Plan Goal(s) Addressed: 2.A.1

Measurable Output(s): 79,170 Acres acquired

Project Synopsis: The Rotenberger/Holey Lands were historically an integral part of the Everglades hydrological system. The natural communities of the project consisted of shallow sawgrass marshes with tree islands interspersed. Much of the area has been disturbed. Restoration of the area is important to the restoration of the water quality and quantity to the Everglades.

Cost: Total: Project size 79,170 acres. 70,833 acres have been acquired at a cost of \$20,114,395
 Project Development
 Land Acquisition: 8,337 acres remaining to be acquired
 Implementation
 Operations and maintenance

Project Schedule:
 Start Date: 1984
 Finish Date: Upon completion

Detailed Project Budget Information (1000s)

	Thru 2008	2009	2010	2011	Balance to complete	Total
Federal						
State*	20,114					
Tribal						
Local						
Other						
Total	20,114					TBD

**State expenditures may include local government contributions on CARL, Florida Forever, FCT and SOR projects.*

Contact: John Outland (850) 245-2089

Program Name: Land Acquisition
Project Name: Shingle Creek
Project ID: 2151
Lead Agency: South Florida Water Management District
Authority: Florida Forever/Save Our Rivers (SOR)

Strategic Plan Goal(s) Addressed: 2.A.1

Measurable Output(s): Target 7,673 Acres

Project Synopsis: Shingle Creek Swamp is located in southern Orange and northern Osceola counties. It is a major receiving body for stormwater runoff from areas south and southwest of Orlando. The Orange County portion of the swamp is more than 1.5 miles wide, and is dominated by Cypress, Loblolly Bay, and Red Maple. Shingle Creek itself was channelized in the 1920s and it borders the eastern edge of the swamp. Most of the floodplain in Osceola County is intact, but adjacent uplands, which historically were wiregrass/longleaf pine-dominated systems, have been cleared and planted as improved pasture. As mitigation for the Orlando Beltway Southern Connector, a hydrologic restoration plan was implemented in 1995, which equalizes water levels and sheetflow across the Orange County portion of Shingle Creek Swamp. Osceola County in partnership with SFWMD has acquired an additional 194 acres within the project, granting the District a conservation easement for funding \$2,666,174 of the land acquisition cost.

Cost: Total: Project size 7,673. 2,623 acres have been acquired at a cost of \$4,372,344
 Project Development
 Land Acquisition: 5,050 acres remaining to be acquired
 Implementation
 Operations and maintenance

Project Schedule:

Start Date: 1987
 Finish Date: Upon completion

Detailed Project Budget Information (\$1000)

	Thru 2008	2007	2008	Balance to Complete	Total
Federal					
State	4,372.3				4,372.3
Tribal					
Local					
Total	4,372.3				TBD

Additional information available at www.sfwmd.gov under the heading "Major Projects"
Contact: Wanda Caffie-Simpson, (561) 682-6445

Program Name: Land Acquisition
Project Name: Six Mile Cypress
Project ID: 2152
Lead Agency: South Florida Water Management District
Authority: Florida Forever/Save Our Rivers (SOR)

Strategic Plan Goal(s) Addressed: 2.A.1

Measurable Output(s): Target 2,083 Acres

Project Synopsis: Six Mile Cypress Slough is located in Lee County southeast of the City of Fort Myers. It extends from State Road 82 southwesterly for approximately nine miles to Ten Mile Canal. The Slough averages 1,500 feet in width, and consists of Cypress swamps, interspersed with numerous open ponds. It is ringed with pine flatwoods, transitional hardwoods, wet prairies, and stands of Melaleuca. The total project size is 1,966 acres.

Cost: Total: Project size 2,083. 843 acres have been acquired at a cost of \$3,455,474
 Project Development
 Land Acquisition: 1,240 acres remaining to be acquired
 Implementation
 Operations and maintenance

Project Schedule:

Start Date: 1987
 Finish Date: Upon completion

Detailed Project Budget Information (\$1000)

	Thru 2003	2004	2005	Balance to Complete	Total
Federal					
State*	1,770	0	0		1,770
Tribal					
Local	1,685	0	0		1,685
Other					
Total	3,455	0	0		TBD

*State expenditures may include local government contributions on CARL, Florida Forever, FCT and SOR projects.

Contact: Wanda Caffie-Simpson, (561) 682-6445

Program Name: Land Acquisition
Project Name: South Savannas
Project ID: 2154
Lead Agency: Florida Department of Environmental Protection
Authority: Florida Forever

Strategic Plan Goal(s) Addressed: 2.A.1

Measurable Output(s): 6,046 Acres Acquired

Project Synopsis: The Savannas forms a chain of marshes and lakes that separate the inland pine flatwoods from the coastal scrub on the Atlantic Ridge in St. Lucie and Martin Counties. The State has acquired most of the lands within the project through the CARL program. The District in partnership with Martin County acquired ownership of a single 77-acre tract and transferred title to the property to the State of Florida in 1999. It is now and will continue to be managed by the Department of Environmental Protection as the Savannas Preserve.

Cost: The project totals 6,046 acres which 5,182 acres have been acquired at a cost of \$20,902,290.
 Project Development
 Land Acquisition: 864 acres remaining to be acquired.
 Implementation
 Operations and Maintenance

Project Schedule:

Start Date: 1981
 Finish Date: Upon completion

Detailed Project Budget Information (\$1000s)

	Thru 2008	2009	2010	2011	Balance to Complete	Total
Federal						
State*	19,902					
Tribal						
Local	1,000					
Other						
Total	20,902					TBD

*State expenditures may include local government contributions on CARL, Florida Forever, FCT and SOR projects.

Contact: John Outland (850) 245-2089

Program Name: Land Acquisition
Project Name: Southern Glades – Natural Lands
Project ID: 2155
Lead Agency: South Florida Water Management District and Miami-Dade County
Authority: Florida Forever/Save Our Rivers (SOR)

Strategic Plan Goal(s) Addressed: Primary: 2.A.1

Measurable Output(s): Target 37,620 Acres

Project Synopsis: This 37,620-acre project is located adjacent to the C-111 Canal, between U.S. 1 and Everglades National Park. The project land is dominated by Everglades sawgrass marsh and tropical hardwood hammock. Land management will be carried out by the SFWMD and Fish and Wildlife Conservation Commission and the land is currently open for public use. This land is needed for the C-111 Canal project and C-111 Spreader Canal CERP project. These projects will benefit the flow of water into Everglades National Park and Northeast Florida Bay.

The project acres under the Florida Forever/SOR program are directed toward the purchase of natural lands acquired for their conservation, preservation value --high quality flood plains, wetlands and uplands that continue providing recreation, water resource protection, and wildlife habitat for future generations. Acres used or to be used for construction of facilities, such as STAs, reservoirs, and impoundments for Critical Restoration Projects (CRP) and Comprehensive Everglades Restoration Plan (CERP) initiatives have been removed from the Natural Lands project boundary.

Cost: Total: Project size 37,620 acres. 33,692 acres have been acquired at a cost of \$15,363,259
 Project Development
 Land Acquisition: 3,928 acres remaining to be acquired
 Implementation
 Operations and maintenance

Project Schedule:

Start Date: 1964
 Finish Date: Upon completion

Detailed Project Budget Information (\$1000)

	Thru 2008	2009	2010	Balance to complete	Total*
Federal					
State*	12,902				
Tribal					
Local	2,460.6				
Other					
Total	15,363				TBD

*State expenditures may include local government contributions on CARL, Florida Forever, FCT and SOR projects.

Additional information available at www.sfwmd.gov under the heading “Major Projects”
Contact: Wanda Caffie-Simpson, (561) 682-6445

Program Name: Land Acquisition

Project name: Southern Golden Gate Estates (Save Our Everglades)- Picayune Strand

Project ID: 2156

Lead Agency: Florida Department of Environmental Protection

Authority: Florida Forever

Strategic Plan Goal(s) Addressed: 2.A.1

Measurable Output(s): 55,247 Acres acquired

Project Synopsis: The Southern Golden Gate Estates (SGGE) encompasses an approximately 94 square mile area of sensitive environmental landscape in South Central Collier County. It is an important surface water storage and aquifer recharge area with a unique ecology of cypress, wet and dry prairie, pine flatwoods and hardwood hammock swamp communities; and includes three flowways that contribute freshwater input to the Ten Thousand Island estuary of the western Everglades watershed. The area supports a diversity of wildlife, including at least a dozen endangered and threatened vertebrates as well as a large variety of rare orchids and other air plants. The area is linked hydrologically to the Everglades ecosystem and contains remnants of two large cypress strands, the Lucky Lake and Picayune Strands. The rapid urbanization of southwest Florida is posing a continuous and increasing threat to the wildlife habitat and maintenance of water quality within SGGE. Acquisition of lands within SGGE will preserve large pieces of the South Florida ecosystem. Ultimately, this will contribute to the formation of a continuous public conservation area extending across South Florida from the Gulf Coast to approximately 10 miles from the Atlantic Ocean, protecting the Everglades ecosystem from the encroachment of residential, commercial, and industrial developments.

Cost: Total: Project size 55,247 acres. 54,442 acres have been acquired at a cost of \$130,838,450
 Project Development
 Land Acquisition: 805 acres remaining to be acquired.
 Implementation
 Operations and maintenance

Project Schedule:

Start Date: 1984

Finish Date: Upon completion

Detailed Project Budget Information (1000s)

	Thru 2008	2009	2010	Balance to complete	Total
Federal	38,084				
State*	92,753				
Tribal					
Local					
Other					
Total	130,838				TBD

*State expenditures may include local government contributions on CARL, Florida Forever, FCT and SOR projects.

Contact: John Outland (850) 245-2089

Program Name: Land Acquisition
Project Name: Ten Mile Creek-Natural Lands
Project ID: 2180
Lead Agency: Department of Environmental Protection/South Florida Water Mgmt District
Authority: Florida Forever

Strategic Plan Goal(s) Addressed: 2.A.1

Measurable Output(s): 240 Acres Acquired

Project Synopsis:

The ten mile creek natural areas are those areas of the 10 Mile Creek project that are outside of the levee footprint of the reservoir. These areas include small pockets of hammock vegetation along 10 Mile Creek, an oxbow island north of the reservoir, and the Gordy Road Recreation Area (managed by St. Lucie County under a 50 year lease) east of the 10 Mile Creek STAs.

Cost: Total: Project size 240. 113 acres have been acquired at a cost of \$338,644.
 Land Acquisition: 127 acres remain to be acquired.

Project Schedule:

Start Date: 1998
 Finish Date: Upon completion

Detailed Project Budget Information (1000s)

	Thru 2008	2008	2009	Balance to complete	Total
State*	338.6				
Local					
Federal					
Total	338.6				TBD

*State expenditures may include local government contributions on CARL, Florida Forever, FCT and SOR projects.

Contact: John Outland (850) 245-2089

Program Name: Restoration Program: Habitat and Species
Project Name: Twelve Mile Slough
Project ID: 2158
Lead Agency: Florida Department of Environmental Protection
Authority: Florida Forever

Strategic Plan Goal(s) Addressed: 2.A.1

Measurable Output(s): Target 15,653 Acres

Project Synopsis: This site contains 15,653 acres in Hendry County and is tributary to the much larger and regionally significant Okaloacoochee Slough. It contains a mosaic of uplands and wetlands, as well as improved pasture areas which appear to be reverting to native range. Based on a 1993 FGFWFC report, this single-owner tract provides habitat for the endangered Florida panther. Significant restoration on the site is necessary to correct overdrainage of the wetland communities.

Restoration and protection is important because the Twelve Mile Slough is a headwater tributary to Okaloacoochee Slough, which supplies a major source of water for Fakahatchee Strand State Preserve and Big Cypress National Preserve. Surface water storage in the numerous wetlands provides for ground-water recharge of the underlying surficial aquifer and provides surface water supply to the Caloosahatchee River.

Cost: Total: Project size 15,653 acres. 7,486 acres have been acquired at a cost of \$11,000,000
 Project Development
 Land Acquisition: 8,167 acres remaining to be acquired
 Implementation
 Operations and maintenance

Project Schedule:

Start Date: 1998
 Finish Date: TBD

Detailed Project Budget Information (\$1000)

	Thru 2008	2009	2010	Balance to complete	Total
Federal					
State*	11,000				
Tribal					
Local					
Other					
Total	11,000				TBD

*State expenditures may include local government contributions on CARL, Florida Forever, FCT and SOR projects.

Contact: John Outland, (850) 245-2089

Program Name: Restoration Program: Habitat and Species
Project Name: Lake Marion Creek and Reedy Creek Management Area (Formerly Upper Lakes Basin Management)
Project ID: 2159
Lead Agency: South Florida Water Management District
Authority: Florida Forever/Save Our Rivers (SOR)

Strategic Plan Goal(s) Addressed: 2.A.1

Measurable Output(s): Target 39,323 Acres

Project Synopsis: This 39,323-acre project is located at the headwaters of the Kissimmee-Okeechobee-Everglades ecosystem in Polk and Osceola Counties. The project area includes a substantial portion of Reedy Creek and Lake Marion Creek drainage basins. The land contains large expanses of endangered scrub, mesic and wet flatwoods, hydric hammock, and floodplain forest, including habitat for several threatened and endangered plants and animals. The SFWMD in partnership with Polk County has acquired 12,915 acres. SFWMD is the lead land manager.

The primary purpose of this project is to preserve this watershed which is a critical link in the restoration of the Kissimmee-Lake Okeechobee-Everglades ecosystem. Reedy Creek is the headwater drainage for Lake Russel and Cypress Lake. Peak Discharges from major storm events are modified and stored within the swamp and provide year-round base flow to these downstream lakes. The Lake Marion Creek portion of the project is of critical importance to the recharge of the Floridan Aquifer. Lake Marion serves as the headwaters to lake Marion Creek, which combines with Snell and Horse Creeks to provide a constant supply of high-quality water to Lake Hatchineha, which in turn discharges to Lake Kissimmee, and eventually the Kissimmee River and Lake Okeechobee. All three of these water bodies are primary components of the SFWMD's water management system.

Cost: Total: Project size 39,323 acres. 12,915 acres have been acquired at a cost of \$12,343,957
 Project Development
 Land Acquisition: 26,408 acres remaining to be acquired
 Implementation
 Operations and maintenance

Project Schedule:

Start Date: 1995
 Finish Date: TBD

Detailed Project Budget Information (\$1000s)

	Thru 2008	2009	2010	Balance to complete	Total
Federal					
State*	11,507.9				
Tribal	0				
Local**	836				
Other					
Total	12,343.9				TBD

*State expenditures may include local government contributions on CARL, Florida Forever, FCT and SOR projects.

**Dollars contributed by Polk County

Contact: Wanda Caffie-Simpson, (561) 682-6445

Program Name: Restoration Program: Habitat and Species
Project Name: Water Conservation Areas 2 and 3
Project ID: 2160
Lead Agency: South Florida Water Management District
Authority: Florida Forever/Save Our Rivers (SOR)

Strategic Plan Goal(s) Addressed: 2.A.1

Measurable Output(s): Target 721,433 Acres of outstanding fee interests

Project Synopsis: The WCAs encompass approximately 721,433 acres in Broward, Dade, and Palm Beach counties in which the SFWMD holds a combination of fee and easement interests. The SOR project is designed to complete the public acquisition of the outstanding fee interests in the project area. Land management is carried out by the Florida Fish and Wildlife Commission and the U.S. Fish and Wildlife Service, under contract to the SFWMD.

The general purpose of these lands is to store floodwater from developed areas adjacent to the WCAs for later use during the dry season. Releases of water from the WCA's during the dry seasonal and, particularly during drought conditions are considered vital to the maintenance of adequate water levels in the coastal canals, wellfields, and Everglades national Park and for the prevention of saltwater intrusion.

Cost: Total: Project size 721,433 acres*. 670,844 acres have been acquired at a cost of \$10,572,395
 Project Development
 Land Acquisition: 50,589 acres remaining to be acquired
 Implementation
 Operations and maintenance

Project Schedule:

Start Date: 1948
 Finish Date: Upon Completion

Detailed Project Budget Information (1000s)

	Thru 2008	2009	2010	Balance to complete	Total
Federal					
State*	10,572				10,572
Tribal					
Local					
Other					
Total	10,572				TBD

*State expenditures may include local government contributions on CARL, Florida Forever, FCT and SOR projects. The total project size of the WCA's is 867,000 acres. Which encompasses WCA's 1, 2 and 3. WCA 1 is reported as the State/SFWMD acquired acres under the ARM Loxahatchee National Wildlife Refuge entry.

Contact: Wanda Caffie-Simpson, (561) 682-6445

Program Name: Land Acquisition
Project name: A.R. M. Loxahatchee National Wildlife Refuge
Project Number: 2161
Lead Agency: U.S. Fish and Wildlife Service
Authority: Migratory Bird Conservation Act of 1929

Strategic Plan Goal(s) Addressed: 2.A.1

Measurable Output(s): Target 145,567 Acres

Project Synopsis: The Arthur R. Marshall Loxahatchee NWR was established in 1951 through an agreement between the South Florida Water Management District and the U.S. Fish and Wildlife Service under the Migratory Bird Conservation Act of 1929. Acquisition is for the purposes of providing buffer to the refuge, Everglades habitats, water recharge and storage, and for habitat protection. Increasing population growth is rapidly changing the landscape, converting farmland to residential neighborhoods. Acquisition support both refuge wildlife management goals as well as CERP restoration goals.

Cost: Total project size 145,567* acres. 143,874 acres have been acquired at a cost of \$119,000
 Project Development
 Land Acquisition 1,693 acres remaining to be acquired.
 Implementation
 Operations and maintenance

Project Schedule:

Start Date: 1955
 Finish Date: TBD

	1999	2000	2001	2002	2003	2004	2005	2006	2007
Planning & Design									
Real Estate									
Construction									

Detailed Project Budget Information (\$1000)

	Thru 2008	2009	2010	2011	Balance to complete	Total
Federal	119					
SFWMD						
Total	119				30,000	30,119

*The total size of the ARM Loxahatchee NWR is 145,567. 141,324 of these acres are state owned and leased to the USFWS for management. The State owned acres are Water Conservation Area

Contact: Susan C. Trokey, Realty Specialist FWS 239-472-1100

Program Name: Land Acquisition
Project name: Big Cypress National Preserve Addition
Project ID: 2163
Lead Agency: National Park Service
Authority: Public Law 100-301
Funding Source:

Strategic Plan Goal(s) Addressed: 2.A.1

Measurable Output(s): Target 146,117 acres

Project Synopsis: On April 29, 1988, Public Law 100-301 established the Big Cypress National Preserve (BCNP) Addition. At that time, I-75 was being designed in such a way as to improve the natural water flow to Everglades National Park, which had been disrupted by State Road 84 (commonly known as Alligator Alley). This provided an opportunity to enhance protection of Everglades National Park, to promote protection of the endangered Florida panther, and to provide for public recreational use and enjoyment of public lands by expanding the BCNP to include those lands adjacent to Interstate 75 in Collier County north and east of the Preserve, west of the Broward County line, and south of the Hendry County line.

The purpose of the Federal acquisition is to provide significant public benefits by limiting development pressures on lands which are important both in terms of fish and wildlife habitat supporting endangered species and of wetlands which are the headwaters of the Preserve. Additionally public ownership of the lands adjacent to the Preserve would enhance the protection of the Everglades National Park while providing recreational opportunities and other public uses currently offered by the Big Cypress. The Act provided for expansion of the Big Cypress by 146,117 acres, of which approximately 32,557 acres have been acquired by the State of Florida. The authorizing legislation allows the Secretary of the Interior to purchase lands within the preserve boundaries and stipulates that no improved property, as defined by the Act, nor oil and gas rights, shall be acquired without the consent of the owner, unless that property is subject to, or threatened with, uses which are, or would be, detrimental to the purposes of the Preserve. The NPS will acquire the remaining private lands, excluding qualifying exempt property, using fair market value appraisals, consistent with the enabling Act.

Cost: Total project size 146,117 acres. 143,612 acres have been acquired at a cost of \$73,662,737
 Land Acquisition: 2,505 acres remaining to be acquired.

Project Schedule:

Start Date: 1989

Finish Date: TBD

Detailed Project Budget Information (\$1000)

	Thru 2008	2009	2010	Balance to complete	Total
Federal	50,276				
State*	23,386.7				
Total	73,662.7			1,803.3	75,466

All acquisitions will be consistent with authorizing Big Cypress Legislation.

*State expenditures may include local government contributions on CARL, Florida Forever, FCT and SOR projects.

**State acres are Florida's donation to Federal Government.

Hyperlink: N/A

Contact: Brian Coleman, (239) 213-2242

Program Name: Land Acquisition
Project Name: Big Cypress National Preserve
Project ID: 2164
Lead Agency: National Park Service
Authority: Public Law 93-440

Strategic Plan Goal(s) Addressed: 2.A.1

Measurable Output(s): 835 acres

Project Synopsis: On October 11, 1974, Public Law 93-440 established the Big Cypress National Preserve in order to assure the preservation, conservation, and protection of the natural, scenic, hydrologic, floral and faunal, and recreational values of the Big Cypress Watershed. The total size of the original Preserve is 574,449 acres. The State of Florida donated 186,340 acres to establish the Big Cypress. The Federal government has acquired all but 845 acres of the remaining 388,109 acres in the original Preserve boundaries. The authorizing legislation allows the Secretary of the Interior to purchase lands within the Preserve boundaries and stipulates that no improved property, as defined in the Act, nor oil and gas rights, shall be acquired without the consent of the owner, unless that property is subject to, or threatened with, uses which are, or would be, detrimental to the purposes of the Preserve.

The 179 privately owned tracts are scattered throughout the Preserve. The National Park Service will acquire those tracts, excluding qualifying exempt property, using fair market value appraisals consistent with the Act.

Cost:

Total project size 574,449 acres. 573,614 acres have been acquired at a cost of \$222,105,000
 Project Development
 Land Acquisition 835 acres remaining to be acquired.
 Implementation
 Operations and maintenance

Project Schedule:

Start Date: 1974
 Finish Date: TBD

Detailed Project Budget Information (\$1000)

	Exp Thru 2008	2009	Balance to complete	Total
Federal	180,572			
SFWMD*	41,533			
Total	222,105		21,877	243,982

All Acquisitions will be consistent with authorizing Big Cypress Legislation.

*State expenditures may include local government contributions on CARL, Florida Forever, FCT and SOR projects.

**State acres are Florida's donation to Federal Government.

Hyperlink: N/A
Contact: Brian Coleman, (239) 213-2242

Program Name: Land Acquisition
Project Name: Biscayne National Park
Project ID: 2165
Lead Agency: National Park Service
Authority: Public Law 96-287
Funding Source:

Strategic Plan Goal(s) Addressed: 2.A.1

Measurable Output(s): Target 172,924 acres

Project Synopsis: This project includes acquisition of three Ragged Keys (326 acres), one tract of submerged lands only (20 acres) and two on-shore tracts (36 acres) in Biscayne National Park. The Ragged Keys are five islands immediately adjacent to the most popular use area in the park, Boca Chita Key. Two islands were acquired through 1999. Two of the three islands remaining to be acquired are natural habitat on the islands and in the surrounding shallows. Least terns nest on land and endangered sea turtles nest on the shoreline. Both nesting sites are greatly disturbed by overflow public use of the area and developers for resort and recreational facilities have repeatedly targeted the islands. A total of 382 acres remains to be acquired.

Cost:

Total project size 172,924 acres. 172,590 acres have been acquired at a cost of \$31,850,735

Project Development

Land Acquisition: 334 acres remaining to be acquired

Implementation

Operations and maintenance

Project Schedule:

Start Date: 1968

Finish Date: Open

	1999	2000	2001	2002	2003	2004	2005	2006	2007
Planning & Design									
Real Estate									
Construction									

Detailed Project Budget Information (\$1000)

	Exp Thru 2008	2009	2010	Balance to complete	Total
Federal	31,851				
SFWMD					
Total	31,851			1,848	33,699

**State acres are Florida's donation to Federal Government.

Hyperlink: N/A

Contact: Brian Coleman, (239) 213-2242

Program Name: Land Acquisition
Project name: Crocodile Lake National Wildlife Refuge
Project Number: 2166
Lead Agency: U.S. Fish and Wildlife Service
Authority: Endangered Species Act of 1973

Strategic Plan Goal(s) Addressed: 2.A.1

Measurable Output(s): Target 7,100 acres

Project Synopsis: Crocodile Lake National Wildlife Refuge was established on April 2, 1980 to preserve mangrove wetlands, tropical West Indian hardwood hammocks and open water areas on Key Largo, which are critical feeding and nesting habitat for the endangered American crocodile. The Refuge is within the designated Critical Habitat for the species and contains one-third of all crocodile nests found in Florida. The Refuge consists of about 5,300 acres of mangrove swamp, 1,200 acres of upland hardwood hammock, and 300 acres of open water. The uplands are vegetated with the last remaining remnants of unspoiled West Indian Hardwoods in the United States. The Refuge is inhabited by a number of other endangered or threatened species, most notably the eastern indigo snake, the bald eagle, the Key Largo woodrat, the Key Largo cottonmouse, and the Schaus swallowtail butterfly. The major threat to this habitat is conversion of the uplands to residential or commercial developments. The crocodile has little tolerance to human activities. Wetlands areas are less threatened, but severe alteration and damage has occurred.

Cost: Total project size 7,100 acres. 6,706 acres have been acquired at a cost of \$13,093,000
 Project Development
 Land Acquisition 394 acres remaining to be acquired
 Implementation
 Operations and maintenance:

Project Schedule:
 Start Date: 1979
 Finish Date: TBD

Detailed Project Budget Information (\$1000)

	Thru 2008	2009	2010	Balance to complete	Total
Federal	13,319	0			
SFWMD					
Total	13,093	0		1,226	14,319

Contact: Susan C. Trokey, Realty Specialist FWS 239-472-1100

Program Name: Land Acquisition
Project Name: Everglades National Park Expansion
Project ID: 2167
Lead Agency: National Park Service
Authority: Everglades National Park Protection and Expansion Act of 1989 (Public Law 101-229)
Funding Source:

Strategic Plan Goal(s) Addressed: Primary: 2.A.1

Measurable Output(s): Target 109,504 acres

Project Synopsis: In 1989, Congress authorized the addition to Everglades National Park involving approximately 109,504 acres of an area known as Northeast Shark Slough and the East Everglades. The act also directed the Army Corps of Engineers to modify water management structures to allow the sheetflow of water and extend the hydroperiod to more closely resemble the historic Everglades. The East Everglades Addition is necessary to limit further losses suffered by the Park due to habitat destruction outside former boundaries and to restore natural water-flow patterns that are critical to the ecological integrity and long-term viability of Park resources. The acquisition of the East Everglades Addition lands and completion of the Modified Water Deliveries to Everglades National Park project are the most significant efforts underway to restore water deliveries to Shark Slough, the principal watershed in the Park. These hydrologic improvements are crucial to restoring ecosystem productivity in the southern Everglades and maintaining adequate freshwater inflow to the downstream estuaries along the Gulf of Mexico and Florida Bay.

Cost: Total project size 109,504 acres. 108,797 acres have been acquired at a cost of \$97,669,000
 Project Development
 Land Acquisition 707 acres remaining to be acquired
 Implementation
 Operations and maintenance

Project Schedule:
 Start Date: 1990
 Finish Date: 2005

	1997	1998	1999	2000	2001	2002	2003	2004
Real Estate								

Detailed Project Budget Information (\$1,000)

	Thru 2008	2009	2010	Balance to complete	Total
Federal	81,397				
State*	16,272				
Total	97,669			12,223	109,892

*State expenditures may include local government contributions on CARL, Florida Forever, FCT and SOR projects.

**State acres are Florida's donation to Federal Government.

Hyperlink: N/A
Contact: Brian Coleman, (239) 213-2242

Program Name: Land Acquisition
Project name: Florida Panther National Wildlife Refuge (includes Ten Thousand Islands refuge)*
Project Number: 2169
Lead Agency: U.S. Fish and Wildlife Service
Authority: Endangered Species Act of 1973 (Florida Panther); P.L. 100-696 (Ten Thousand Islands)

Strategic Plan Goal(s) Addressed: 2.A.1

Measurable Output(s): Target 61,573 acres

Project Synopsis: The Florida panther is one of the most endangered mammals in the Nation, with less than 80 individuals inhabiting the Big Cypress-Everglades region. The target lands are valuable for flood water retention, water purification, and aquifer recharge, while providing high quality habitat for a wide variety of flora and fauna in addition to the panther. Most of the area is relatively inaccessible and is one the few remaining retreats for the Florida black bear. The area is diverse and interesting botanically containing rare orchids, large oaks, cypress, maples, cabbage palms and a diversity of tropical trees which form a dense canopy. The increasing human population in South Florida with its consequent urban expansion is jeopardizing the area's ecological integrity. Thus essential habitat for the survival of the Florida panther is being threatened by conversion for agricultural projects, residential development, oil field activities, lumbering and road construction. A preliminary project proposal has been developed for expansion of the Florida Panther Refuge. The ecosystem within the target boundary is absolutely essential to the survival of the Florida panther.

Cost: Total project size 61,573 acres. 61,563 acres have been acquired at a cost of \$10,682,000
 Project Development
 Land Acquisition : 10 acres remaining to be acquired.
 Implementation
 Operations and maintenance

Project Schedule:

Start Date: 1989
 Finish Date: TBD

	1999	2000	2001	2002	2003	2004	2005	2006	2007
Planning & Design									
Real Estate									
Construction									

Detailed Project Budget Information (\$1000)

	Thru 2008	2009	2010	Balance to complete	Total
Federal	10,682				
SFWMD					
Total	10,682			10	10,692

*Acres and expenditures reported for the Florida Panther NWR also includes parcels acquired in the Cape Romano/Ten Thousand Islands NWR.

Contact: Susan C. Trokey, Realty Specialist FWS 239-472-1100

Program Name: Land Acquisition
Project name: Florida Keys National Wildlife Refuge (includes National Key Deer, Great White Heron, Key West refuges)
Project Number: 2168
Lead Agency: U.S. Fish and Wildlife Service
Authority: Endangered Species Act (Key Deer), Executive Order 7993 (Great White Heron), Executive Order 923 (Key West)

Strategic Plan Goal(s) Addressed: 2.A.1

Measurable Output(s): Target 415,433 acres*

Project Synopsis: Acquisitions are to protect and maintain habitat extensively used by the endangered key deer. Preservation of the major habitats for this deer through acquisition contributes to the overall faunal diversity of Florida. Negotiations have been successful and with the availability of funding, acquisition of about 500 acres (30 willing sellers) within the refuge boundary would be possible. No Name and Big Pine Keys are the two most extensively used keys in the deer's range. Other rare, endangered and 'special emphasis' species are also found here. The greatest threat to key deer habitat is habitat modifications by land clearing. Residential development is rapidly proceeding as demand increases for the dwindling supply of acreage that will support construction. Unfortunately, this same land is prime deer habitat. An observable consequence of the residential development of these lands is the incidence of deer kills by vehicle traffic. An expansion of the Refuge to acquire a system of no-development corridors assure the continued existence of habitat for deer movement throughout the island.

Cost: Total project size 415,433 acres. 410,000 acres have been acquired at a cost of \$31,753,000
 Project Development
 Land Acquisition : 5,433 acres remaining to be acquired.
 Implementation
 Operations and maintenance

Project Schedule:

Start Date: 1960
 Finish Date: TBD

Detailed Project Budget Information (\$1000)

	Thru 2008	2009	2010	Balance to complete	Total
Federal	31,753				
SFWMD					
Total	31,753			3,275	35,028

*Acres and expenditures reported for the Florida Keys NWR also includes parcels acquired in the National Key Deer Refuge, Great White Heron NWR and Key West NWR. Ownership of lands in the Key West NWR have never been under private ownership. They have been transferred between federal agencies.

Contact: Susan C. Trokey, Realty Specialist FWS 239-472-1100

Program Name: Land Acquisition
Project name: Hobe Sound National Wildlife Refuge
Project Number: 2170
Lead Agency: U.S. Fish and Wildlife Service
Authority: Endangered Species Act of 1973

Strategic Plan Goal(s) Addressed: 2.A.1

Measurable Output(s): Target 1,130 Acres

Project Synopsis: Hobe Sound National Wildlife Refuge was established in 1969 and presently includes 1,027 acres of coastal sand dunes, mangrove and sand pine-scrub habitat. The primary objective of the refuge is to maintain habitat for some of the most productive nesting areas of the endangered leatherback, green and threatened loggerhead sea turtles. Hobe Sound provides habitat and protection to eight plant and animal species listed as federal threatened or endangered. The South Florida Ecosystem Plan highlights the importance of beaches to sea turtles. One of the Plan's objectives is to prevent the further decline of candidate, threatened, and endangered species and prevent further degradation of their habitats. This project is supported by the State and local governments, the public and conservation groups, with no known opposition. There are many willing sellers of high priority habitat. Nonprofit conservation groups are involved in this project.

Cost: Total project size 1,130 acres. 1,034 acres have been acquired at a cost of \$18,000
 Project Development
 Land Acquisition : 96 acres remaining to be acquired.
 Implementation
 Operations and maintenance

Project Schedule:

Start Date: 1968
 Finish Date: TBD

Detailed Project Budget Information (\$1000)

	Thru 2008	2009	2010	Balance to complete	Total
Federal	18				
SFWMD					
Total	18			5,800	5,818

Contact: Susan C. Trokey, Realty Specialist FWS 239-472-1100

Program Name: Land Acquisition

Project name: J.N. "Ding" Darling National Wildlife Refuge (includes Caloosahatchee, Island Bay, Matlacha Pass & Pine Island refuges)

Project Number: 2171

Lead Agency: U.S. Fish and Wildlife Service

Authority: Migratory Bird Conservation Act; Executive Order 3299; Executive Order 943

Strategic Plan Goal(s) Addressed: 2.A.1

Measurable Output(s): Target 10,275 acres

Project Synopsis: The J.N. "Ding" Darling National Wildlife Refuge was established in 1945 and is located in Lee County, Florida on Sanibel Island. The island is 12 miles long and is fringed with mangrove trees, shallow bays and white sandy beaches. Tourism and seasonal residential development threatened to envelop the islands private lands until a growth plan was instituted. Caloosahatchee NWR is located in Fort Myers and acquisition of lands here is necessary for the protection of the endangered West Indian Manatee. Island Bay NWR is located in the Cape Haze area of Charlotte County and includes portions of three islands. All wetlands are protected by Federal or State ownership. Matlacha Pass NWR's acquisition boundary includes all islands, wetlands and uplands lying south of the north boundary line of Township 44 South, crossing the Caloosahatchee River and running southerly and easterly to Bunch Beach. Pine Island NWR generally lies between the western boundary of Pine Island and the Coastal Islands of Cayo Costs, North Captiva and Sanibel.

Cost: Total Total project size 10,275 acres*. 8,783 acres have been acquired at a cost of \$9,785,000
 Project Development
 Land Acquisition : 1,492 acres remaining to be acquired.
 Implementation
 Operations and maintenance

Project Schedule:

Start Date: 1945

Finish Date: TBD

Detailed Project Budget Information (\$1000)

	Thru 2008	2009	2010	Balance to complete	Total
Federal	9,785				
SFWMD					
Total	9,785			3,100	12,885

*Acres and expenditures reported for the J. N. "Ding" Darling NWR also includes parcels acquired in the Caloosahatchee NWR, Matlacha Pass NWR and Pine Island NWR. Ownership of lands in the Caloosahatchee NWR and Matlacha Pass NWR have never been under private ownership. They have been transferred between federal agencies.

Contact: Susan C. Trokey, Realty Specialist FWS 239-472-1100

Program Name: NOAA South Florida Program

Project Name: South Florida Ecosystem Restoration Planning and Projects

Project ID: 2200

Lead Agency: NOAA

Authority: Magnuson Stevens Fisheries Wildlife Conservation Act, Marine Mammal Protection Act. NMSA (16 U.S.C. §§ 1431 *et seq.*), FKNMSPA (PL 101-605), and Executive Order 13089 (Coral Reef Protection)

Funding Source:

Strategic Plan Goal(s) Addressed: Goal 2, Restore, Preserve, and Protect Natural Habitats and Species, Subgoal, 2A, Restore, Preserve, and Protect Natural Habitats; and 2B, Control Invasive Exotic Plant and Animal Species

Measurable Output(s): NOAA conducts several projects to support the South Florida Ecosystem Restoration. These projects involve (1) collection and analysis of Physical, Water Quality and Biological Data input to CERP Monitoring and Assessment Plan, (2) development of a Hydrodynamic Model for South Florida Coastal Waters (Florida Bay boundary), (3) Monitoring and Assessment of Critical Indicator Species in the ecosystem, including important commercial species and coral reefs, (4) determination of marine mammal population health and status, (5) development and application of ecological models, and (5) analyses of species and community attributes in relation to freshwater inflow and salinity. NOAA scientists and managers are contributing members to several multi-agency groups addressing different aspects of South Florida Ecosystem Restoration, including, the Task Force, the Working Group, the Science Coordination Group, and various RECOVER teams of the Comprehensive Everglades Restoration Program. NOAA prepares research publications for scientific journals, contributes to the biannual assessment report, and presents scientific findings about South Florida at the Greater Everglades Ecosystem Restoration and Florida Bay and Adjacent Ecosystems Symposia.

Project Synopsis: Ongoing program initiated in FY96 including research, monitoring and modeling components as well as a specific Education/Outreach Component. Includes three NOAA line organizations (NOS, NMFS and OAR) as well as Florida Sea Grant.

Cost:

Total:	FY08	\$2,018K from NOAA
Project Development:		\$1,278K USACE
Land Acquisition:		
Implementation		
Operations and maintenance		

Project Schedule:

Start Date: 1997
 Finish Date: Ongoing

Detailed Project Budget Information (1,000,000s)

	Thru 2003	2004	2005	2006	2007	2008	Balance to complete	Total to Date
Federal (NOAA)	28.800	4.200	4.200	1.240	1.663	2.018	ongoing	42.1M
State		0.4	0.4	0.4	0.575		ongoing	1.8M
Tribal								
Local								
Other (Corps)		0.7	0.7	1.071	1.474	1.278	ongoing	5.2M
Total	28.800	5.300	5.300	2.711	3.712	3.296	ongoing	49.1M

Hyperlink: N/A

Contact: Christopher Kelble 305-361-4374; Joan Browder 305-361-4270.

Project Name: C&SF: CERP Strazzulla Wetlands (OPE)
Project ID: 2300 (CERP Project WBS# 39)
Lead Agency: USACE / SFWMD
Authority: Not Authorized
Funding Source: Corps/State

Strategic Plan Goal(s) Addressed: 2-A.3

Measurable Output(s): An increase of 3,335 acres of habitat extent and connectivity

Project Synopsis: This feature adheres to the original concept outlined in the *Central and Southern Florida Project Comprehensive Review Study (Restudy)* and includes water control structures and the acquisition of 3,335 acres located in Palm Beach County. This land will act as a buffer between higher water stages to the west and lands to the east that must be drained. The purpose of this feature is to provide a hydrological and ecological connection to the Loxahatchee National Wildlife Refuge and expand the spatial extent of protected natural areas. This land will act as a buffer between higher water stages to the west and lands to the east that must be drained. This increase in spatial extent will provide vital habitat connectivity for species that require large unfragmented tracts of land for survival. It also contains the only remaining cypress habitat in eastern Everglades and one of the few remaining sawgrass marshes adjacent to the coastal ridge. Protection of this unique and endangered habitat provides an essential heterogeneity function.

Current Status: The Strazzulla project has been suspended due to high cultural resource costs and concerns regarding benefit outputs based on costs for planning design and construction.

Est. Cost: \$76,555,000

Project Schedule:
 2010 Construction completed.

	2004	2005	2006	2007	2008	2009	2010
PIR/ Plans & Specs							
Real Estate							
Construction							

Detailed Project Budget Information (in \$1,000s):

	Thru 2007	2008	2009	2010	Total
USACE	355	0	18,961	18,962	38,278
SFWMD	143	0	19,068	19,067	38,278
Total	498	0	38,029	38,029	76,555

Hyperlink: http://www.evergladesplan.org/pm/projects/proj_39_strazzulla.cfm

Contact: Kim Brooks-Hall, Chief Project Execution Branch, USACE
(904) 232-3155, Kimberly.Brooks-Hall@usace.army.mil

Source: Detailed budget and schedule information based on the *Central and Southern Florida Project Comprehensive Everglades Restoration Plan 2005 Report to Congress* and the *Master Implementation Sequencing Plan (MISP)* and updated to reflect current price levels in October 2007 dollars. Original project description summarized from the *Central and Southern Florida Project Comprehensive Review Study*.

Program Name: Infrastructure
Project Name: C&SF: CERP Winsberg Farms Wetlands Restoration (OPE)
Project ID: 2301 (CERP Project WBS# 91)
Lead Agency: USACE / Palm Beach County's Water Utilities District (PBCWUD)
Authority: WRDA 2000 (Programmatic Authority)
Funding Source: Corps/County

Strategic Plan Goal(s) Addressed: Primary: 2-A.3

Measurable Output(s): 114 acres of improved wetlands

Project Synopsis: The Winsberg Farm project was included in the 1999 *Central and Southern Florida Project Comprehensive Review Study* (Restudy) report as an "Other Project Element". Projects in this category were determined to be consistent with Restudy planning objectives and have a Federal interest, but were too small in scale to evaluate from a system-wide perspective. The non-federal partner is the Palm Beach County's Water Utilities District (PBCWUD). The original concept for this feature includes the construction of a 175-acre wetland east of Loxahatchee Wildlife Preserve in Palm Beach County using water that would normally be lost to deep well injection and any future beneficial use. The project involves restoration of approximately 114 acres of wetlands on former agricultural lands (175 acres were acquired by PBCWUD from the Winsberg family) using treated wastewater from PBCWUD's Southern Region Wastewater Reuse Facility. The wetland will reuse a valuable resource, recharge the local aquifer system, create a new ecologically significant wildlife habitat and extend the function of the nearby Wakodahatchee Wetland. The feature will reduce the amount of treated water from the Southern Region Water Reclamation Facility (SRWRF) wasted in deep injection wells by further treating and recycling the water.

The configuration includes a Phase 1 design and construction with approximately 72 acres of wetlands to be created in the western half of the project. The remaining 42 acres of the project area on the east half of the Winsberg Farm, considered Phase 2 of the project, would contain the same habitat types as Phase 1

Current Status: As a result of a condition of the real estate purchase agreement, Phase 1 of the project (about 72 acres of wetlands, plus a parking lot, visitor center, and recreational access features) has already been constructed. PBCWUD completed construction of Phase 1 in 2004, and re-named the project "Green Cay Wetlands". The tentatively Selected Plan (TSP) identified in 2005 and presented at AFB, is configured assuming constant inflow of water to maintain continuous inundation. Refinements during formulation process provide for the project to be located on approximately 165 acres of farmland just east of the Southern Region Water Reclamation Facility (SRWRF). Approximately 114 of the 165 acres would be hydrated using treated wastewater from the SRWRF resulting in the creation of a wetland system approximately three times the size of the adjacent Wakodahatchee Wetlands, and its location and proximity would leverage the recently created ecosystem restoration benefits by expanding the constructed wetland into an integrated system having even greater regional significance. Water levels will be allowed to fluctuate seasonally within a 1- to 2-foot range throughout the entire project in response to the natural seasonal variation of rainfall. This variation in the depth of project hydration will influence the growth and distribution of plant species within the wetland. Effluent comes into the project site from the western half of the project (Phase 1). To circulate the flow throughout the project several control structures and pumps have been integrated in various locations of the site.

These structures can be operated to allow flow in three ways:

1. to the eastern half of the project (Phase 2) or
2. circulate flow in the eastern half of the project by a 15-hp recirculation pump or
3. send flow to deep well injection by a 250-hp discharge pump in the event pool elevations rise beyond a set point due to direct rainfall.

A draft PIR was completed in February 2008 and was released for public and agency comment. The draft report recommends credit for PBCWUD's share of the project, and if approved, will be submitted to the Secretary of the Army to authorize federal funds for the construction of the Phase 2 portion of the project (approximately 42 acres - constructed to the same design elevations as Phase 1). The Final Project Implementation Report is expected to be submitted to the Secretary of the Army for review late in 2008

Est. Cost: \$23,700,000

Project Schedule:

2010 Construction completed.

	2002	2003	2004	2005	2006	2007	2008	2009	2010
Planning & Design									
Real Estate									
Construction									

Detailed Project Budget Information (in \$1,000s):

	Thru 2007	2008	2009	2010	Total
USACE	1,629	300	500	9,421	11,850
Palm Bch Co.	1,978	300	500	9,072	11,850
Total	3,607	600	1,000	18,493	23,700

Hyperlink: http://www.evergladesplan.org/pm/projects/proj_91_winsberg.cfm

Contact: Kim Brooks-Hall, Chief Project Execution Branch, USACE
 (904) 232-3155, Kimberly.Brooks-Hall@usace.army.mil

Source: Detailed budget and schedule information based on the FY09 budget submission to OMB and the *Master Implementation Sequencing Plan (MISP)* and updated to reflect current price levels in October 2007 dollars. Original project description summarized from the *Central and Southern Florida Project Comprehensive Review Study*. Current status summarized from the PIR 92008 and from information provided by the project manager.

Program Name: Infrastructure
Project Name: C&SF: CERP Lakes Park Restoration
Project ID: 2302 (CERP Project WBS # 94)
Lead Agency: USACE / Lee County
Authority: WRDA 2000 (Programmatic Authority)

Strategic Plan Goal(s) Addressed: 2-A.3

Measurable Output(s): 40-acre marsh flow-way, 11 acres of uplands, 9 acres of littoral zone

Project Synopsis: This feature includes the construction of a 40-acre marsh/flow way in an abandoned rock mine, removal of exotic vegetation, and planting native vegetation on 11 acres of uplands and 9 acres of littoral zone. This feature is located in the Lee County Lakes Regional Park, upstream of Estero Bay. Federal interest in this project has ceased and the project has been turned over to the SFWMD and Lee County.

Current Status: Federal efforts on this project are being discontinued. The South Florida Water Management District has advised that they will work with the non-federal sponsor (Lee County) to accomplish this project with non-federal resources. Jacksonville District has received a letter from Lee County requesting the project close-out process begin. No budget.

Est. Cost: \$6,700,000

Project Schedule: TBD by Sponsor

Detailed Project Budget Information (in \$1,000s):

	THRU 2007	2008	2009	2010
USACE	656	N/A	N/A	N/A
Lee County	180	TBD	TBD	TBD
TOTAL	836	TBD	TBD	TBD

Hyperlink: http://www.evergladesplan.org/pm/projects/proj_94_lakes_park.aspx.

Contact: Kim Brooks-Hall, Chief Project Execution Branch, USACE
(904) 232-3155, Kimberly.Brooks-Hall@usace.army.mil

Source: Detailed budget and schedule information based on the FY09 budget submission to OMB and the *Master Implementation Sequencing Plan* (MISP) and updated to reflect current price levels in October 2007 dollars. Original project description summarized from the *Central and Southern Florida Project Comprehensive Review Study*. Current Status summarized from the PMP (2005) and the project manager.

Program Name: Infrastructure
Project Name: C&SF: CERP Restoration of Pineland & Hardwood Hammocks in C-111 Basin
Project ID: 2303 (CERP Project WBS #92)
Lead Agency: USACE
Authority: WRDA 2000 (Programmatic Authority)
Funding Source: Corps/Miami-Dade County

Strategic Plan Goal(s) Addressed: Primary: 2-A.3

Measurable Output(s): 50 acres pine rockland and tropical hardwood hammock improved

Project Synopsis: The project is located in south Miami-Dade County, just east of Everglades National Park, along State Road 9336 in the area known as the Frog Pond. Eighty percent of the Frog Pond was used for agricultural purposes and farmers plowed the cap rock to create soil for tomato farming. The Frog Pond has since been purchased by the SFWMD as part of the C-111 Project to restore the Taylor Slough portion of the Everglades. The project involves restoring south Florida slash pine and tropical hardwood hammock species on a 200-foot wide strip on each side of the two miles of State Road 9336 from the C-111 Canal to the L-31W Burrow Canal (approximately 50 acres). This project will provide some water quality treatment for runoff passing through the hammocks demonstrate the techniques required to re-establish native conifer and tropical hardwood forests on land that has been rock plowed.

Current Status: Design agreement pending. Planned for future.

Est. Cost: \$1,000,000

Project Schedule:
 2022 Construction completed.

	2016	2017	2018	2019	2020	2021	2022
PIR/ Plans and Specs							
Construction							

Detailed Project Budget Information (in \$1,000s):

	2016	2017	2018	2019	2020	2021	2022	Total
USACE	7	11	106	106	53	71	146	500
Sponsor	7	11	106	106	53	71	146	500
Total	14	22	212	212	106	142	292	1000

Hyperlink: http://www.evergladesplan.org/pm/projects/proj_92_rest_pineland.aspx

Contact: Kim Brooks-Hall, Chief Project Execution Branch, USACE
 (904) 232-3155, Kimberly.Brooks-Hall@usace.army.mil

Source: Detailed budget and schedule information based on the FY09 budget submission to OMB and the *Master Implementation Sequencing Plan (MISP)* and updated to reflect current price levels in October 2007 dollars. Original project description summarized from the *Central and Southern Florida Project Comprehensive Review Study*.

Program Name: Infrastructure
Project Name: A.R.M. Loxahatchee NWR Prescribed Fire Program
Project ID: 2304
Lead Agency: USFWS A.R.M. Loxahatchee NWR

Strategic Plan Goal(s) Addressed: 2.A.3

Measurable Output(s): Acres of habitat improved including contribution to invasive exotic control.

Three prescribed fires were conducted in 2007 totaling 12,858 acres. Four wildfires burned an additional 7,469 acres for a total of 20,327 acres.

Project Synopsis: Fire is a natural part of the Everglades ecosystem. Fire also can be used to help control invasive exotic species. The natural fire patterns in the Everglades and in A.R.M. Loxahatchee NWR have been altered. A prescribe fire program will help to improve habitats by reducing fuel loads and mimicking natural fire frequencies and intensities where appropriate. The overall result will be an improvement in wildlife habitat on the refuge.

Cost:

Total:

Project Development:

Land Acquisition:

Implementation

\$200,000

Operations and maintenance

\$200,000 (each year)

Project Schedule:

Start Date 2002

Finish Date: recurring

Detailed Project Budget Information (1000s)

	Thru 2007	2008	2009	2010	2011	2012	2013	Total
Federal	1,070.1	170						
State								
Tribal								
Local								
Other								
Total	1,070.1	170						TBD

Hyperlink: N/A

Contact: Rolf E. Olson (561) 735-6022

Program Name: Infrastructure
Project Name: C&SF: CERP Acme Basin B Discharge
Project ID: 2306 (CERP Project WBS# 38)
Lead Agency: USACE / SFWMD
Authority: Not Authorized
Funding Source: Corps/State

Strategic Plan Goal(s) Addressed: Primary: 2-A.3 Secondary: 3-C.2

Measurable Output(s):

- 365-acre constructed upland/wetland mosaic improved
- 17,000 acre-feet per year recaptured for reuse
- 1,000 acre-feet per year supplement to Lake Worth Drainage District municipal water supply
- 14,000 acre-feet per year of water conveyance to WCA-2, WCA-3, Everglades National Park, and Shark River Slough

Project Synopsis: The original concept for this feature outlined in the *Central and Southern Florida Project Comprehensive Review Study (Restudy)* includes the construction of a wetland or chemical treatment area and a storage reservoir with a combined total storage capacity of 3,800 acre-feet located adjacent to the Loxahatchee National Wildlife Refuge in Palm Beach County. Stormwater runoff from Acme Basin “B” will be pumped into the wetland treatment area and then into the storage reservoir until such time as the water can be discharged into the Loxahatchee National Wildlife Refuge if water quality treatment criteria is met, or into the one of two alternative locations: the Palm Beach County Agricultural Reserve Reservoir (VV) or the combination above-ground and in-ground reservoir area located adjacent to the L-8 Borrow Canal and north of the C-51 Canal (GGG). Estimated real estate cost of this 930 acres is \$8,500,000, which would include all land costs and administrative/acquisition costs (both Federal and non-Federal).

Current Status: As a part of the Corps planning process, several alternative plans were reviewed. The identified Tentatively Selected Plan allows for the opportunity to recapture and reuse water (32,000 ac-ft/yr) that would otherwise be lost to tide and likely cause adverse ecological effects within the central Lake Worth Lagoon (LWL) estuarine system. It would also add to the local area’s ecological spatial extent (section 24) and would contribute much needed water (14,000 ac-ft/yr) further south into WCA-2, WCA-3, Everglades National Park and Shark River Slough, while supplementing the Lake Worth Drainage District (LWDD) municipal water supply (1000 ac-ft/yr). Additionally, it would relieve Lake Okeechobee from the burden for supplying water (32,000 acre-feet/yr) to the WCA-1, which would result in one less commitment to Lake Okeechobee’s Water Supply/Environmental (WS/E) obligations.

In the time period between the Restudy and the start of the Acme Basin B Discharge Project Implementation Report (PIR), the land the restudy had envisioned for a reservoir was sold to a developer. Thus, due to real estate cost increases, the project changed from an on-site water quality treatment project to a water conveyance project to an off-site water quality treatment area (STA 1E).

Currently, the operational plan is an operational change to the future without project (FWOP) and would route all Basin B runoff to C-51 and then west to STA-1E rather than east to tide as per the FWOP. The operational plan will treat Basin B runoff in STA-1E instead of discharging to tide through S-155A. This alternative incorporates construction of 365 acres of wetland/upland mosaic habitat in Section 24 as an increment to the non-structural plan operations. The plan would require no new structures or improvements to existing structures in Village of Wellington Basin A or Basin B and does not provide conveyance of Basin B runoff through Section 24.

Work on a draft Project Implementation Report (PIR) has been discontinued. The SFWMD, is advancing the design and construction as a state-expedited project.

Est. Cost: \$28,800,000

Project Schedule:

2009 Construction completed.

	2002	2003	2004	2005	2006	2007	2008	2009
PIR/Plans and Specs								
Real Estate								
Construction								

Detailed Project Budget Information (in \$1,000s) :

	Thru 2007	2008	2009	Total
USACE	2,229	9	12,162	14,400
SFWMD	670	0	13,730	14,400
Total	2,899	9	25,892	28,800

Hyperlinks: http://www.evergladesplan.org/pm/projects/proj_38_acme.cfm

https://my.sfwmd.gov/portal/page?pageid=1855,2831038,1855_2831245&dad=portal&schema=PORTAL&navpage=prjwpa

Contact: Kim Brooks-Hall, Chief Project Execution Branch, USACE
 (904) 232-3155, Kimberly.Brooks-Hall@usace.army.mil

Source: Detailed budget and schedule information based on the FY09 budget submission to OMB and the *Master Implementation Sequencing Plan (MISP)* and updated to reflect current price levels in October 2007 dollars. Original project description summarized from the *Central and Southern Florida Project Comprehensive Review Study*. Current status information summarized from Draft PIR document, the TSP and information provided by the project manager.

Program Name: Infrastructure
Project Name: C&SF: CERP – Acme Basin B Discharge (OPE) – Expedited Project
Project ID: 2306A (CERP Project WBS# 38)
Lead Agency: SFWMD
Authority: Memorandum of Agreement Regarding Acceleration of the CERP
Funding Source: State

Strategic Plan Goal(s) Addressed: 2.A.3

Measurable Output(s): Surface water for Everglades Protection Area; 1,028 ac-ft water storage

Project Synopsis: This SFWMD expedited project is one of a series of five project components located adjacent to the Everglades Water Conservation Areas (WCAs) in Palm Beach, Broward and Miami-Dade counties which make up the Water Preserve Areas Project (Site 1 Impoundment, C-9 Impoundment, C-11 Impoundment, Acme Basin B Discharge, and WCA-3A/3B Seepage Management).

This project component includes Section 24 Impoundment, 2 pump stations and C1 Canal improvements.

Total Estimated Project Cost: \$41,621,545

Scheduled Construction Start Date: Jun, 2006 (Phase 1)
Scheduled Project Completion Date: Dec, 2007 (Phase 1)

Scheduled Construction Start Date: February, 2009 (Phase 2)
Scheduled Project Completion Date: May, 2010 (Phase 2)

Actual Expenditures to date by SFWMD*:

	Thru 2005	2006	2007	2008	Total
SFWMD	\$417,537	\$1,180,571	\$3,357,742	1,818,370	\$6,356,683

Contact: Jorge A. Jaramillo, P.E, 561-242-5520, x4021

*Credit for expedited project work subject to inclusion in authorized Federal project.

**Amount estimated subject to credit once project is authorized and authorization has been given to credit work accomplished prior to signing of a PCA.

Program Name: Infrastructure
Project Name: C&SF: CERP Picayune Strand Restoration (OPE)
f/k/a *Southern Golden Gate Estates Hydrologic Restoration*
Project ID: 2307 (CERP Project WBS# 30)
Lead Agency: USACE / SFWMD
Authority: WRDA 2007
Funding Source: Corps/State

Strategic Plan Goal(s) Addressed: 2-A.3

Measurable Output(s): 55,000 acres of wetlands restored(22,000 - Faka; 16,500 - Merritt; 16500 - Miller)

Project Synopsis: This project involves the restoration of natural water flow across 85 square miles in western Collier County that was drained in the early 1960s in the anticipation of extensive residential development. This subsequent development dramatically altered the natural landscape, changing a healthy wetland ecosystem into a distressed environment. Implementation of the restoration plan outlined in the *Central and Southern Florida Project Comprehensive Review Study (Restudy)* will improve the water quality of coastal estuaries by moderating the large salinity fluctuations caused by the freshwater point discharge from the Faka Union Canal at the Port of the Islands. The project includes a combination of spreader channels, canal plugs, road removal, and pump stations in the Western Basin and Big Cypress, Collier County, south of I-75 and north of US 41 between the Belle Meade Area and the Fakahatchee Strand State Preserve.

Current Status: The PIR was completed in 2004 and the Chief's Report was signed September 15, 2005. The Assistant Secretary of the Army (ASA) completed a review and referred the project to Congress by letter dated April 2, 2007; and OMB completed their review. WRDA 2007 authorized the project for construction, dependent on appropriations from Congress. The project is currently proposed for funding in the President's FY09 Budget. The refined project includes 83 miles of canal plugs, 227 miles of road removal, and the addition of pump stations and spreader swales to aid in rehydration of wetlands and maintenance of flood protection for the Northern Golden Gate Estates residential area.

The project will restore the wetlands in Picayune Strand (Southern Golden Gate Estates) and in adjacent public lands by reducing over drainage while restoring a natural and beneficial sheetflow of water to the Ten Thousand Islands National Wildlife Refuge. Additionally, the project will significantly increase the size of wetlands and improve major wetland ecosystems in adjacent lands including the Fakahatchee Strand State Preserve, Florida Panther National Wildlife Refuge, and Collier Seminole State Park, benefiting threatened and endangered species such as the Florida panther and the red cockaded woodpecker. Water quality and volume delivered to coastal estuaries will be improved by the moderation of large salinity fluctuations caused by freshwater flowing from the Faka Union Canal into the estuaries. The project will also maintain existing flood protection for the Northern Golden Gate Estates and provide public access and recreational opportunities.

The state of Florida initiated an early start on this hydrologic restoration project in October 2003 as a state-expedited project. Prairie Canal Early Start, Phase 1, backfilled the northern two miles of the canal and successfully reduced drainage of the adjacent Fakahatchee Strand State Preserve and restored habitat for threatened and endangered species. Phases 2 and 3 of the Early Start work will remove the roads adjacent to the canal and backfill the southern five miles to restore sheetflow. Road removal between Prairie Canal and the Merritt Canal was completed by the SFWMD and the remaining road removal efforts are being done as a state-expedited project.

The balance of construction will be implemented by the U.S. Army Corps of Engineers.

Est. Cost: \$416,234,000

Project Schedule:

2004 PIR
2006 State-expedited construction started.
2009 USACE construction started.
2015 Construction completed.

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
PIR/ Plans & Specs													
Real Estate													
Construction													

Detailed Project Budget Information (in \$1,000s):

	Thru 2007	2008	2009	2010	Balance 2011-2015	Total
USACE	9,078	1,600	1,000	98,220	98,219	208,117
SFWMD	4,985	1,600	1,000	100,266	100,266	208,117
Total	14,063	3,200	2,000	198,486	198,485	416,234

Hyperlinks: http://www.evergladesplan.org/pm/projects/proj_30_sgge.aspx

https://my.sfwmd.gov/portal/page?_pageid=1855,2831193,1855_2831931&_dad=portal&_schema=PORTAL&navpage=prjsgge.

Contact: Kim Brooks-Hall, Chief Project Execution Branch, USACE
(904) 232-3155, Kimberly.Brooks-Hall@usace.army.mil

Source: Schedule information based on the *Master Implementation Sequencing Plan (MISP)*. Detailed budget information based on the final Project Implementation Report (PIR). Original project description summarized from the *Central and Southern Florida Project Comprehensive Review Study*. Current status information summarized from the Final PIR (2004) and information provided by the project manager.

Program Name: Infrastructure

Project Name: C&SF: CERP – Picayune Strand (Southern Golden Gate Estates) Hydrologic Restoration (OPE) – Expedited Project

Project ID: 2307A (CERP Project WBS# 30)

Lead Agency: SFWMD

Authority: Memorandum of Agreement Regarding Acceleration of the CERP

Funding Source: State

Strategic Plan Goal(s) Addressed: Other

Measurable Output(s): Three pump stations with spreader systems; canal plugs; flood control berms; road removal; and habitat restoration

Project Synopsis: This State expedited project involves the restoration of natural water flow across 85 square miles in western Collier County, drained in the early 1960s with the intention of residential development. This project includes three diesel pump stations with spreader systems, plugging of 40 miles of canals, and removal of 227 miles of roads. Levees will be installed as required to provide flood protection for adjacent private properties that would be impacted by the project. *This project has been incorporated into CERP project ID number 2307. Future updates will be located under that ID.*

Total Estimated Project Cost: \$362,260,000

Scheduled Construction Start Date: Sept, 2006

Scheduled Project Completion Date: Sept, 2015 (includes all three pump stations)

Actual Expenditures to date by SFWMD*:

	Thru 2007	2008	Total
SFWMD	\$21,764,046	\$2,480,058	\$24,244,104

Contact: Alan Shirkey, 561-242-5520, x4082

*Credit for expedited project work subject to inclusion in authorized Federal project.

**Amount estimated subject to credit once project is authorized and authorization has been given to credit work accomplished prior to signing of a PCA.

Program Name: C&SF: CERP PLA / Adaptive Assessment and Monitoring Program
Project ID: 2308
Lead Agency: USACE / SFWMD
Authority: Design Agreement; WRDA 1996, 2000 (Initially Authorized Project)

Strategic Plan Goal(s) Addressed: supports 2-A.3

Measurable Output(s): Monitoring Plan

Project Synopsis: Adaptive assessment is a process for evaluating how well the phases of the CERP achieve their expected objectives, and for using these evaluations as a basis for refining future phases of the program. An extensive Adaptive Assessment Program that includes a system-wide monitoring program will be conducted to support the goals and objectives of CERP. This program will provide an opportunity to continue investigating concepts and issues relative to the overall CERP while implementation of the initial project features is underway. The Adaptive Assessment Program will include continued system-wide evaluation and analysis among other planning activities. The monitoring program will have a dual focus on the biological (including water quality) and the water supply and flood protection objectives in the urban and agricultural regions.

One of the more significant accomplishments since 2000 is the development and publication of the Monitoring and Assessment Plan (MAP) by RECOVER in January of 2004. The MAP is the primary tool by which RECOVER will assess the performance of the Plan. The goal in developing and implementing the MAP is to have a single, integrated, system-wide monitoring and assessment plan that will be used and supported by all participating agencies to track and measure system-wide responses to the implementation of CERP. Preparation of the MAP involved participation by numerous individuals from federal and state agencies and tribal governments, local agencies, and stakeholders, interest groups, and the public over a three-year period. The MAP is being updated in 2008.

Information gathered from monitoring described in the MAP will provide necessary information to determine if responses to implementation of the Plan are desirable, to determine progress toward reaching Interim Goals and Interim Targets, and to evaluate if revisions and refinements of the Plan are needed to improve performance. The MAP is designed to provide assessment information to measure how well the CERP is meeting its performance objectives and provide annual reports to the Adaptive Management Program, a critical element of CERP.

Est. Cost: \$555,513,000

Hyperlink: http://www.evergladesplan.org/pm/landing_program.aspx.

Contact: Dave Tipple, USACE, 904-232-1375
Dave.A.Tipple@usace.army.mil.

Source: Detailed budget and schedule information based on the FY09 budget submission to OMB and the *Master Implementation Sequencing Plan* (MISP) and updated to reflect current price levels in October 2007 dollars. Additional information from the Monitoring and Assessment Plan (2004) and from the project manager.

Program Name: Infrastructure
Project Name: C&SF: CERP Biscayne Bay Coastal Wetlands (FFF)(OPE)
Biscayne Bay Coastal Wetlands – Tidal and Freshwater
Project ID: 2309 (Formerly project ID 1410) (CERP Project WBS# 28)
Lead Agency: USACE / SFWMD
Authority: Not authorized.
Funding Source: Corps/State

Strategic Plan Goal(s) Addressed: 2-A 3

Measurable Output(s): 1,695 acres of restored wetlands

- For Saltwater wetlands, acres of lift = 1,242.
- For Freshwater wetland, acres of lift = 453
Sensitivity analysis provides range from 453 to 1,219 depending upon seepage rate used in calculations. Lower number is used in the final CBEEM analysis.

Project Synopsis: The goal of the project is to improve the current ecological health of Biscayne Bay by adjusting the quantity, quality, timing, and distribution of freshwater entering Biscayne Bay and Biscayne National Park.

The project will capture, treat, and redistribute freshwater runoff from the watershed into Biscayne Bay, creating more natural water deliveries, expanding spatial extent and connectivity of coastal wetlands, and providing improved recreational opportunities in Biscayne Bay and adjacent wetlands. The proposed project will replace lost overland flow and partially compensate for the reduction in groundwater seepage by redistributing, through a spreader system, available surface water entering the area from regional canals. The proposed redistribution of freshwater flow is expected to restore or enhance freshwater wetlands, tidal wetlands, and near shore bay habitat. Diversion of canal discharges into coastal wetlands is expected not only to reestablish productive nursery habitat all along the shoreline but also to reduce the abrupt freshwater discharges that are physiologically stressful to fish and benthic invertebrates in the bay near canal outlets. Target freshwater flows for Biscayne Bay and the wetlands within the redistribution system are based upon the quality, quantity, timing and distribution needed to provide and maintain sustainable biological communities in Biscayne Bay, Biscayne National Park and the coastal wetlands. Improving salinity distribution near the shoreline can help to reestablish productive nursery habitat for shrimp and shellfish. Potential sources of water for providing freshwater flows to Biscayne Bay will be identified and evaluated to determine their ability to provide the target flows.

The *Central and Southern Florida Project Comprehensive Review Study* (Restudy) included pump stations, spreader swales, stormwater treatment areas, flow ways, levees, culverts, and backfilling canals located in southeast Miami-Dade County and covers 13,600 acres from the Deering Estate at C-100C, south to the Florida Power and Light Turkey Point power plant, generally along L-31E. The component Biscayne Bay Coastal Canals as modeled in D-13R and the Critical Project on the L-31E Flowway Redistribution are smaller components of the Biscayne Bay Coastal Wetlands feature.

Current Status: An alternative formulation briefing (AFB) was held in early December 2007, and a guidance memorandum was received from Headquarters, US Army Corps of Engineers in April 2008. In February 2008, it was decided to divide the project in two phases. Phase I of the project will consist of the design and construction of two essential components, Deering Estate Flow-way and Cutler Ridge Wetlands, and will restore the quantity, quality, timing, and distribution of freshwater to Biscayne Bay and Biscayne National Park.

Project 2309 C&SF: CERP Biscayne Bay Coastal Wetlands Page 1 of 3

Phase II of the project will include the remainder of the project features not included in Phase I. The project development team (PDT) is proceeding forward with the preparation of a draft Project Implementation Report (PIR) for Phase I, which is currently scheduled for release for public comment towards the end of this calendar year. Work on the draft PIR for Phase II is scheduled to start in 2009.

The SFWMD is advancing the design and construction of Phase 1 as a state-expedited project.

Est. Cost: \$449,898,000

Project Schedule:

2011 Phase 1 construction completed
 2015 Phase 2 construction completed

Phase 1 & 2	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
PIR/Plans & Specs												
Real Estate												
Construction (Ph 1)												
Construction (Ph 2)												

Detailed Project Budget Information (in \$1,000s):

	Thru 2007	2008	2009	2010	2011	2012	Balance 2013 - 2015	Total
USACE	7,447	1,400	2,600	28,406	28,406	28,406	128,284	224,949
SFWMD	2,207	1,400	2,600	28,821	28,821	28,821	132,279	224,949
Total	9,654	2,800	5,200	57,227	57,227	57,227	260,563	449,898

Hyperlink: http://www.evergladesplan.org/pm/projects/proj_28_biscayne_bay.cfm
https://my.sfwmd.gov/portal/page?_pageid=1855,2830400,1855_2830186&_dad=portal&_schema=PORTAL&navpage=prjbisbay

Contact: Kim Brooks-Hall, Chief Project Execution Branch, USACE
 (904) 232-3155, Kimberly.Brooks-Hall@usace.army.mil

Source: Detailed budget and schedule information based on the FY09 budget submission to OMB and the *Master Implementation Sequencing Plan* (MISP) and updated to reflect current price levels in October 2007 dollars. Original project description summarized from the *Central and Southern Florida Project Comprehensive Review Study*. Current status information summarized from draft PIR document, AFB briefing documentation and information provided by the project manager.

Program Name: Infrastructure
Project Name: C&SF: CERP - Biscayne Bay Coastal Wetlands (FFF) (OPE) - Expedited Project
Project ID: 2309A (Formerly project ID 1410A) (CERP Project WBS# 28)
Lead Agency: SFWMD
Authority: Memorandum of Agreement Regarding Acceleration of the CERP
Funding Source: State

Strategic Plan Goal(s) Addressed: Other

Measurable Output(s): Freshwater wetland, tidal wetland, near-shore habitat restoration, flood protection, recreation.

Project Synopsis: This *SFWMD expedited* project is a component of a larger project that will expand and restore the wetlands adjacent to Biscayne Bay in Miami-Dade County, enhancing the ecological health of Biscayne National Park. This project consists of the design and construction of two essential components - Deering Estates Flow-way and Cutler Ridge Wetlands and includes Spur Canal Extension, pump stations, seepage canals, spreader swales, levees and canals.

Total Estimated Project Cost: \$43, 218,332 (includes design, land management and construction)

Scheduled Construction Start Date: FY09 (funding issues in FY08)

Scheduled Project Completion Date: FY11

Actual Expenditures to date by SFWMD*:

	Thru 2005	2006	2007	Total
SFWMD	\$718,510	\$1,143,559	\$5,631,921	\$7,493,990

Contact: Jorge Jaramillo, 561-242-5520, x4021

*Credit for accelerated work subject to inclusion in authorized Federal project.

Program Name: Infrastructure
Project Name: C&SF: CERP C-111 Spreader Canal (WW)
C-111 Spreader Canal- Western Phase 1 and Eastern Phase 2
Project ID: 2310 (Formerly Project ID 1517) (CERP Project WBS# 29)
Lead Agency: USACE / SFWMD
Authority: WRDA 2000 - *Initially Authorized Project*
Funding Source: Corps/State

Strategic Plan Goal(s) Addressed: Primary: 2-A.3

Measurable Output(s): Increased Flows to Florida Bay via Taylor Slough – acreage TBD.

Project Synopsis: This project was one of the ten Initially Authorized Projects identified in WRDA 2000. This feature includes levees, canals, pumps, water control structures, and a stormwater treatment area to be constructed, modified or removed in the Model Lands and Southern Glades (C-111 Basin) area of Miami-Dade County. The purpose of this feature is to improve deliveries and enhance the connectivity and sheetflow in the Model Lands and Southern Glades areas, reduce wet season flows in C-111, and decrease potential flood risk in the lower south Miami-Dade County area. The Project Management Plan (PMP) for this project was approved in 2002. As part of the Corps planning process, several alternative plans were reviewed. A Tentatively Selected Plan (TSP) was recommended in October 2007 and is expected to increase flows thru Taylor Slough, into Florida Bay, by 20%.

Current Status: An Alternative Formulation Briefing document has been forwarded to HQ for review and comment. The AFB meeting with HQ was held April 15, 2008. USACE HQ is currently reviewing the document and will provide a Policy Guidance Memorandum. The project is now planned to be implemented via two Planning Implementation Reports (PIRs), a Western PIR and Eastern PIR. The Western PIR is underway and is focusing on improving water deliveries to Florida Bay via Taylor Slough.

Western PIR objectives include:

- Maximize the potential for learning to address flood control, ecological responses and cost effectiveness of replacing or eliminating the existing C-111 canal system, to the extent practicable, while maximizing restoration of Florida Bay, Southern Glades, and Model Lands.
- Improve flow patterns, hydroperiods and the volume of water reaching Florida Bay via Taylor Slough and reducing the volume of water released from S-18C.
- Determine the operational constraints associated with water control levels and the corresponding influences on seepage losses from Taylor Slough and regional flood control.
- Reduce damaging discharges of the S-197 structure to Manatee Bay by reuse of water upstream to create more effective seepage control.
- Ecological connectivity of the Southern Glades, Model Lands and adjacent natural areas.
- Improve habitat, functional quality of existing natural areas and increase spatial extent where practicable.

SFWMD is advancing the design and construction as a state-expedited project.

The Eastern PIR will focus on restoration of the model lands and southern glades.

Est. Cost: \$147,000,000 (Western Part 1 PIR only)
TBD (Eastern Part 2 PIR)

Project Schedule:

2011 Complete construction (Western Part 1 PIR only)
 TBD Start/Completion (Eastern Part 2 PIR)

Western P1	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Planning & Design												
Real Estate												
Construction												

Detailed Project Budget Information (in \$1,000s):

Western (Part 1)	Thru 2007	2008	2009	2010	2011	Total
USACE	5,136	1,842	1,721	32,400	32,401	73,500
SFWMD	2,004	1,842	1,721	33,966	33,967	73,500
Total	7,140	3,684	3,442	66,366	66,368	147,000

Hyperlink: http://www.evergladesplan.org/pm/projects/proj_29_c111.cfm

https://my.sfwmd.gov/portal/page?_pageid=1855,2830405,1855_2830734&_dad=portal&_schema=PORTAL&navpage=prjc111

Contact: Kim Brooks-Hall, Chief Project Execution Branch, USACE
 (904) 232-3155, Kimberly.Brooks-Hall@usace.army.mil

Source: Detailed budget and schedule information based on the FY09 budget submission to OMB and the *Master Implementation Sequencing Plan (MISP)* and updated to reflect current price levels in October 2007 dollars. Original project description summarized from the *Central and Southern Florida Project Comprehensive Review Study*. Current status summarizes information from the PMP, TSP and AFB as well as from the project manager.

Program Name: Infrastructure
Project Name: C&SF: CERP C-111 N Spreader Canal (WW)
Project ID: Part of 2310 (CERP Project WBS# 29)
Lead Agency: USACE / SFWMD
Authority: WRDA 2000 - *Initially Authorized Project*
Funding Source: Corps/State

Strategic Plan Goal(s) Addressed: Primary: 1-B.1

Measurable Output(s): 3,200 acres stormwater treatment areas

Est. Cost: \$132,800,000 (October 2007 price level)

During the planning process, it was determined that certain Initially Authorized Projects and closely related CERP projects should be combined. Thus, the Initially Authorized Projects contained in this report will be de-authorized in order to be included as sub-features within larger CERP projects. This project is incorporated into the project above.

This Initially Authorized Project and its associated costs are already included in the C-111 Spreader Canal project (Project ID 1404; CERP Project # WBS 29).

Program Name: South Florida Ecological Services Office Threatened and Endangered Species Program
Project Name: South Florida Multi-Species Recovery Plan
Project ID: 2402
Lead Agency: USFWS
Authority: Endangered Species Act of 1973 (16 U.S.C. 1531-1543)
Funding Source: No specific funding source, part of base funding for agency/organizations and further incorporated into agency/organization budgets to extent practical

Strategic Plan Goal(s) Addressed: Primary: 2.A.4 **Secondary:** 2.A.1

Measurable Output(s): Number of species delisted, number of species reclassified to threatened, number of species status stable or improving

Project Synopsis: A Multi-Species Recovery Plan (MSRP) for the threatened and endangered species of south Florida was completed in May 1999. This document was prepared to fulfill a major element of the South Florida Ecosystem Restoration Initiative. It contains information on the biology, ecology, status, trends, management, and recovery actions for 68 federally listed species that occur in south Florida, as well as the ecology and restoration needs of 23 natural communities in this region. Implementation of the MSRP is underway through the work of the Service and their many Federal, State, and non-governmental partners. The MSRP implementation schedule was completed in 2007. The implementation schedule prioritizes recovery actions in the MSRP, as well as providing time and cost estimates for those actions. Participants to complete those actions are identified. The Florida population of the American crocodile was reclassified from endangered to threatened on April 19, 2007. The status of the following species is stable or improving: American crocodile, Carter's mustard, four-petal pawpaw, fragrant prickly-apple, Garber's spurge, Key deer, Okeechobee gourd, pigeon wings, rice rat, Schaus swallowtail butterfly, and scrub blazingstar. The Service is revising the Key deer recovery plan and a draft is anticipated to be available for public review and comment in late 2008. The revision of the Florida panther recovery plan is anticipated to be finalized in late 2008.

The Service is working with partners to initiate, continue, or complete recovery actions in the MSRP for a multitude of species. Research, monitoring, and/or habitat restoration are being conducted for the Florida panther, Key deer, Key Largo cotton mouse, Key Largo woodrat, Lower Keys marsh rabbit, southeastern beach mouse, West Indian manatee, Audubon's crested caracara, Cape Sable seaside sparrow, Everglade snail kite, Florida grasshopper sparrow, wood stork, American crocodile, Eastern indigo snake, green sea turtle, hawksbill sea turtle, loggerhead sea turtle, Stock Island tree snail, crenulate lead-plant, four-petal pawpaw, Avon Park harebells, Okeechobee gourd, Lakela's mint, beach jacquemontia, Key tree cactus, pygmy fringe-tree, short-leaved rosemary, scrub buckwheat, snakeroot, Highlands scrub hypericum, scrub blazing star, papery whitlow-wort, Lewton's polygala, wireweed, sandlace, scrub plum, and Florida ziziphus.

Cost: Total: \$386,112,000 (does not include all amounts for habitat acquisition, management, or restoration because those tasks are expressed as costs per acre and could not be determined at this time)

Project Schedule:
Start Date: 1994
Finish Date: TBD

Estimated Cost of Recovery

Includes the estimated cost of accomplishing all recovery actions in the MSRP. These costs were calculated as totals per community for the multiple species that occur within each community. Costs for land acquisition, management, and restoration will be more accurately determined as the MSRP is implemented.

Detailed Project Budget Information

	FY 2005	FY 2006	FY 2007	FY 2008	Balance to complete	Total
Federal	\$3,002.539 ^a	\$5,219.2	\$3,345.8		\$374,544.46 ^b	
State						
Tribal						
Local						
Other						
Total	\$3,002.539^a	\$5,219.2	\$3,345.8		\$374,544.46^b	\$386,112^c

^aAmounts obtained from the South Florida Ecological Services Office's recovery expenditures report to Congress

^bTotal is rough estimate based upon the 1999 South Florida Multi-Species Recovery Plan and the precise amount of dollars has not been updated recently

^cDoes not include all amounts for habitat acquisition, management, or restoration because those tasks are expressed as costs per acre and could not be determined at this time

Contact: Cindy Schulz (772) 562-3909

Program Name: Infrastructure
Project Name: WCA 2A Regulation Schedule Review
Project ID: 2403
Lead Agency: USACE
Authority: Not Authorized
Funding Source: Corps/State

Strategic Plan Goal(s) Addressed: Other

Measurable Output(s): Revised Schedule

Project Synopsis: The purpose of the project is to evaluate the feasibility of modifying operational standards for WCA 2A to benefit its fish and wildlife resources, without adversely impacting the area's ability to satisfy its flood control and water supply purposes. The study can be implemented with existing operational and maintenance authority. It can be funded through ongoing O&M appropriations for the Corps of Engineers. This project will be done in coordination with the Everglades Rain-Driven Operations.

Est. Cost: TBD

Project Schedule: TBD

Detailed Project Budget Information (in \$1,000s):

No budget information available, as project has not begun.

Contact: Kim Brooks-Hall, Chief Project Execution Branch, USACE
(904) 232-3155, Kimberly.Brooks-Hall@usace.army.mil

Program Name: Infrastructure
Project Name: C&SF: Manatee Pass Gates
Project ID: 2404
Lead Agency: USACE / SFWMD
Authority: ER 1130-2-540, Environmental Stewardship Operations and Maintenance Policies, 15 November 1996; EP 1130-2-540, Environmental Stewardship Operations and Maintenance Guidance and Procedures, revised 30 November 2001; the Marine Mammal Protection Act of 1972; and the Endangered Species Act of 1973, as amended; and the approved water control plans and manuals for the Central and Southern Florida Project; Section 203 Flood Control Act (1948) and Section 203 of the Flood Control Act (1958) address cost-sharing.
Funding Source: Corps/State

Strategic Plan Goal(s) Addressed: Other – supports 2-A.3

Measurable Output(s): Structural modifications and operational changes for species protection

Project Synopsis: The West Indian manatee, an endangered species, is provided protection under the Endangered Species Act of 1973 and the Marine Mammal protection Act of 1972, making it against the law to “harm, harass, kill” etc. any of these animals. Unfortunately, after boats, the “operations of spillways and locks are cited as the second leading cause of human related manatee mortalities”.

Therefore, the protection of the manatees at water control structures is a part of the long range recovery goals of the Florida Manatee Recovery Plan required by the Marine Mammal Protection Act, to maintain “the health and stability of the marine ecosystem” and to determine and maintain manatee numbers at “optimum sustainable population” in the southeastern United States. The purpose of this project is to develop and install Manatee Protection Devices on vertical lift gates and sector gates at specific navigation and flood control structures. The original concept for this feature was outlined in the *Central and Southern Florida Project Comprehensive Review Study* (Restudy). In Section 4.9.1.5 of the Restudy, the Manatee Protection project is described as follows:

“The West Indian manatee (*Trichechus manatus*) is listed as a federally endangered species and is one of the most endangered species in Florida. As a response to recent manatee mortality trends associated with water control structures, this project will provide operational changes and implement the installation of a manatee protection system at seven sector gates at navigational locks near Lake Okeechobee. The beneficial outcome of this project will be the reduction of risk, injury, and mortality of the manatee. The seven sector gates include S-193 at Okeechobee and S-310 at Clewiston on Lake Okeechobee; St. Lucie Lock and Port Mayaca Lock on the St. Lucie Canal; and Moore Haven Lock, Ortona Lock, and W. P. Franklin Lock on the Caloosahatchee River.

The mechanism proposed would use hydro acoustic and pressure sensitive devices that will immediately stop the gates when an object is detected between the closing gates. These systems will transmit an alarm and signal to stop the gate movement when a manatee is detected. When an object or manatee activates the gate sensors, the gate will stop and open approximately six inches to release a manatee. As a result, a manatee will be able to travel between the open gates. After the gate opens, the operator can fully close the gate unless an object remains between the gates. Then the opening process will repeat the cycle as the sensors are activated again. Due to these structural modifications, manatees will be at a significantly less risk as they encounter locks with sector gate.”

Project Synopsis: The purpose of this project is to develop and install Manatee Protection Devices on vertical lift gates and sector gates at specific navigation and flood control structures. Currently, this project consists of alternative structural modifications to 23 existing water control structures and locks in the C&SF Project to reduce or eliminate manatee mortalities associated with their operation. The project is being implemented in two phases; the first phase addresses the addition of pressure sensitive devices at water control structures. These devices will reverse the gate closure if a foreign object is detected. During the second project phase, acoustic devices will be placed at lock gates.

Current Status: Installation of acoustic devices at the first of seven sector gates, Ortona Lock (S-78) Base Bid Year, is near completion. Acoustical device installation for Moorehaven (S-77) and Port Mayaca (S-308B) Option Year One contracts were awarded in mid-August 2007. In June 2008 construction work will be performed concurrently on S-308, Port Mayaca, and S-80, St. Lucie Lock, to minimize lock closures. The installation of the manatee protection system (MPS) at S-77, Moore Haven Lock, has been postponed until FY09; instead, the contract for installation of the MPS at S-80, St. Lucie Lock, was awarded the week of April 28, 2008. Task Orders for subsequent sector gates (W.P. Franklyn Lock and Taylor Creek Lock) are expected in winter 2008.

Est. Cost: \$15,800,000

Project Schedule:

2001 Start
 2010 Finish

	2004	2005	2006	2007	2008	2009	2010
PIR/Plans and Specs							
Real Estate							
Construction							

Detailed Project Budget Information (in \$1,000s):

	Thru 2007	2008	2009	2010	Total
USACE	10,424	0	648	2,528	13,600
SFWMD	2,200	0	0	0	2,200
Total	12,624	0	648	2,528	15,800

Hyperlink: <http://www.saj.usace.army.mil/pd/manatee1.htm>

Contact: Kim Brooks-Hall, Chief Project Execution Branch, USACE
 (904) 232-3155, Kimberly.Brooks-Hall@usace.army.mil

Source: Detailed budget and schedule information based on the FY09 budget submission to OMB and the *Master Implementation Sequencing Plan (MISP)* and updated to reflect current price levels in October 2007 dollars. Original project description summarized from the *Central and Southern Florida Project Comprehensive Review Study* and from <http://www.sfstore.org/documents/xcut/usace.htm>

Program Name: Infrastructure
Project Name: Loxahatchee Impoundment Landscape Assessment (LILA)
Project ID: 2305
Lead Agency: SFWMD / USFWS A.R.M. Loxahatchee NWR

Strategic Plan Goal(s) Addressed: 2.A.3

Measurable Output(s): Reports outlining quantitative targets for CERP performance measures. Educational kiosk.

Project Synopsis: The objective of LILA is to support CERP by defining hydrologic regimes that sustain a healthy Everglades Ridge and Slough ecosystem and reduce uncertainty in predicting the ecosystem response. LILA will address the effects of water depth, hydro period, and flow rate on wading birds, tree islands, marsh plant communities, marsh fishes and invertebrates, and peat soils. In addition, LILA supports refuge and CERP public outreach by providing opportunities to observe ongoing investigations and results. It will provide educational opportunities through on-site demonstrations, kiosks as well as a forum for discussion of restoration designs.

Project Schedule:

Start Date: 2002
 Finish Date: 2012

Detailed Project Budget Information (1000s)

	2002	2003	2004	2005	2006	2007	2008	Total
Federal	1,900*	60	10	10	10	10	50	2,050
State	700	338	361	197.5	488	348		2,432.5
Tribal								
Local								
Other								
Total	2,600	398	371	207.5	498	358	50	4,482.5

*\$1,900,000 is contribution of land 64 acres

Hyperlink: N/A
Contact: Rolf E. Olson (561) 735-6022

Program Name: Invasive Exotic Species Management
Project Name: Monitoring the Effects of Repeated Aerial Herbicide Application on *Lygodium microphyllum* and Native Vegetation.
Project ID: 2501
Lead Agency: University of Florida, U.S. Fish and Wildlife Service (FWS)
Cooperating Agencies: South Florida Water Management District (SFWMD)

Goal(s) Addressed: 2-B.1

Measurable Output(s): Project acres treated, actual infested acres treated, herbicide amounts utilized, herbicide treatment cost per acre, *Lygodium* aerial treatment costs per acre, herbicide (s) efficacy, short- and long-term evaluation of treatment effectiveness, impacts to *Lygodium* and native species, non-target herbicide damage assessment, enhancement of inventory, monitoring and aerial control methodologies for *Lygodium*, assessment of success, etc.

Project Synopsis: Test the effectiveness of aerial application of two different herbicides, metsulfuron methyl and glyphosate, at two rates, to dense infestations of *Lygodium*, and assess treatment effectiveness and impacts to *Lygodium* and native plant species on 45 northern Everglades tree islands in Water Conservation Area 1 (the Refuge).

Current Status:

Cost:

Total	\$220,000
Project Development	N/A
Land Acquisition	N/A
Implementation Unknown	N/A
Operations and Maintenance Unknown	N/A

Project Schedule:

Proposed Start Date: July 2005
 Finish Date: July 2009

Detailed Project Budget Information (\$1000s)

	Thru 2008	2009	2010	2011	2012	2013	Balance to complete	Total
Federal	190	30						
State								
Tribal								
Local								
Other								
Total	190	30						220

Hyperlink: N/A
Contact: Bill Miller (561) 735-6039

Program Name: South Florida Water Management District Invasive Species Management
Project name: Invasive exotic plants control in terrestrial and aquatic natural systems
Project ID: 2502
Lead Agency: SFWMD

Strategic Plan Goal(s) Addressed: 2.B.1

Measurable Output(s): Implementation of invasive species management plans as a coordinated program, including inter-agency collaboration; reduction of total acreage for all priority invasive plant species; attainment of maintenance control for invasive exotic plants such as hydrilla, waterhyacinth, waterlettuce, Brazilian pepper, Australian pine, Old World climbing fern.

Project Synopsis:

The SFWMD continues to coordinate with other agencies to implement the melaleuca management plan for south Florida. Maintenance control has been achieved for melaleuca within Water Conservation Areas (WCA)-2A, 3A, and 3B, many acquisition areas along the eastern Everglades, the Florida Keys, and Lake Okeechobee.

Old World climbing fern continues to be problematic in many SFWMD-managed lands, but some progress has been made. The SFWMD is actively treating outlier populations of Old World climbing fern within WCA-3A and WCA-3B in coordination with ongoing tree island invasive plant surveys. Recent collaborative efforts between FDEP and USFWS have resulted in a substantial increase of Old World climbing fern control efforts within the A.R.M. Loxahatchee National Wildlife Refuge (see Refuge project sheet for more information). Continued implementation of control programs, consistent with the Old World climbing fern management plan, is necessary to reverse the expansion of this invasive plant.

The SFWMD continues to maintain waterlettuce and waterhyacinth at maintenance control levels in most natural water bodies under its jurisdiction. Other species, including hydrilla, West Indian marsh grass, torpedograss, limpograss, and Wright's nutrush remain problematic in the Kissimmee Chain of Lakes region. The SFWMD is increasing control efforts for these species in collaboration with FDEP.

Cost: Total \$11,819,000
 Project Development N/A
 Land Acquisition N/A
 Implementation
 Operations and maintenance \$11.6 million per year

Project Schedule:

Start Date: 2007
 Finish Date: TBD

Detailed Project Budget Information (\$1000)

	2007	2008	2009	2010	2011	Balance to complete	Total
Federal	135*						135
State	11,684						11,684
Local							
Total	11,819						11,819

*USDA grant funds (TAME)

Hyperlink: N/A

Contact: Bob Doren (305) 348-6721

Program Name: South Florida Water Management District Invasive Species Management
Project Name: Invasive Species Research and Information Exchange
Project ID: 2503
Lead Agency: SFWMD

Strategic Plan Goal(s) Addressed: 2.B.1

Measurable Output(s): Development of new management approaches for invasive plants through applied research and information exchange between cooperators; development of management plans for priority invasive species; educational outreach to the general public on invasive species prevention;

Project Synopsis: The SFWMD continues to conduct and fund research programs in herbicide development, management techniques, and biological control of priority invasive plants and animals. Through the Florida Exotic Pest Plant Council (FLEPPC), the SFWMD completed an update of the Old World climbing fern management plan, which includes new research and management information as well as detailed management case studies. Control strategies and other recommendations in this plan have been integrated into the SFWMD control program. Herbicide evaluations are improving the chemical control efficacy for Old World climbing fern, downy rose myrtle, hydrilla, torpedograss, limpgrass, and Wright's nutrush.

The SFWMD and Florida Atlantic University have completed research aimed at detecting predictors of Old World climbing fern invasion in Everglades tree islands. Other research has focused on factors contributing to the invasiveness of priority species such as Old World climbing fern, management techniques to optimize control strategies (e.g., prescribed burning, flooding), and ongoing funding to biological control research institutions for melaleuca, Old World climbing fern, Brazilian pepper, Australian pine, hydrilla, bromeliad weevil, and lobate lac scale.

The SFWMD continues to collaborate with other agencies on education and outreach. Recent programs included the development of notification cards for Burmese pythons, animal release prohibition signs, and the production and distribution of invasive plant identification cards.

There is still a large gap in acquiring sufficient funding to implement the multi-species control program with multi-agency integration. Development of an all-taxa invasive species master plan is in the early planning stages through CERP. However, governmental agencies and other entities are forming a cooperative invasive species management area (CISMA) for the Everglades region. Improved implementation of regional control strategies, including early detection and rapid response activities, are anticipated from this cooperative effort.

Cost: Total
Project Development N/A
Land Acquisition N/A
Implementation \$5,000,000 per year for 15 years
Operations and maintenance \$2,000,000 per year thereafter for maintenance control

Project Schedule:

Start Date: 2007
Finish Date: TBD

Detailed Project Budget Information (\$1000)

	2007	2008	2009	2010	2011	Balance to complete	Total
State							
Local	90						90
Total	90						90

*The SFWMD also funds several biological control programs with USDA/ARS, which should be identified on their project sheets

Contact: Bob Doren (305) 348-6721

Program Name: Invasive Exotic Species Management
Project Name: Develop and implement a FWS Florida Invasive Species Strike Team
Project ID: 2504
Lead Agency: U.S. Fish and Wildlife Service (FWS)

Goal(s) Addressed: 2-B.1

Measurable Output(s): Project acres treated, actual infested acres treated, herbicide amounts utilized, prioritized lists of invasive plants and animals, modify or enhanced control methods, funding totals and invasive exotic plant species targeted, implementation of inventory and monitoring methodologies for invasive plants and animals, treatment effectiveness, assessment of success, etc.

Project Synopsis: Secure and appropriate Congressional funding to develop and implement a highly mobile FWS Invasive Species Strike Team (2-member) to rapidly respond to, and control incipient or newly established infestations of highly invasive exotic species (plants and animals) occurring on National Wildlife Refuges (NWRs) in Florida; specifically those associated with Everglades Restoration. The Region 4 Invasive Species Strike Team (R4 ISST) will provide administration, funding and oversight support for projects involving control and treatment of moderate and dense infestations of invasive exotic plants utilizing highly specialized and experienced exotic plant contractors on SE and Florida NWRs. In addition, the R4 ISST will provide technical assistance to Florida and SE NWRs, and refuge managers concerning invasive species identification, control and management, and lastly, will represent the interest of the FWS on associated invasive species task forces or working groups, i.e., NEWTT and FIATT.

Current Status: Fully operational and implemented; assuming recurring Congressional cyclical funding; project funding/species targeted referenced in 'EcoStems'.

Cost:

Total	≥ \$5 million
Project Development	N/A
Land Acquisition	N/A
Implementation Unknown	N/A
Operations and Maintenance Unknown	N/A

Project Schedule:

Proposed Start Date: October 1, 2003
 Finish Date: TBD

Detailed Project Budget Information (\$1000s)

	Thru 2008	2009	2010	2011	2012	2013	Balance to complete	Total
Federal	2470	494	494	494	494	494		4,940
State								
Tribal								
Local								
Other								
Total	2,470	494	494	494	494	494	2470	4,940

Hyperlink: N/A
Contact: William G. Thomas, Jr(239) 472-1100 x 248

Program Name: Infrastructure
Project Name: C&SF: CERP Melaleuca Eradication Project and other Exotic Plants (OPE)
Project ID: 2505 (Formerly Project ID 2602) (CERP Project WBS #95)
Lead Agency: USACE / SFWMD
Authority: WRDA 2000 (Programmatic Authority)
Funding Source: Corps/State

Strategic Plan Goal(s) Addressed: Primary: 2-B.1

Measurable Output(s): Increase effectiveness of biological control technologies

Project Synopsis: The original concept for this feature outlined in the *Central and Southern Florida Project Comprehensive Review Study* (Restudy) includes: (1) upgrading and retrofitting the current quarantine facility in Gainesville, and (2) large-scale rearing of approved biological control organisms for release at multiple sites within the south Florida ecosystem. The purpose of this feature is to increase the effectiveness of biological control technologies to manage Melaleuca and other invasive exotic species. This project enhances efforts to control invasive exotic plant species in South Florida by the mass rearing and controlled release of biological agents throughout South Florida. This effort is to be implemented concurrent with development of a system-wide plan for exotics.

Current Status: Design and construction of the upgrade work needed at the existing Gainesville quarantine facility was postponed due to the lack of non-Federal funding on behalf of the sponsor.

The Design Agreement between the USACE and South Florida Water Management District was amended 29 July 2004 to add the Melaleuca and Other Exotic Plants - Implement Biological Controls project. The USACE and the SFWMD amended the CERP design agreement to include this project. The Project Management Plan was approved 28 Jan 2005 and the PIR is being developed by the Project Delivery Team. The Alternative Formulation Briefing was held on March 10, 2008. The PIR is focusing on the mass rearing and controlled release of biological agents to control Melaleuca, Brazilian pepper, Australian pine, and Old World Climbing Fern. The publication of the Final PIR in the Federal Register is scheduled for April 2009. This project can be authorized by the Secretary of the Army under the WRDA 2000 Programmatic Authority without additional congressional authorization.

Est. Cost: \$8,242,000

Project Schedule:
 2026 Complete.

	2004	2005	2006	2007	2008	2009
PIR/Plans and Specs						

Detailed Project Budget Information (in \$1,000s):

	Thru 2007	2008	2009	2010	2011	2012	Balance 2013-2026	Total
USACE	1,179	413	600	400	429	500	600	4,121
SFWMD	22	413	600	400	429	1,657	600	4,121
Total	1,201	826	1,200	800	858	2,157	1,200	8,242

Hyperlink: http://www.evergladesplan.org/pm/projects/proj_95_melaleuca.cfm

Contact: Kim Brooks-Hall, Chief Project Execution Branch, USACE
 (904) 232-3155, Kimberly.Brooks-Hall@usace.army.mil

Source: Detailed budget and schedule information based on the FY09 budget submission to OMB and the *Master Implementation Sequencing Plan (MISP)* and updated to reflect current price levels in October 2007 dollars. Original project description summarized from the *Central and Southern Florida Project Comprehensive Review Study*. Current status information summarized from information provided by the project manager.

Program Name: Invasive Exotic Species Management
Project Name: Everglades National Park Exotic Control Program
Project ID: 2506 (Formerly Project ID 2604)
Lead Agency: National Park Service

Strategic Plan Goal(s) Addressed: 2.B.1

Measurable Output(s): Acres infested with Exotic Plants

Project Synopsis: Exotic plants are the single most serious long-term threat to Everglades National Park. Over 200,000 acres of the park and 500,000 acres of adjacent lands are infested. Without control and management, these plants can and will continue to replace all native plant communities in the park. Funds are needed for control efforts and determining effective means of dealing with the many exotic species.

The program will (1) complete the initial treatment of melaleuca and Australian pine in the East Everglades; (2) perform retreatment of Old World climbing fern along the Gulf Coast; (3) complete the initial treatment of Australian pine in the southeastern panhandle; (4) perform retreatment of Asiatic colubrina sites along the northern fringe of Florida Bay; (5) perform the annual reconnaissance flight across the park to monitor and document exotic plant occurrence, (6) perform initial treatment and/or retreatment of localized populations of exotic Ardisia, Schinus, and other exotic pest plants in all the park's districts, and (7) support the essential monitoring and maintenance control programs in treated zones.

Cost:

Total: TBD
 Federal Cost does not include salary. Cost estimates for 2009-2012 is averaged from last 6 years (2002-2008) of program expenditures.

Project Schedule:

Start Date: 2002
 Finish Date: To be determined

	1997	1998	1999	2000	2001	2002	2003	2004
Operation/Management								

Detailed Project Budget Information (\$1,000)

	Thru 1989-2007	2008	2009	2010	2011	2012	Balance to complete	Total
Federal	3,212.65	1,360	506.47	506.47	506.47	506.47	TBD	TBD
State	7,262.27	1,360	805.25	805.25	805.25	805.25	TBD	TBD
Total	10,474.92	1,360	1,311.72	1,311.72	1,311.72	1,311.72	TBD	TBD

Hyperlink: N/A
Contact: Kym Sigler (305) 242-7721

Program Name: Invasive Exotic Species Management
Project Name: Hole-in-the-Donut
Project ID: 2507 (Formerly Project ID 2606)
Lead Agency: National Park Service

Strategic Plan Goal(s) Addressed: Primary: 2.B.1 Secondary: 2.A.3

Measurable Output(s): Acres infested with Brazilian pepper

Project Synopsis: This project will restore approximately 5,000 – 6,000 acres of wetlands within Everglades National Park by removing Brazilian pepper, an invasive exotic plant species, and the disturbed substrate to limestone bedrock. Invasive exotic plants are one of the greatest long-term threats to the Everglades ecosystem. As a result of this project, approximately 6,000 acres will be restored to natural wetlands within the park as mitigation for development projects in other areas of Dade County. A vast seed source with the potential to invade and disturb other areas of the Everglades will be eradicated.

Cost:
 Total: \$123,750,000

Project Schedule:
 Start Date: 1994
 Finish Date: 2017

	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Operations and Maintenance										

Detailed Project Budget Information (\$1,000)

	Thru 2000	2001	2002	2003	2004	2005	2006	2007	Balance to complete	Total
Dade Co.	11,582	3,738	2,743	9,574	9,804	5,700	0	1,470	30,389	75,000
Total	11,582	3,738	2,743	9,574	13,892	16,957	1,050	1,470	63794	123,750

Hyperlink: N/A
Point of Contact: Everglades CFO (305) 242- 7700

Program Name: Invasive Exotic Species Management
Project Name: Aquatic and Upland Invasive Plant Management
Project ID: 2508 (Formerly Project ID 2608)
Lead Agency: Florida Department Of Environmental Protection
Authority: Chapter 369, F.S.
Funding Source:

Strategic Plan Goal(s) Addressed: 2.B.2

Measurable Output(s): Acres of upland and aquatic invasive plants controlled¹

Acres Controlled:
 Aquatics Program 48282
 Uplands Program 181,300

Project Synopsis: The Bureau of Invasive Plant Management is the lead agency in Florida responsible for coordinating and funding two statewide programs controlling invasive aquatic and upland plants on public conservation lands and waterways throughout the state. The aquatic plant management program designs, funds, coordinates, and contracts invasive non-native aquatic plant control efforts in Florida's 1.25 million acres of public waters. The upland plant management program coordinates and funds invasive plant removal projects on 11 million acres of public conservation lands, which include federal, state, and local government owned lands.

Cost: TBD
 Total (operations and maintenance):
 Aquatics Program \$30,547,718(FY 2008)
 Uplands Program \$11,667,640(FY 2008)

Project Schedule:
 Start Date: annual
 Finish Date: continuous

Detailed Project Budget Information (1000s):

	2002	2003	2004	2005	2006	2007	2008
Federal	400	795.5	944	676.9	675.2	800.0	800.0
State ²	20,536.9	28,038.3	22,122.8	29,747.7	38,434.6	38,434.6	40,234,647
Tribal	0	0	0	0	0		
Local	54.3	255.7	129	0	0		
Other	0	0	0	0	0		
Total	20,991.3	29,089.5	23,195.8	30,424.6	39,109.8	39,234.6	41,034.647

¹Within the 16-county SFWMD region during the previous state fiscal year

²Includes \$1 million match from SFWMD for melaleuca control

Hyperlink: <http://www.dep.state.fl.us/lands/invaspec/index.htm>

Contact: Greg Jubinsky 850-245-2821

Program Name: Invasive Exotic Species Management
Project Name: Exotic Species Removal
Project ID: 2509 (Formerly Project ID 2605)
Lead Agency: Seminole Tribe of Florida/BIA
Authority: Tribal Resolution

Strategic Plan Goal(s) Addressed: 2.B.2

Measurable Output(s): Eradication and control of exotic species.

Project Synopsis:
 Control growth of exotic species on the Big Cypress and Brighton reservations.

Cost:
 Total 988,000
 Project Development
 Land Acquisition
 Implementation
 Operations and maintenance

Project Schedule:
 Start Date: 1998
 Finish Date: 2014

Detailed Project Budget Information (1000s)

	2002	2003	2004	2005	2006	2007	2008	2009	2010	Balance to complete	Total
Federal	30	60	30	30	30	10	10	10	10	214	434
State											0
Tribal	20	70	70	70	70	2	2	2	10	238	554
Total	50	130	100	100	100	12	12	12	20	452	988

Hyperlink: N/A
Contact: Craig Tepper 954-965-4380, Seminole Tribe of Indians

Project Name: Casuarina Biological Control Agents
Project ID: 2601
Lead Agency: U.S. Department of Agriculture – Agricultural Research Service
Authority: ARS

Strategic Plan Goal(s) Addressed: Primary: 2.B.3

Measurable Output(s): Number Biological Control Agents Developed and Released Against Melaleuca

Project Synopsis. Biological control agents have the potential of providing greater efficiency and improved economy. Ultimately, they may prove to be the only truly effective large-scale means of reversing and halting the effects of *Casuarina* spp. (Australian pine) on the South Florida habitat. This project consists of releasing and redistributing biological control agents that have been approved through the federal regulatory process for use against Australian pine in the United States.

Cost: Total:
 Project Development:
 Land Acquisition: \$0 – long term lease with University of Florida
 Implementation:
 Operations and maintenance: not yet included in budget

Project Schedule:

Start Date: 2004
 First Agent released: 2012
 Finish Date: TBD

Detailed Project Budget Information

	2006	2007	2008	2009	Balance to complete	Total
Federal						
State						
Tribal						
Local						
Other						
Total						TBD

Point of Contact: Ted Center, 954-475-6543 (USDA – ARS)

Project Name: Melaleuca Biological Control Agents
Project ID: 2602
Lead Agency: U.S. Department of Agriculture – Agricultural Research Service
Authority: ARS

Strategic Plan Goal(s) Addressed: Primary: 2.B.3

Measurable Output(s): Number Biological Control Agents Developed and Released Against Melaleuca

Project Synopsis. Biological control agents have the potential of providing greater efficiency and improved economy. Ultimately, they may prove to be the only truly effective large-scale means of reversing and halting the effects of *Melaleuca quinquenervia* on the South Florida habitat. This project consists of releasing and redistributing biological control agents that have been approved through the federal regulatory process for use against Melaleuca in the United States.

Cost: Total:
 Project Development:
 Land Acquisition: \$0 – long term lease with University of Florida
 Implementation:
 Operations and maintenance: not yet included in budget

Project Schedule:

Start Date: 1986
 First Agent released: 1997
 Second Agent released: 2003
 Third Agent released: 2006
 Fourth Agent released: 2008
 Fifth Agent released: 2011
 Sixth Agent released: 2014
 Finish Date: TBD

Detailed Project Budget Information

	2008	2009	2010	Balance to complete	Total
Federal					
State					
Tribal					
Local					
Other					
Total					TBD

Point of Contact: Ted Center, 954-475-6543 (USDA – ARS)

Project Name: Lygodium Biological Control Agents
Project ID: 2603
Lead Agency: U.S. Department of Agriculture – Agricultural Research Service
Authority: ARS

Strategic Plan Goal(s) Addressed: Primary: 2.B.1

Measurable Output(s): Number Biological Control Agents Developed and Released Against Melaleuca

Project Synopsis. Biological control agents have the potential of providing greater efficiency and improved economy. Ultimately, they may prove to be the only truly effective large-scale means of reversing and halting the effects of *Lygodium microphyllum* (Old World climbing fern) on the South Florida habitat. This project consists of releasing and redistributing biological control agents that have been approved through the federal regulatory process for use against the Old World climbing fern in the United States.

Cost: Total:
 Project Development:
 Land Acquisition: \$0 – long term lease with University of Florida
 Implementation:
 Operations and maintenance: not yet included in budget

Project Schedule:
 Start Date: 1996
 First Agent released: 2005
 Second Agent released: 2008
 Third Agent released: 2008
 Fourth Agent released: 2011
 Finish Date: TBD

Detailed Project Budget Information

	2008	2009	2010	Balance to complete	Total
Federal					
State					
Tribal					
Local					
Other					
Total					TBD

Point of Contact: Ted Center, 954-475-6543 (USDA – ARS)

Program Name: Invasive Species removal
Project Name: Eradication of Gambian Pouch Rat
Project ID: 2700
Lead Agency: FDACS
Cooperating Agencies: USFWS, SFWMD

Goal(s) Addressed: 2.B.3

Measurable Output(s): Eradication of Gambian Pouch Rat

Project Synopsis: In February 2006, a pilot eradication project was initiated on Crawl Key where Gambian rats were documented in 2005. In June 2006, USDA-APHIS WS deployed 94 bait stations. Supplemental trapping was done to obtain rats for radio telemetry. From January to May, 2007, 1,000 bait stations were placed throughout Grassy Key hammock and residential areas. In March 2007, 20 Gambian pouched rats were trapped for the USDA APHIS National Wildlife Research Center (NWRC) for studies of more effective attractants and third generation rodenticides. In May the eradication effort commenced with the pre-baiting of roughly 600 stations around the periphery of the core area. Intensive surveys using remote cameras and trapping will be conducted in through 2012 to detect and eliminate any surviving Gambian pouch rats

Cost:

Total \$75,000
 Project Development
 Land Acquisition
 Implementation Unknown
 Operations and maintenance Unknown

Project Schedule:

Start Date: 2006
 Finish Date: 2011

Detailed Project Budget Information (\$1000s)

	2006	2007	2008	2009	2010	2011	Total
Federal							
State	15	15	15	15	15		75
Tribal							
Local							
Other							
Total	15	15	15	15	15		75

Contact: Bob Doren 305-348-6721

THIS PAGE INTENTIONALLY LEFT BLANK

Goal 3 Project Sheets

Foster the Compatibility of the Built and Natural Systems



THIS PAGE INTENTIONALLY LEFT BLANK

Program Name: CERP Comprehensive Planning Initiative
Project Name: Analysis of Land Use Patterns Surrounding CERP Projects
Project ID: 3100
Lead Agency: Department of Community Affairs
Authority: Growth Management Act, Chapter 163, II, Florida Statutes

Strategic Plan Goal(s) Addressed: 3.A.1

Measurable Output(s): Identification of the number and character of possible conflicts or opportunities for adaptive management that the local governments and the water management agencies may face as a result of the current Future Land Use designations surrounding CERP projects.

Project Synopsis: Analyze the Future Land Uses identified in local government comprehensive plans in those areas surrounding CERP projects, particularly with respect to conservation and agricultural lands. The analyses may include consideration of the potential impacts of the future land uses on project hydrology, quality of surface and ground waters within the project footprint, changes in vegetation communities, effectiveness of buffers, and any recreational or habitat values

Based on a mix of project types, sizes and locations, the following CERP projects and their corresponding political jurisdictions were selected as pilots:

1. C 1-11 Spreader Canal
2. Biscayne Bay Coastal Wetlands
3. IRL-C-23-24 South Reservoir
4. Lake Okeechobee Aquifer Storage and Recovery (ASR)

Up-to-date Future Land Use Maps surrounding each of the four CERP pilot projects will be collected from the respective local government and entered into a Geographic Information System (GIS), along with project footprints and associated project data. Depending on the conflicts and management opportunities identified, model language or guiding principles may be scripted that could be adopted into the local comprehensive plans of the applicable pilot jurisdictions. Local governments may be educated about prospective land use impacts and opportunities surrounding the CERP projects; the project designers and managing entities will be informed about the land use context for each pilot project.

Cost: Total: - TBD
 Project Development: -

Project Schedule:
 Start Date: January 1, 2008
 Finish Date: December 31, 2010

Detailed Project Budget Information (\$000)

	Thru 2008	2009	2010	Balance to complete	Total
State					
Total					TBD

Contact: Craig Diamond, Chief of State Planning, Department of Community Affairs, 2555 Shumard Oak Blvd., Tallahassee, FL 32399-2100
Hyperlink: <http://dca.state.fl.us>

Program Name: Florida Greenways and Trails Program
Project Name: Florida Keys Overseas Heritage Trail
Project ID: 3200 (Formerly Project ID 3301)
Lead Agency: Office of Greenways and Trails
Authority: Florida Department of Environmental Protection

Strategic Plan Goal(s) Addressed: 3.A.2

Florida Keys Overseas Heritage Trail Vision

The Florida Keys Overseas Heritage Trail (FKOHT) is being developed by the FDEP/OGT, the Florida Department of Transportation (FDOT) and Monroe County as a world-class, multi-use bicycle and pedestrian facility that will traverse the Florida Keys from Key Largo to Key West. A recreational greenway, that upon completion, will include an integrated system of educational kiosks, roadside picnic areas, scenic overlooks, fishing piers, water access points, and bicycle and jogging paths serving both residents and visitors to the Florida Keys. The FKOHT will link communities by providing a safe and continuous multi-use path, offer an alternative form of transportation, help mitigate congestion, promote health opportunities, and provide a mechanism for the preservation and use of the historic Flagler Railroad Bridges. The trail will also provide outstanding educational opportunities for both residents and visitors to learn about the unique history of the Florida Keys and the importance of sustainable development, by offering cultural, historical and ecological interpretation, as users traverse the historical railroad bridges and the many conservation areas between Key Largo and Key West.

Measurable Output(s): Miles of trails: Existing 66, Proposed 40 additional

A recreational greenway, that upon completion, will include an integrated system of educational kiosks, roadside picnic areas, scenic overlooks, fishing piers, water access points, and bicycle and jogging paths serving both residents and visitors to the Florida Keys.

Project Synopsis:

Trail Planning and Development

Spurred by concerns in the community for the future of the Old Keys Bridges and under Executive Order, the "Old Keys Bridge Task Force" report was presented to then Governor Lawton Chiles in 1997, outlining recommendations for the old Flagler Railroad bridges as a linear greenway. A similar report had been presented in 1938, to then Governor Fred Cone by the Road and Toll Authority, the State Forestry Department and the National Park Service outlining the creation of a linear park from Key Largo to Key West. In 1998, Clean Florida Keys rallied enough local support to prepare a Florida Keys Overseas Heritage Trail Conceptual plan published in January 1999, and a Florida Keys Overseas Heritage Trail Action plan published in November 1999. With a combination of local citizen support, the Rails To Trails, National Park Service, Greenways and Trails, Monroe County, the Florida Department of Environmental Protection, the Florida Department of Transportation and many other agencies, the Florida Keys Overseas Heritage Trail Master Plan was approved in August 2000. Monroe County passed a resolution in 2000, approving allocation of enhancement funding to the project and a Memorandum of Understanding (MOU) was signed allowing the coordination, planning and implementation of the FKOHT as a joint effort between the FDEP, Monroe County, and the FDOT. Direct support for the 106-mile long multi-use recreational trail and facilities is one of the primary features of the Scenic Highway Corridor Management Plan Goals and Objectives, the Corridor Management Plan (CMP), the Florida Keys Overseas Heritage Trail Master Plan, the Scenic Highway Interpretive Master Plan. In addition, the FKOHT was nominated as a National Recreational Trail in 1994 and has designated all 23 remaining historical Flagler Railroad Bridges on the National Registry of Historic Places. Recently completed signage plan and environmental plan provide a look and mechanism for reviewing the trail corridor as one entity rather than multiple separate segments.

A Memorandum of Agreement was signed in August 2001, by the FDEP/OGT to maintain FDOT right-of-way where the trail will be designed and built. The FDEP/OGT maintains a 50-year lease on all 23 historical bridges from State of Florida, Division of State Lands.

Cost:

Total: \$40 Million

Project Development:

Land Acquisition: One trailhead in Key Largo.

The FDOT work program and the FDEP/OGT implementation plan outline a progression of design and build projects that will construct the Florida Keys Overseas Heritage Trail over the next six years.

Construction of the FKOHT is funded in the FDOT Five Year Work Program using enhancement funds for the segments between historic bridges. Additional funding is being sought to retrofit the remaining historical bridges and fishing platforms. The FDEP/OGT is certified by the FDOT to design and build projects under the Local Agency Program (LAP) using enhancement funds.

Operations and maintenance

There are currently 52 miles of existing bike path and 40 miles of new trail programmed for construction over the next eight years. There are twenty-three bridges comprising fourteen miles of trail in various stages of completion and funding. The City of Key West currently maintains an agreement with the Florida Park Service on maintenance of the existing sections throughout the City. The Village of Islamorada signed an agreement in 2003 and the City of Marathon is in the process of developing agreements for maintenance and trail planning. The FDEP/OGT has subcontracted the maintenance of the trail in accordance with the agreement established between FDOT and the FDEP/OGT and currently maintains 35 miles of trail and manages approximately 16 miles of bridges.

Project Schedule: See table below: TABLE 1

Year/ Maintained By	Length	Trail MM	Status	Location
City of Key West	3.8	0 - 3.8	Existing	City of Key West
DEP/OGT	1.4	3.8 - 5.2	Existing	Stock Island
2003/4	6.0	5.2 - 9	New	Key Haven to Big Coppitt
DEP/OGT	2.0	9 - 11	Existing	Big Coppitt
DEP/OGT	4.0	11 - 15	Existing	Landscaping on Saddlebunch Keys
2003/4	1.7	15 - 16.7	New	Lower Sugarloaf Trail
2003/4	8.0	17 - 25	New	Lower Sugarloaf to Summerland (2 miles of existing bike path)
2004/5	4.0	25 - 29	New	Ramrod to Big Pine Key
DEP/OGT	2.0	29 - 31	Existing	Big Pine
	2.0	31 - 33	Study Area	Big Pine
2008/9	7.0	33 - 40	New	Spanish Harbor to 7-Mile Bridge (Seven Mile Bridge excluded)
DEP/OGT	11	47 - 58	Existing	City of Marathon
2003/4	7.0	58 - 65	New	Grassy Key to Long Key
DEP/OGT	3.0	65 - 68	Existing	Long Key Bike Path
2005/6	3.0	68 - 71	New	Layton to Channel 5
2005/6	3.0	71 - 74	New	Channel 5 to Annes Beach
Village	19	72 - 91	Various	Village of Islamorada
DEP/OGT	15	91 - 106	Existing	Key Largo
Total (excluding 7 mile bridge)	99 miles			

Project 3200 Florida Keys Overseas Heritage Trail Page 2 of 4

- DEP/OGT - Maintenance conducted by FDEP/OGT.
- 40 Miles of new trail
- 59 Miles of existing (includes 16 Miles of bridges)
- 7 Mile Bridge

Detailed Project Budget Information (1000s)- See Table Below

	Thru 2003	2004	2005	2006	2007	2008	Balance to complete	Total complete
State								
Total	7,117.7	7,438.2	2,499.9	5,811.8	1,036.1	2,875.5	12,000	40,000
Table 2							2003	
Big Coppitt Landscaping				MM 10-15		PE/CST	\$677,000.00	
Big Coppitt Handrails				MM 10-15		PE/CST	\$ 423,000.00	
Lower Sugarloaf Trail				MM 15-16.5		PE	\$130,000.00	
Lower Sugarloaf Trail				MM 15 - 16.5		CST,CEI	\$670,000.00	
Lower Sugarloaf Historic Bridge				MM 15.5		PE	\$73,000.00	
Lower Sugarloaf Historic Bridge				MM 15.5		CST,CEI	\$213,000.00	
Overseas Heritage Trail Safety Improvements				Various		PE	\$175,992.00	
Overseas Heritage Trail Safety Improvements				Various		CST,CEI	\$ 879,957.00	
Key Haven to Big Coppitt Trail				MM 5.2-11		PE	\$400,673.00	
Key Haven to Big Coppitt Trail				MM 5.2-11		CST,CEI	\$2,871,495.00	
Rockland Channel Bridge				MM 9.5		PE	\$112,518.00	
Rockland Channel Bridge				MM 9.5		CST,CEI	\$400,000.00	
Grassy Key to Long Key Trail				61.3 - 65.6		PE	\$91,047.00	
				Year Total			\$7,117,682.00	
							2004	
FKOHT Signage Master Plan				Various		PDE	\$25,000.00	
Grassy Key to Long Key Trail				58 - 61.3		PE	\$273,079.00	
Grassy Key to Long Key Trail				58 - 65.6		CST,CEI	\$1,213,968.00	
Tom's Harbor Bridge Platforms				MM 60.5		PE	\$61,800.00	
Tom's Harbor Bridge Platforms				MM 60.5		CST,CEI	\$560,000.00	
Tom's Harbor Cut Bridge Platforms				MM 61.7		PE	\$54,075.00	
Tom's Harbor Cut Bridge Platforms				MM 61.7		CST,CEI	\$560,000.00	

Long Key Bridge	MM 63-65	PE	\$224,000.00
Lower Sugarloaf to Summerland Key Trail	MM 16.5-24.5	PE	\$491,000.00
Lower Sugarloaf to Summerland Key Trail	MM 16.5-24.5	CST,CEI	\$3,550,156.00
Environmental Consultant	Various	PDE	\$250,000.00
Ramrod Key to Big Pine Key Trail	MM 26.2-29.9	PE	\$175,081.00
Year Total			\$7,438,159.00
			2005
Park Channel Bridge	MM 18.7	PE	\$80,000.00
Park Channel Bridge	MM 18.7	CST,CEI	\$ 670,000.00
Rails to Trails Project	Various	PDE	\$25,000.00
Intus Property Key Largo Trailhead	MM 106	PE	\$25,000.00
Ramrod Key to Big Pine Key Trail	MM 26.2-29.9	CST,CEI	\$1,006,712.00
Channel 5 to Anne's Beach Trail	MM 71.8-73.5	PE	\$ 315,100.00
Layton to Channel 5 Trail	MM 68.4-70.8	PE	\$378,120.00
Year Total			\$ 2,499,932.00
			2006
Long Key Bridge	MM 63 - 65	CST,CEI	\$1,745,000.00
South Pine Channel Bridge	MM 29	PE	\$80,753.00
Channel 5 to Anne's Beach Trail	MM 71.8-73.5	CST,CEI	\$1,811,825.00
Layton to Channel 5 Trail	MM 68.4-70.8	CST,CEI	\$2,174,190.00
Year Total			\$ 5,811,768.00
			2007
South Pine Channel Bridge	MM	CST,CEI	\$600,000.00
Spanish Harbor to Seven-Mile Bridge Trail	MM33.3-40.5	PE	\$436,128.00
Year Total			\$1,036,128.00
			2008
Spanish Harbor to Seven-Mile Bridge Trail	MM33.3-40.5	CST,CEI	\$2,717,604.00
Ohio-Missouri Historic Bridge	MM39.1	PE	\$157,882.00
Year Total			\$2,875,486.00
			2009
Ohio-Missouri Historic Bridge	MM39.1	CST,CEI	\$1,210,246.00
Year Total			\$1,210,246.00

Hyperlink: <http://www.dep.state.fl.us/gwt/>

Contact: Samantha Browne

Project 3200 Florida Keys Overseas Heritage Trail Page 4 of 4

Program Name: Florida Greenways and Trails Program
Project Name: Lake Okeechobee Scenic Trail
Project ID: 3201 (Formerly Project ID 3102)
Lead Agency: Office of Greenways and Trails
Authority: Department of Environmental Protection

Strategic Plan Goal(s) Addressed: 3.A.2

Measurable Output(s): Designated miles of trails

Project Synopsis: The LOST will consist of an 11 foot wide paved trail with 3 foot wide grassed shoulder on the lake side. It will accommodate pedestrians, backpackers, bicyclists, equestrians, sightseers, naturalists, skaters, picnickers, campers and fishermen. The trail will be approximately 110 miles long.

Cost:

Total: \$25,000,000
 Project Development:
 Land Acquisition:
 Implementation:
 Operations and maintenance: \$ 100,000.00 a year when completed

Project Schedule:

Start Date: 7/1/03
 DOT Segment One is complete between the Kissimmee River and the St. Lucie Canal (26 miles)
 DOT Segment Two is completed between Moore Haven and Pahokee (36 miles)
 Finish Date: Completion date will depend on monies from D.E.P.

Detailed Project Budget Information (1000s)

	2003	2004	2005	2006	2007	2008	2009	Balance to complete	Total
Federal	6,250	6,250							12,500
State					1,000	1,000	*(1,000)	10,500.	12,500
Tribal									
Local									
Other									
Total	6,250	6,250			1,000	1,000	*(1,000)	10,500	25,000

*FY 08/09: Appears in House and Senate with no confirmation that it was approved

Hyperlink: <http://www.dep.state.fl.us/gwt/>

Contact: FDEP

Program Name: Florida Greenways and Trails
Project Name: Florida Greenways and Trails Program
Project ID: 3202
Lead Agency: FDEP-Florida Office of Greenways and Trails
Authority: Acquisition: Florida Forever Act, Section 259.105, Florida Statutes
 Designation: Chapter 260, F.S.; 62S-1.400, 62S-1.450, F.A.C
Funding Source: Florida Forever

Strategic Plan Goals(s) Addressed: 3.A.2

Measurable Output(s): Target 10,000 acres

Project Synopsis: The Florida Office of Greenways and Trails is guiding a statewide initiative to create a system of greenways and trails connecting communities and conservation areas. When completed the trail system will connect one end of the state to the other, from Key West to Pensacola. The Florida Forever Act authorizes a land acquisition program for the statewide trail system. This is a competitive program that provides funding for local and regional land acquisition projects that will facilitate the establishment of a statewide system of greenways and trails. The primary mission of this program is to facilitate the establishment of a statewide system of greenways and trails for recreation and conservation purposes. Once acquired, the property is owned by the Board of Trustees of the Internal Improvement Trust Fund (Governor and Cabinet) and managed by the state, regional and local governments.

The Office of Greenways and Trails Designation Program encourages voluntary partnerships in conservation, development, and management of greenways and trails, provides recognition for individual components of the system and the partners involved, and raises public awareness of the conservation and recreation benefits of greenways and trails. The criteria for a designated land or waterway are that it must (1) protect and/or enhance natural, recreational, cultural or historic resources and (2) either provide linear open space or a hub or site, or promote connectivity between or among conservation lands, communities, parks, other recreational facilities, cultural sites, or historic sites.

Cost:
 Total \$4.5 million for land acquisition (statewide)
 No direct cost to the state for designation
 Land Acquisition \$4.5 million (statewide)

Project Schedule:
 Start Date: 2000
 Finish Date: 2009

South Florida Acres
Through Fiscal Year 2003 227,094 acres plus 75 linear miles
Through Fiscal Year 2004 298,774 acres plus 147 linear miles (add 71,680 acres & 72 linear miles)
 In 06/07, an additional 179 acres and 24 miles of designated greenways & trails in South Florida

Detailed Project Budget Information (1000s)

	FY 04-05	FY 05-06	FY 06-07	FY 07-08	Total
State	174	497.372	280	0	
Total	174	497.372	280	0	4,500

Hyperlink: <http://www.dep.state.fl.us/gwt/>
Contact: Heather Pence (designations) 850-245-2052, Cindy Radford (acquisitions) 850-245-2052

Program Name: Watershed Management Assistance
Project Name: Technical Assistance to Seminole and Miccosukee Indian Reservations
Project ID: 3300 (Formerly Project ID 3201)
Lead Agency: Natural Resources Conservation Service
Authority: Public Law 46 & Public Law 566

Strategic Plan Goal(s) Addressed: 3.A.2

Measurable Output(s): Target 107,000 Acres

Project Synopsis: From a watershed management perspective, assist the Seminole and Miccosukee Indian Reservations to plan and implement resource management systems on a voluntary basis to reduce nutrient loading. Assistance will be provided to each agricultural producer, at the direction of the Tribal Councils, to assist in their planning, design, application, cost shared installation and management of BMP's that will improve water quality and the ecological integrity of the landscape.

Cost:

Total (projected through 2006)	\$15,000,000
Project Development	
Land Acquisition	
Implementation	
Operations and maintenance	
Management	\$15,000,000

Project Schedule:
 Start Date: 1998
 Finish Date: 2011

Detailed Project Budget Information (1000s)

	Through 2006	2007	2008	2009	2010	Balance to Comple te	Total
Federal	\$478	00	00	\$50	\$00	\$14472	\$15,000
State							
Tribal							
Local							
Other							
Total	\$478	\$00	\$00	\$50	\$0	\$14472	\$15,000

Hyperlink: N/A
Contact: Edward Wright - 386-329-4116 (USDA - NRCS)

Program Name: Agricultural Assistance
Project Name: 2002 Farm Bill
Project ID: 3301 (Formerly Project ID 3202)
Lead Agency: Natural Resources Conservation Service
Authority: Farm Security and Rural Investment Act of 2002 (Farm Bill)
Funding Source:

Strategic Plan Goal(s) Addressed: 3.A.2

Measurable Output(s): Acres Enrolled in 2002 Farm Bill Programs

Project Synopsis: The 2002 Farm Bill responds to a broad range of emerging natural resource challenges faced by farmers and ranchers, including soil erosion, wetlands, wildlife habitat, and farmland protection. Private landowners will benefit from a portfolio of voluntary assistance, including cost-share, land rental, incentive payments, and technical assistance. The 2002 Farm Bill places a strong emphasis on the conservation of working lands, ensuring that land remain both healthy and productive. The assistance includes the design, layout and consultation services associated with the conservation practice application or management guidance provided. Technical assistance is targeted towards nutrient management, water quality, and water conservation concerns associated with animal feeding, livestock grazing operations and fruit and crop production within the Everglades Ecosystem. As of 2008, a total of 1,315,592 acres in the sixteen-county South Florida region were enrolled in these and other Farm Bill Conservation Programs at an obligated cost of \$131,151,000 dollars.

Cost:
 Total: \$97,436,000
 Project Development:
 Land Acquisition:
 Implementation:
 Operations and maintenance:

Project Schedule:
 Start Date: 2002
 Finish Date: 2008

Detailed Project Budget Information (1000)

	Through 2005	2006	2007	2008	Balance to Complete	Total
Federal	\$15,168	\$8,513	\$14,196	\$41,642	\$17,917	97,436
State						
Tribal						
Local						
Other						
Total	\$15,168	\$8,513	\$14,196	\$41,642	\$ 17,917	\$97,436

Hyperlink: <http://www.nrcs.usda.gov/programs/farmland/2002/>
Contact: Edward Wright - (386) 329-4116 (USDA - NRCS)

Program Name: CERP Comprehensive Planning Initiative
Project Name: Consideration of Land Use Policies and Planning by Local Governments with CERP
Project ID: 3400
Lead Agency: Department of Community Affairs
Authority: Growth Management Act, Chapter 163, II, Florida Statutes

Strategic Plan Goal(s) Addressed: To ensure that Goals, Objectives and Policies of local government comprehensive plans take into consideration the CERP and that local decisions about land uses and capital improvements in the vicinity of these projects are consistent with the long term objectives of CERP.

Measurable Output(s): How many local government plans either incorporate CERP projects into their Future Land Use Maps or reflect the existence of CERP projects and principles into the Goals, Objectives or Policies of their local comprehensive plans.

Project Synopsis: The Department of Community Affairs (DCA) will (1) complete a baseline survey of local governments with CERP projects within or adjoining their jurisdictions and (2) determine how many jurisdictions currently contain Goals, Objectives or Policies in their local comprehensive plans that reflect CERP. Once these baselines are determined, the DCA will encourage staff planners and local government planning departments about the importance of considering these projects in their land use decision-making through the compilation of model policy language and education.

Cost: Total: -
 Project Development: -
 Land Acquisition: - N/A
 Implementation -
 Operations and maintenance - N/A

Project Schedule:
 Start Date: January 1, 2008
 Finish Date: December 31, 2010

Detailed Project Budget Information (\$000)

	Thru 2008	2009	2010	2011	2012	Balance to complete	Total
Federal							
State							
Tribal							
Local							
Other							
Total							TBD

Contact: Craig Diamond, Chief of State Planning, Department of Community Affairs, 2555 Shumard Oak Blvd., Tallahassee, FL 32399-2100

Hyperlink: <http://dca.state.fl.us>

Program Name: C&SF: CERP PLA/Public Outreach
Project ID: 3502
Lead Agency: USACE / SFWMD
Authority: WRDA 2000; Design Agreement

Strategic Plan Goal(s) Addressed: 3-A.5

Measurable Output(s): Developed and distributed numerous educational materials through various printed and electronic media including brochures, newsletters, kiosks, CDs, radio, television and the internet. Held numerous public meetings . (see details under Current Status)

Project Synopsis: The *Central and Southern Florida Project Comprehensive Review Study* listed guidelines for implementing CERP and stated that outreach and public involvement efforts were an integral part of the process and would continue throughout the planning, design, construction, monitoring, and implementation of CERP. The objective of all outreach activities was to ensure that the public is informed about the Plan and that its implementation is reflective of the input received from stakeholders and the public throughout the project's implementation.

Public outreach is a critical part of CERP. Its two primary components -- involvement and information -- continue to play a key role in the CERP implementation effort. The primary objectives of outreach are to 1) keep the public informed of the status of the program or project and key issues associated with restoration implementation, and 2) provide effective mechanisms for public participation in the restoration plan development. A *CERP Public Outreach Program Management Plan* approved in 2001 describes these outreach goals, objectives, and tasks in more detail.

The USACE and SFWMD have implemented a multi-faceted CERP public outreach program since 2001, which continues today. Outreach strategies seek two-way communication with all public sectors to broaden understanding and to instill a sense of stewardship among all south Floridians and visitors. Two separate and simultaneous levels of public outreach have been employed:

- Program-level outreach. This involves long-term, system-wide issues at an overarching program level such as general outreach, RECOVER, environmental equity and other CERP issues that span the life of the 30+ year plan.
- Project-level outreach. This involves targeted outreach for the 50+ specific CERP components: the individual reservoirs, underground storage wells, filtering wetlands, and other local project features. A custom outreach plan is developed for each individual CERP project. While program and project outreach activities are considered separate, there is often a great overlap of materials, tools and techniques. The same overarching CERP messages apply to both program and project level outreach activities.

The CERP outreach efforts have taken place continuously from 2001 through the writing of this 2008 report. A broad array of outreach involvement and information programs have been developed to include the general public, minority groups, small businesses, and specific stakeholder audiences. The program has included public meetings and workshops; news media relations; creative and unusual information products; environmental education; print, electronic and Internet materials; and many other programs and products to ensure the public is engaged and involved in CERP. The main focus of the outreach efforts is the 16-county central and south Florida region, the area most affected by CERP. However, outreach activities and products also reach people throughout the state of Florida, nation and world.

A few highlights of this very diverse outreach program from the past two years follow:

- Program-level outreach: Long-term, system-wide issues at an overarching program level, such as general outreach, RECOVER, environmental equity and other CERP issues that span the life of the 30+ year plan.
- Project-level outreach: Targeted outreach for the 50+ specific CERP components: the individual reservoirs, underground storage wells, filtering wetlands, and other local project features. A custom outreach plan is developed for each individual CERP project. While program and project outreach activities are considered separate, there is often a great overlap of materials, tools and techniques. The same overarching CERP messages apply to both program and project level outreach activities.

Current Status (July 2006 – June 2008):

- Distributed at least 425,000 newspaper inserts, brochures, CDs, promotional items, and other materials about CERP.
- Continued with a successful environmental education curriculum – The Journey of Wayne Drop to the Everglades. Distributed 44,000 student booklets in English and 10,000 each in Spanish and Creole. Created a coloring book, animal mobile, and bulletin board characters to support the curriculum, and put all resources online for free download.
- Continued with the *Living with the Waters* comic series, about a black family living in south Florida and learning about the Everglades. New products included comic installments, activity book, ruler, bookmark and screensaver.
- Developed a new information campaign – *Name That CERP Sound* – to raise awareness about wildlife of the Everglades. Included an interactive game, Web products, buttons, screensaver and tray liner.
- Prepared special materials for Haitian Americans about CERP, including a new poster and bookmark and related media campaign in 2008.
- Continued to translate materials into both Spanish and Creole, as needed.
- Distributed 10 issues of an electronic newsletter about Everglades outreach activities.
- Launched a new newsletter in 2008, *Everglades Report*, about projects, science, policy and other efforts of the Corps of Engineers to protect and restore central and south Florida's ecosystem.
- Maintained a network of six touch-screen kiosks in public places throughout the 16-county CERP area. Thousands of people use the interactive kiosks each year to learn about the Everglades. The complete presentation is available in Spanish; the introduction in Creole in some kiosks.
- Held more than 35 public meetings or workshops for CERP and related topics.
- Distributed more than 60 news releases for CERP and related topics.
- Continued with a pre-recorded toll-free phone line, 1-877-CERP-USA, that is updated often with meetings and outreach activities.
- Participated in at least 55 community events with staff, display and materials. Bilingual staff members often were present.

- Held Earth Day events in 2007 and 2008, with elementary school students in south Florida creating more than 3,900 individual artworks on the Everglades. Associated special events were held in regional malls and movie theaters.
- Participated in state and national science teachers' conferences to raise awareness of the elementary school curriculum on the Everglades, produced by the Corps of Engineers.
- Organized and participated in events for small businesses to better understand the federal contracting process to participate in CERP.
- Updated the official CERP Web site with current information, including many of these public information products. Presentations are available in Spanish and Creole.

WRDA 2007 amended WRDA 2000 to support those requirements with an allowance for the Secretary of the Army of up to \$3,000,000 per fiscal year to support public outreach, education and business assistance.

Hyperlink: http://www.evergladesplan.org/pm/progr_outreach.aspx

Contact: Nanciann Regalado, USACE, 904-232-3904
Nanciann.E.Regalado@usace.army.mil.

Program Name: SFWMD Outreach Program
Project Name: Outreach
Project ID: 3503
Lead Agency: SFWMD

Strategic Plan Goal(s) Addressed: 3-A.5 Increase community understanding of ecosystem restoration

Measurable Output(s): Public Meetings, Stakeholders Meetings, Schools and Teacher Education, Workforce Development, Symposiums, Media Exposure, Groundbreakings, Special Events, Awards and Recognitions, Everglades Video Clips, Small Business Enterprises

Project Synopsis: The South Florida Water Management District continues to participate with the USACE, and other agencies/major stakeholders and general public in various Outreach activities as listed above to increase the understanding of ecosystem restoration.

Cost: Total:
Project Development:

Project Schedule:
Start Date: Ongoing
Finish Date: Ongoing

Detailed Project Budget Information (\$1000s)

	2004	2005	2006	2007	2008	Balance to complete	Total
Federal							
State	96.427	360	740	1,272.878	1,790.952	ongoing	
Tribal							
Local							
Other		108	22.9			ongoing	
Total	96.427	468	762.9	1,272.878	1,790.952		TBD

Hyperlink: N/A
Contact: Deena Reppen, Director, Gov. and Public Affairs, SFWMD, 561-682-6232

Program Name: Flood Protection
Project Name: C-4 Flood Mitigation Projects
Project ID: 3600
Lead Agency: South Florida Water Management District
Authority: FEMA/DCA

Strategic Plan Goal(s) Addressed: 3.B.1

Measurable Output(s): Improve conveyance and level of service protection in the C-4 Basin

Project Synopsis:

The following projects are complete:

1. S-25B Forward Pump Station
2. S-26 Forward Pump Station
3. C-4 Phase 1 Impoundment (G-420 & G-421)
4. C-4 Phase 2 Impoundment (G-422)
5. Sweetwater Linear Berm and Safety Fence
6. Belen Conveyance Improvements

The following projects are scheduled in near future (Phase 3):

1. Sweetwater Gravity Wall (Land Acquisition in-process)
2. Belen Gravity Wall (Land Acquisition complete)
3. Miami-Dade Gravity Wall (Initial survey commenced)
4. Updated C-4 Basin Model

Sweetwater Gravity Wall: This work involves the construction of a gravity wall along the north side of the C-4 Canal within the city limits of Sweetwater. The north berm will be raised from a low elevation 6.0 feet (NGVD) to elevation 8.0 feet (NGVD). This will prevent canal overflows into the city during high canal stages and allow for a pumping system being implemented by the city to provide flood protection. The project area is from SW 97th Avenue to SW 107th Avenue.

Belen Gravity Wall: This work involves the construction of a gravity wall along the north side of the C-4 Canal from the Florida Turnpike to SW 132nd Ave. This work will be providing the same level of service as in the Sweetwater Gravity Wall.

Miami-Dade Gravity Wall: This work may involve the construction of a gravity wall along the north side of the C-4 Canal from SW 97th Ave to the Palmetto Expressway. This work will be providing the same level of service as in the Sweetwater Gravity Wall. This area was identified as having low canal bank elevations which would need to be improved for the above improvements to be utilized. The segment was not originally included in the C-4 Flood Mitigation Plan. Currently, this two-mile segment is being surveyed to determine the specific areas where a gravity wall will be needed. Land acquisition costs for this phase have not been determined.

Updated C-4 Basin Model: The Miami River Model originally developed in 2002 needs to be updated to reflect the completed portions of the C-4 Flood Mitigation Project. Additionally, the updated model results will be utilized to determine operations criteria for the two impoundment pump stations, the municipal pump stations, and the S-25B Forward Pump Station.

Cost:

Total	\$37,668,000.
Project Development	\$500,000
Land Acquisition	\$TBD
Implementation	\$33,400,000*
Operations and maintenance	\$TBD

* - South Florida Water Management District is investigating local financial partnerships with the municipalities served by the C-4 Basin

Project Schedule:

Start Date: January 2005
 Finish Date: March 31, 2013

	2005	2006	2007	2008	2009	2010	2011	2012	2013
Planning & Design									
Real Estate									
Construction									

Detailed Project Budget Information (\$1000)

	Exp thru 2005	2006	2007	2008	2009	2010	2011	2012	2013	Balance to complete	Total
Federal	140	45	4,083								
SFWMD	0	0		600	3,000	8,800	7,000	7,000	6,000	33,400	
State	0	0									
Total	140	45	4,083	600	3,000	8,800	7,000	7,000	6,000	33,400	37,668

Contact: Greg Coffelt, SFWMD, (561) 682-2623, gcoffelt@sfwmd.gov

Program Name: Infrastructure
Project Name: Herbert Hoover Dike Rehabilitation
Project ID: 3700
Lead Agency: USACE
Authority: Central and Southern Florida (C&SF) Project for Flood Control and Other Purposes authorized in the Flood Control Act of 1948, 1954, 1958, 1960, 1965 and 1968; Authorization in 1970 under Section 201 of the Flood Control Act of 1965, the Water Resources Development Acts of 1986, 1988, 1990, 1992, 1996, 2007 and the Rivers and Harbors Act of 1930.
Funding Source: Corps/

Strategic Plan Goal(s) Addressed: Primary: 3-B 2

Measurable Output(s): 143 miles of rehabilitated dike for adequate levels of flood protection

Project Synopsis: The Herbert Hoover Dike system consists of approximately 143 miles of levees surrounding Lake Okeechobee, with 19 culverts, hurricane gates and other water control structures. The first embankments around Lake Okeechobee were constructed by local interest from sand and muck, circa 1915. Hurricane tides overtopped the original embankments in 1926 and 1928 causing over 3,000 deaths. The River and Harbor Act of 1930 authorized the construction of 67.8 miles of levee along the south shore of the lake and 15.7 miles of levee along the north shore. The U. S. Army Corps of Engineers (USACE) constructed the levees between 1932 and 1938 with crest heights ranging from +32 to +35 feet, NGVD.

A major hurricane in 1947 prompted the need for additional flood protection work. As a result, Congress passed the Flood Control Act of 1948 authorizing the first phase of the Central and South Florida (C&SF) Project, a comprehensive plan to provide flood protection and other water control benefits in central and south Florida. By the late 1960's the new dike system was completed, raising the elevation of the levees to +41 feet, NGVD. This provides protection to the Standard Project Flood level, approximately an event occurring once in 935 years. However, investigations conducted in the 1980's and early 1990's of the dike system's potential seepage and stability problems resulted in the identification of two major areas of concern: the seepage and embankment stability at the culvert locations, and the problematic foundation conditions of the dike. During high water events, piping is experienced thru the levee. In 1999, the Corps developed a plan to rehabilitate the HHD and the plan was approved in 2000. This rehabilitation work covers the entire dike. The areas of work are defined as Reaches 1 – 8, with Reach 1 further divided into four sub-reaches, A through D (figure 1).

The Preferred Alternative design offers the best technology in industry to reduce seepage and piping immediately along the dike alignment as well as to offer stability and protection in the long-term. The cutoff wall will block any pre-existing pipes and defects in the embankment foundation, while the landside rehabilitation feature will serve to provide stability to the dike by reducing uplift pressures caused by seepage. The landside rehabilitation feature may consist of one or more of the following: a seepage berm, relief trench, relief well, sand drain, or soil replacement wedge. The landside rehabilitation feature will be determined based on the specific hydrogeologic conditions of the project site.

Current Status: Construction activities are ongoing within HHD Reach 1A including a cut-off wall, seepage berm and Reach 1 toe ditch within Focus Area 2. Detailed design activities ongoing within Reach 1 include: land side rehabilitation designs for reaches 1A, 1B, 1C and 1D, preparation of construction task order packages for Reach 1 cut-off wall and exploring design options for state owned quarry fill in focus area 7.

NEPA activities include completion of an Environmental Assessment for remaining cut-off wall and land side rehabilitation features in February 2008; and completion of a supplemental Environmental Impact Statement for all Reach 1 land side rehabilitation features in September 2008. Major Rehabilitation Report (MRR) for Reaches 2 and 3 activities include development of system alternatives, risk assessment and associated field work data collection. MRR for reaches 2 and 3 is expected to be completed in November 2009. HHD was included in the WRDA 2007 bill and required action items have been coordinated through Corps Headquarters and will be addressed in a letter report that to be completed in November 2009.

Est. Cost: \$991,100,000

Project Schedule:

- 2009 Reach 1 design completed
- 2009 MRR for Reaches 2 and 3 completed.
- 2013 Reach 1 construction completed.
- 2025 Estimate for all Reaches complete.

REACH 1	2006	2007	2008	2009	2010	2011	2012	2013
Planning								
Design								
Construction								

Note: Rehabilitation estimates beyond Reach 1 will be updates in the Major Rehabilitation Report (MRR) for Reaches 2 and 3.

REACHES 2 & 3	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Major Rehabilitation Report										
Design										
Construction										

REACHES 2 & 3 cont...	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
Major Rehabilitation Report										
Design										
Construction										

Project 3700 Herbert Hoover Dike Rehabilitation Page 2 of 3

Detailed Project Budget Information (in \$1,000s):

	Thru 2007	2008	2009	2010	2011	2012	2013	TOTAL
USACE	39,884	54,800	77,400	204,754	204,754	204,754	204,754	991,100
Total	39,884	54,800	77,400	204,754	204,754	204,754	204,754	991,100

Detailed project budget information beyond 2009 is based on current project schedule.

Hyperlink: <http://www.saj.usace.army.mil/cco/HHD/hhdike.htm>

Contact: Mike Rogalski, Sr. Project Manager, USACE, (904) 232-1460
Michael.B.Rogalski@usace.army.mil

Source: Detailed budget and schedule information based on the FY09 budget submission to OMB and the *Master Implementation Sequencing Plan (MISP)* and updated to reflect current price levels in October 2007 dollars. Original project description summarized from the *Central and Southern Florida Project Comprehensive Review Study*. Current status information summarized from information provided by the project manager.

Program Name: Water Supply Planning
Project Name: Regional water supply plans (*LEC Plan, LWC Plan, UEC Plan, KB Plan*)
Project ID: 3800 (Formerly Project ID 3704)
Lead Agency: South Florida Water Management District
Authority: Chapter 373, Florida Statutes

Strategic Plan Goal(s) Addressed: 3.C.1

Measurable Output(s): Water made available through Alternative Water Supply (AWS) Program is reported separately as Project ID: 3900.

Project Synopsis: Updates of the Upper East Coast, Kissimmee Basin, Lower East Coast, and Lower West Coast Water Supply Plans were approved in 2006 and early 2007. The updated plans reflect the requirements of the Water Resource Protection and Sustainability Program, created during the 2005 state legislative session. The Water Resource Protection and Sustainability Program requires a higher level of water supply planning coordination between the water management districts and local governments and ensures that permitted water supply and potable water facilities are available before new development is approved.

The new legislation requires that water supply plans provide specific details concerning alternative water supply (AWS) projects. Local governments may select and incorporate these AWS projects into their comprehensive plans, implementing a work plan for building needed facilities. Alternatively, local governments may recommend AWS options if they provide sufficient information about funding and water to be produced. The laws also require that the comprehensive plan's evaluation and appraisal process include a review of progress made in implementing the AWS projects.

Funding of AWS development is now a shared responsibility between local water providers, users, the water management districts and the state. The Water Resource Protection and Sustainability Program provides annual state revenues and matching District funds to support construction of AWS projects as well as permitting incentives for water providers selecting AWS projects recommended by the water supply plans. The AWS Program is reported as Project ID: 3900.

Each regional water supply plan includes a water resource development chapter. Water resource development projects support and enhance water supply development projects, but often do not by themselves yield specific quantities of water. For example, hydrologic investigations and groundwater monitoring and modeling provide important information on aquifer characteristics, such as hydraulic properties and water quality. All of these efforts are useful in developing an appropriate facility design, identifying the safe yield and evaluating the economic viability of water supply development projects.

Because water resource development projects often cross planning region boundaries or are conducted Districtwide and usually do not produce water, the projects are not discussed individually in this document.

Cost:	Total Cost*+
Regional water supply plans	\$ 17,542,000

*Excludes: costs associated with CERP, and costs of alternative water supply projects which are reported separately.

+ Source: *The 2008 South Florida Environmental Report, Volume II, Chapter 5: Water Supply*

Contacts: John Mulliken, SFWMD, 561-682-6649, Jim Jackson, SFWMD, 561-682-6334

Program Name: Infrastructure
Project Name: C&SF: CERP South Miami-Dade County Reuse (BBB)
Project ID: 3900 (Formerly Project ID 3800) (CERP Project WBS# 98)
Lead Agency: USACE / Miami-Dade County
Authority: Not authorized
Funding Source: Corps/State

Strategic Plan Goal(s) Addressed: 3-C.2

Measurable Output(s): 131 million gallons per day advanced WWTP

Project Synopsis: This feature includes a plant expansion to produce superior, advanced treatment of wastewater from the existing South District Wastewater Treatment Plant (WWTP) located north of the C-1 Canal in Miami-Dade County. The initial design of this feature assumed that the plant would have a capacity of 131 million gallons per day. Analyses that are more detailed will be required to determine the quality and quantity of water needed to meet the ecological goals and objectives of Biscayne Bay. Additionally, due to the water quality issues associated with discharging reclaimed water into Biscayne National Park, an Outstanding Florida Water, such as potential failures of the treatment system and the limited ability to control contaminant inputs to the sanitary sewer system serving the treatment facility, other potential sources of water to provide required freshwater flows to southern and central Biscayne Bay should be investigated before pursuing the reuse facility as a source. If it is determined that other, more appropriate sources are not available, the reuse project will be initiated by determining the parameters of concern, the necessary wastewater treatment requirements, and the appropriate treatment technology to be implemented.

The purpose of this feature is to provide additional water supply to the South Biscayne Bay and Coastal Wetlands Enhancement Project. In order to attain the superior level of treatment, construction of an add-on pretreatment and membrane treatment system to the existing secondary treatment facility will be necessary. Superior water quality treatment features will be based on appropriate pollution load reduction targets necessary to protect downstream receiving surface waters (Biscayne Bay).

Current Status: This project adheres to the original concept outlined in the Restudy. Planned in future.

Est. Cost: \$454,800,000

Project Schedule:
 2023 Construction completed.

	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
PIR/Plans & Specs											
Real Estate											
Construction											

Detailed Project Budget Information (in \$1,000s):

	2013	2014	2015	2016	2017	2018	Balance 2019-2022	Total
USACE	4,306	4,306	4,306	32,291	32,291	32,291	117,609	227,400
M-D Co.	4,306	4,306	4,306	32,291	32,291	32,291	117,609	227,400
Total	8,611	8,611	8,611	64,583	64,583	64,583	235,218	454,800

Hyperlink: http://www.evergladesplan.org/pm/projects/proj_98_south_miami.cfm

Contact: Kim Brooks-Hall, Chief Project Execution Branch, USACE
 (904) 232-3155, Kimberly.Brooks-Hall@usace.army.mil

Source: Detailed budget and schedule information based on the FY09 budget submission to OMB and the *Master Implementation Sequencing Plan (MISP)* and updated to reflect current price levels in October 2007 dollars. Original project description summarized from the *Central and Southern Florida Project Comprehensive Review Study*.

Program Name: Infrastructure
Project Name: C&SF: CERP West Miami-Dade County Reuse (HHH)
Project ID: 3901 (Formerly Project ID 3801) (CERP Project WBS #97)
Lead Agency: USACE / Miami - Dade County
Authority: Not authorized
Funding Source: Corps/County

Strategic Plan Goal(s) Addressed: 3-C.2

Measurable Output(s): 100 million gallons/day advanced WWTP; report

Project Synopsis: This feature includes a wastewater treatment plant expansion to produce superior, advanced treatment of wastewater from a future West Miami-Dade Wastewater Treatment Plant (WWTP) to be located in the Bird Drive Basin in Miami-Dade County. The initial design assumed a potential discharge volume of 100 million gallons per day from the wastewater treatment plant. The final configuration of these facilities will be determined through more detailed planning and design to be completed in the ongoing West Dade Water Reuse Feasibility Study authorized in Section 413 of the Water Resources Development Act of 1996. Superior water quality treatment features will be based on appropriate pollution load reduction targets necessary to protect downstream receiving surface waters.

The purpose of the feature is to meet the demands for: 1) the Bird Drive Recharge Area, 2) the South Dade Conveyance System, and 3) the Northeast Shark River Slough. When all demands have been met, the plant will stop treatment beyond secondary standards and will dispose of the secondary treated effluent into deep injection wells.

Current Status: This project adheres to the original concept outlined in the Restudy, but it has not yet begun.

Est. Cost: \$547,250,000

Project Schedule:
 2023 Construction completed.

	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
PIR/Plans & Specs										
Real Estate										
Construction										

Detailed Project Budget Information (in \$1,000s):

	2014	2015	2016	2017	2018	Balance 2019-2022	Total
USACE	10,362	25,906	25,906	38,859	38,859	133,733	273,625
M-D Co	10,362	25,906	25,906	38,859	38,859	133,733	273,625
Total	20,724	51,812	51,812	77,718	77,718	267,466	547,250

Hyperlink: http://www.evergladesplan.org/pm/projects/proj_97_west_miami.cfm

Contact: Kim Brooks-Hall, Chief Project Execution Branch, USACE
 (904) 232-3155, Kimberly.Brooks-Hall@usace.army.mil

Source: Detailed budget and schedule information based on the FY09 budget submission to OMB and the *Master Implementation Sequencing Plan (MISP)* and updated to reflect current price levels in October 2007 dollars. Original project description summarized from the *Central and Southern Florida Project Comprehensive Review Study*.

Program Name: Infrastructure
Project Name: C&SF: CERP Wastewater Reuse Technology – Pilot
Project ID: 3902 (Formerly Project ID 3802) (CERP Project WBS# 37)
Lead Agency: USACE / SFWMD
Authority: WRDA 2000 (pilot project)
Funding Source: Corps/State

Strategic Plan Goal(s) Addressed: Primary: 3-C.2 **Secondary:** 2-A.3

Measurable Output(s): 3,500 acres of wetlands restored and created

Project Synopsis: This pilot project adheres to the original concept as outlined in the *Central and Southern Florida Project Comprehensive Review Study (Restudy)* and will address water quality issues associated with discharging reclaimed water into natural areas such as the West Palm Beach Water Catchment Area, Biscayne National Park, and the Bird Drive Basin as well as determine the level of superior treatment and the appropriate methodologies for that treatment. A series of studies will be conducted to help determine the level of treatment needed.

Pilot facilities will be constructed to determine the ecological effects of using superior, advanced treated reuse water to replace and augment freshwater flows to Biscayne Bay and to determine the level of superior, advanced treatment required to prevent degradation of freshwater and estuarine wetlands and Biscayne Bay. The constituents of concern in wastewater will be identified and the ability of superior, advanced treatment to remove those constituents will be determined.

In addition, a pilot facility will be constructed to treat wastewater from the East Central Regional Wastewater Treatment Facility using advanced and superior wastewater treatment processes to remove nitrogen and phosphorus. After treatment, the wastewater will be used to restore 1500 acres of wetlands and to recharge wetlands surrounding the City of West Palm Beach’s wellfield. A portion of the treated wastewater will be used to recharge a residential lake system surrounding the City’s wellfield and a Palm Beach County wellfield.

Besides serving as a pilot project for wetlands-based water reclamation, this feature will reduce a portion of the City’s dependence on surface water from Lake Okeechobee during dry or drought events. In addition, approximately 2,000 acres of wetlands would be created or restored. Other benefits include aquifer recharge and replenishment, reduction of water disposed in deep injection wells and a reduction of stormwater discharge to tide.

Current Status: This project adheres to the original concept outlined in the *Central and Southern Florida Project Comprehensive Review Study (Restudy)*, but has not yet begun.

Est. Cost: \$38,000,000

Project Schedule:
2016 Construction completed.

	2002-2004	2010	2011	2012	2013	2014	2015	2016	Balance to Complete 2017-2021
PPDR/Plans & Specs									
Real Estate									
Construction									
Monitoring									

Detailed Project Budget Information (in \$1,000s):

	Thru 2007	2008	2009	2010	2011	Balance 2012-2021	Total
USACE	1,208	0	0	1,662	1,662	14,468	19,000
SFWMD	668	0	0	1,662	1,662	15,008	19,000
Total	1,876	0	0	3,324	3,324	29,476	38,000

Hyperlink: http://www.evergladesplan.org/pm/projects/proj_37_wastewater_pilot.cfm

Contact: Kim Brooks-Hall, Chief Project Execution Branch, USACE
 (904) 232-3155, Kimberly.Brooks-Hall@usace.army.mil

Source: Detailed budget and schedule information based on the FY09 budget submission to OMB and the *Master Implementation Sequencing Plan* (MISP) and updated to reflect current price levels in October 2007 dollars. Original project description summarized from the *Central and Southern Florida Project Comprehensive Review Study*.

Program Name: Alternative Water Supply
Project Name: Alternative Water Supply Grant
Project ID: 4000 (Formerly Project ID 3900)
Lead Agency: SFWMD
Authority: Chapter 373.1961, Florida Statutes

Strategic Plan Goal(s) Addressed: 3.C.3

Measurable Output(s): 78 MGD added to water supply system district-wide by end of FY08

Project Synopsis: SFWMD began a program of cooperative funding with local governments and other entities for the development of alternative water supply systems in 1986. The FY2008 budget, included \$31.2 million in AWS funding for local government and other partners of which \$15.6 million was provided by the State. Sixty-nine projects were selected, and are slated to be complete by the end of FY08 increasing water supply by 78 MGD.

Cost: \$TBD
 Total:
 Project Development:
 Land Acquisition:
 Implementation:
 Operations and maintenance:

Project Schedule:

Start Date: 1996
 Finish Date: On-going/ annual grants

Detailed Project Budget Information (\$1000)

	Exp Thru 1999	2002	2003	2004	2005	2006	2007	2008	On-going
SFWMD	27,950	3,900	4,006	4,800	6,000	43,100	36,000	31,200	N/A
Total	27,950	3,900	4,006	4,800	6,000	43,100	36,000	31,200	TBD

Hyperlink: N/A
Contact: Jane Bucca (561) 682-6791

Program Name: Agriculture
Project Name: BMPs for Agriculture
Project ID: 4101
Lead Agency: Natural Resources Conservation Service
Authority: Public Law 46
Funding Source:

Strategic Plan Goal(s) Addressed: Other

Measurable Output(s): Nutrient Load Reduction

Project Synopsis: This project provides for technical assistance to landowners and managers of agricultural lands. The goals of this project are to encourage the adoption and implementation of Best Management Practices (BMPs) that will provide for sustainable agriculture within the Everglades ecosystem that is both ecologically and economically sound. Comprehensive resource management plans are developed with the farmer/rancher to achieve their management objectives, while meeting federal, state, regional and local environmental quality criteria and standards (TMDLs).

Cost

Total: \$160,278,000
 Project Development:
 Land Acquisition:
 Implementation:
 Operations and maintenance:

Project Schedule:

Start Date: 1997
 Finish Date: 2011

Detailed Project Budget Information (1000s)

	Through 2006	2007	2008	2009	Balance to Complete	Total
Federal	\$32,521	\$4,710	\$41,642	\$10,000	00	\$88,873
State	\$ 27,935	\$8,150	\$6,000	\$3,000	\$17,500	\$71,405
Tribal						
Local						
Other						
Total	\$53,656	\$12,860	\$47,642	\$13000	\$17,500	\$160,278

Hyperlink: N/A
Contact: Edward Wright - 386-329-4116 (USDA - NRCS)

Program Name: Soils
Project Name: Monitoring of Organic Soils in the Everglades
Project ID: 4102
Lead Agency: Natural Resources Conservation Service
Authority: Public Law 46
Funding Source:

Strategic Plan Goal(s) Addressed: Other

Measurable Output(s): Resource Assessment

Project Synopsis: This project will produce an assessment of the amount of accretion and/or subsidence that has occurred on organic soils throughout the Everglades region. ARS and IFAS have initiated work within the Everglades Agricultural Area (EAA) based upon observations taken every 5-year from 1913 - 1978. The goal of this project is to expand this assessment to the entire Everglades ecosystem, in an effort to provide scientists and land managers a tool to ascertain the effects from hydrologic condition changes upon the organic soil resource.

Cost:
 Total: \$1,236,000
 Project Development:
 Land Acquisition:
 Implementation:
 Operations and maintenance: \$1,236,000

Project Schedule:
 Start Date: 1998
 Finish Date: 2017

Detailed Project Budget Information (\$1000)

	Thru 1999	2004	2005	2006	2007	2008	Balance to complete	Total
Federal	25					100	1,125	1,225
State	11							11
Tribal								
Local								
Other								
Total	36					100	1,011	1,236

Hyperlink: N/A
Contact: Deanna Peterson 352-338-9535 (USDA - NRCS)

Program Name: Soil Survey
Project Name: Soil Survey Update for the Everglades Agricultural Area
Project ID: 4103
Lead Agency: Natural Resources Conservation Service
Authority: Public Law 46
Funding Source:

Strategic Plan Goal(s) Addressed: Other

Measurable Output(s): Acres Mapped

Project Synopsis: This project will produce an updated comprehensive soil survey of the Everglades Agricultural Area (EAA). The project is designed to produce a spatial representation of the soils on approximately 700,000 acres, and a detailed description of each soil's profile. The current soil survey is over 20 years old. Significant changes have occurred due to organic soil subsidence and changes in landscape features. This project will provide an effective conservation planning tool for on-farm decision making that will contribute to over-all ecosystem restoration efforts.

Cost:
 Total: \$2,100,000
 Project Development: \$2,100,000
 Land Acquisition:
 Implementation:
 Operations and maintenance:

Project Schedule:
 Start Date: 2007
 Finish Date: 2012

Detailed Project Budget Information (\$1000)

	2006	2007	2008	Balance to complete	Total
Federal				2,100	2,100
State					
Tribal					
Local					
Other					
Total				2,100	2,100

Hyperlink: N/A
Contact: Deanna Peterson 352-338-9535 (USDA - NRCS)

Program Name: Soil Survey

Project Name: Soil Survey for Everglades National Park, Big Cypress, National Preserve, and Water Conservation Areas

Project ID: 4104

Lead Agency: NRCS

Authority: PL-46

Funding Source:

Strategic Plan Goal(s) Addressed: Primary :Other

Measurable Output(s): Acres Mapped

Project Synopsis: This project will produce a comprehensive soil survey of Everglades National Park, Big Cypress National Preserve, and the Water Conservation Areas. The project is designed to produce a spatial representation of the soils on approximately 2,000,000 acres, and a detailed description of each soil's profile. Currently there is not a detailed soil survey available to land managers, modelers and planners. This project will provide an effective correlation/association tool for land managers, modelers and planners to identify, restore, and sustain natural ecological communities.

Cost:

Total:	\$6,000,000
Project Development:	\$6,000,000
Land Acquisition:	
Implementation:	
Operations and maintenance:	

Project Schedule:

Start Date:	2007
Finish Date:	2013

Detailed Project Budget Information (\$1000s)

	2009	2010	2011	2013	Balance to complete	Total
Federal	600	1800	1800	1800		6,000
State						
Tribal						
Local						
Other						
Total	600	1800	1800	1800		6,000

Hyperlink- N/A

Contact: Deanna Peterson -352-338-9535 USDA - NRCS

Program Name: Infrastructure
Project Name: C&SF: CERP Flow to Northwest and Central Water Conservation Area 3A (II) (RR)
Project ID: 4105 (CERP Project WBS# 11)
Lead Agency: USACE / SFWMD
Authority: Not Authorized
Funding Source: Corps/State

Strategic Plan Goal(s) Addressed: Primary: Other

Measurable Output(s): Increased flows to WCA 3A

Project Synopsis: This feature adheres to the original concept as outlined in the *Central and Southern Florida Project Comprehensive Review Study (Restudy)* and includes relocation and modifications to pump stations and development of a spreader canal system located in the northwest corner and west-central portions of Water Conservation Area 3A in western Broward County. Additional flows will be directed to the northwest corner and west central portions of Water Conservation Area 3A by increasing the capacity of the G-404 pump station, currently a part of the Everglades Construction Project, and increasing the capacity and relocating the S-140 pump station. A spreader canal system at S-140 will reestablish sheetflow to the west-central portion of Water Conservation Area 3A. Water quality treatment of flows is assumed to be provided by the Everglades Construction Project and water quality treatment strategies developed to fulfill the Non-Everglades Construction Project requirements of the Everglades Forever Act.

The purpose of this feature is to increase environmental water supply availability, increase depths and extend wetland hydropatterns in the northwest corner and west-central portions of Water Conservation Area 3A. If additional water quality treatment is determined to be required as a result of future detailed planning and design work, existing facilities would be modified to provide the necessary treatment.

Current Status: This project adheres to the original concept outlined in the Restudy. The project has some dependencies on the Everglades Construction project. It has not begun.

Est. Cost: \$38,200,000

Project Schedule:
 2018 Construction completed.

G-404 (II)	2010	2011	2012	2013	2014	2015
PIR/Plans & Specs						
Real Estate						
Construction						

Flows (RR)	2010	2011	2012	2013	2014	2015	2016	2017	2018
PIR/Plans & Specs									
Real Estate									
Construction									

Detailed Project Budget Information (in \$1,000s):

	Thru 2007	2008	2009	2010	2011	2012	2013	2014	Balance 2015-2017	Total
USACE	59	0	0	361	542	5,060	361	4,518	8,199	19,102
SFWMD	7	0	0	363	544	5,075	363	4,531	8,217	19,099
Total	66	0	0	724	1,086	10,135	724	9,049	16,416	38,200

Hyperlink: http://www.evergladesplan.org/pm/projects/proj_11_flow_nw_central.cfm

Contact: Kim Brooks-Hall, Chief Project Execution Branch, USACE
 (904) 232-3155, Kimberly.Brooks-Hall@usace.army.mil

Source: Detailed budget and schedule information based on the FY09 budget submission to OMB and the *Master Implementation Sequencing Plan (MISP)* and updated to reflect current price levels in October 2007 dollars. Original project description summarized from the *Central and Southern Florida Project Comprehensive Review Study*.

THIS PAGE INTENTIONALLY LEFT BLANK

Completed Projects



THIS PAGE INTENTIONALLY LEFT BLANK

Program Name: Restoration Program: Hydrological Restoration, Habitat and Species
Project Name: Kissimmee Prairie Ecosystem
Project ID: 1305
Lead Agency: Florida Department of Environmental Protection/South Florida Water Management District
Authority: CARL/Save Our Rivers

Strategic Plan Goal(s) Addressed: 1.A.3 and 2.A.1

Measurable Output(s): 38,282 Acres Acquired

Project Synopsis: This project involves acquisition and restoration of wetland and dry prairie habitat in Okeechobee County. The SFWMD and FDEP purchased 38,282 acres of land in 1997 for conservation as the Kissimmee Prairie State Preserve. Restoration has been initiated on the Preserve as well as the adjacent 7,315-acre Ordway-Whittell Kissimmee Prairie Sanctuary owned and managed by the National Audubon Society. The project will restore 13,100 acres of wetlands that were over drained or over impounded by agricultural activities. In addition, the project will enhance another 2,625 acres of wetlands and 9,500 acres of associated dry prairie habitat. Restoration will be accomplished by removing 39.3 miles of ditches and dikes to return sheet flow across the land. Enhancement will include removal of unwanted or invasive vegetation from wetland and dry prairie habitats.

The purpose of the land acquisition project is to preserve the unique wetland and dry prairie habitats that were in agriculture and cattle land use and, using a five-year federal grant, restore and enhance these lands. Approximately 5,000 acres of the project hydraulically linked with the Kissimmee River will be reconnected, thereby restoring wetland habitat to regain historical biological diversity. The remaining 40,000 acres of the project in the project area contain extensive wetland habitats and excellent examples of the dry-prairie community type, which is recognized by the Florida Natural Areas Inventory as endangered at state and global levels. Because of the conversion of similar lands to citrus and improved pasture throughout central Florida, the Kissimmee Prairie Ecosystem, in combination with the adjacent Air Force's Avon Park Bombing Range and Audubon's Kissimmee Prairie Sanctuary, will form the largest region of dry prairie in public ownership in the State. Its preservation is the most important step in the recovery of the federally endangered Florida grasshopper sparrow. The endangered whooping crane, Everglades snail kite, and the woodstork utilize the habitats of the project area. Protection of these lands will also provide habitat for the following threatened species: southern bald eagle, Audubon's caracara, Florida scrub jay, and the eastern indigo snake. In addition, the project area contains habitat that supports over 800 species of plants and animals. **This project has been completed.**

Cost: Total: Project size 38,282 acres.
 38,282 acres have been acquired at a cost of \$22 million

Project Schedule:

Start Date: 1996
 Finish Date: 1997

Detailed Project Budget Information (\$1000s)

	Through 2003	2004	2005	2006	2007	2008	Total
Federal							
State	22,000						22,000
Total	22,000						22,000

Hyperlink: N/A

Contact: John Outland (850) 245-2089

Program Name: Infrastructure
Project Name: Critical Projects - East Coast Canal Structures (C-4)
Project ID: 1406
Lead Agency: USACE / SFWMD
Authority: WRDA 1996

Strategic Plan Goal(s) Addressed: Primary: Other

Measurable Output(s): Water control structures

Project Synopsis: This project calls for the construction of a gated water control structure (S-380) on the C-4 canal in Dade County, Florida. This structure will be located immediately southeast of the Pennsuo Wetlands. The purpose of the structure is to maintain stages to create and preserve wetlands as well as aquifer recharge. **The construction for this project has been completed.**

Cost:

Total \$3,683,000
 Project Development
 Land Acquisition (est. 2 ac)
 Implementation
 Operations and Maintenance

Project Schedule:

Start Date: 1999
 Finish Date: 2003

	1999	2000	2001	2002	2003
Planning & Design					
Real Estate					
Construction					

Detailed Project Budget Information (\$1000)

	Thru 2003	Total
USACE	1,841	\$1,841
SFWMD	1,842	\$1,842
Total	3,683	\$3,683

Contact: USACE

Program Name: Infrastructure
Project Name: C&SF: Indian River Lagoon Feasibility Study
Project ID: 1428
Lead Agency: USACE / SFWMD
Authority: WRDA 1996

Strategic Plan Goal(s) Addressed: Other supports 3-C.1

Measurable Output(s): Reports

Project Synopsis: The purpose of the study is to investigate making structural and operational modifications to the C&SF Project to improve the quality of the environment, improve protection of the aquifer, and improve the integrity, capability, and conservation of urban and agricultural water supplies and other water related purposes. The product of this study is a regional plan for addressing the water resource problems and opportunities of the St. Lucie River and Estuary and Indian River Lagoon watersheds in Martin and St. Lucie Counties.

Current Status: The initial Indian River Lagoon South Feasibility Study was completed October 2002 and a project implementation report was completed in March 2004. **This project was completed in 2008.**

Est. Cost:
 Total \$6,150,000

Project Schedule:
 1996 Start
 2002 Completed

	1999	2000	2001	2002
Planning & Design				
Real Estate				
Construction				

Detailed Project Budget Information (in \$1,000s):

	Thru 2002	Total
USACE	\$3,075	\$3,075
SFWMD	\$3,075	\$3,075
Total	\$6,150	\$6,150

Hyperlink to Indian River Lagoon-South:
http://www.evergladesplan.org/pm/studies/irl_south.cfm

Program Name: Restoration Program: Hydrological Restoration, Water Quality
Project Name: Chapter 298 Districts/Lease 3420 Improvements
Project ID: 1700
Lead Agency: South Florida Water Management District
Authority: Florida's Everglades Forever Act

Strategic Plan Goal(s) Addressed: Getting the Water Right

Measurable Output(s): Extent of reduction of total phosphorus entering Lake Okeechobee.

Project Synopsis: South Florida Water Management District funded works of the Chapter 298 District (East Beach Water Control District, East Shore Water Control District, South Shore Drainage District and South Florida Conservancy District) for the design and construction of these diversion works as described in the Everglades Forever Act. South Florida Water Management District also funded works of the Lessee of Lease No. 3420 (Closter Farms) for the design and construction of diversion works described in the Everglades Forever Act. The primary objective of these improvements is to reduce total phosphorus loads discharged directly to Lake Okeechobee. **All projects are complete and are in operation.**

*** Cost (Estimate):**

Total:	\$ 24,115,521
(1) Project Development:	\$ 779,995
Land Acquisition:	\$ -
(2) Implementation:	\$ 23,335,526
Operations and Maintenance:	\$ -

Project Schedule: Completion Date: September 2005

	FY 1994 - FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010 - FY 2016
Project Development						
Implementation						

*** Detailed Project Budget Information**

	Actual FY 1994-05	Projected FY 2006	Projected FY 2007	Projected FY 2008	Projected FY 2009	Balance to complete	Total
Federal							
State	\$24,115,521	-	-	-	-	-	\$24,115,521
Other							
Total	\$24,115,521	-	-	-	-	-	\$24,115,521

- (4) Cost data reflects actual inception-to-date expenditures through September 30, 2005 and current preliminary cost estimate projections.
- (5) Project Development includes Design Phase [contracts & staff costs] costs.
- (6) Implementation includes all Construction [contracts & contingency] and Construction Management [contracts & staff costs] costs.

Contact: Steve Poonasingh, (561) 682-2934

Program Name: Infrastructure

Project Name: E&SF: Critical Projects - Western C-11 Water Quality Treatment

Project ID: 1703 (CERP Project # WBS 486)

Lead Agency: USACE / SFWMD

Authority: WRDA 1996

Funding Source: Corps/State

Strategic Plan Goal(s) Addressed: Primary: Other

Measurable Output(s): Gated spillway structure; pump station

This project will construct 500-cfs seepage pump station (S-9A) and spillway (S-381) in Canal C-11 to separate clean seepage from urban run-off waters and pump the clean water back into Water Conservation Area 3A. Construction of pump station S-9A was completed in August 2002. Construction of re-designed spillway S-381 was completed in 2005. The initial audit of original construction contract termination for spillway S-381 was completed in September 2003. The second audit phase began in February 2004. Obermeyer construction contract has been physically completed and is in the closeout phase.

The purpose of this project is to improve the quality and timing of stormwater discharges to the Everglades Protection Area from the Western C-11 Basin located in south central Broward County. The S-9 pump station currently pumps untreated urban and agricultural stormwater runoff from the Western C-11 Basin directly into Water Conservation Area 3A. The project involves construction of a gated control structure on C-11 to divide western seepage waters (i.e., clean water) from the eastern runoff waters in C-11 canal (i.e., polluted water) and construction of an additional pumping station adjacent to S-9 to pump clean seepage back into the Everglades Protection Area. Both features will be remotely controlled using sponsor-installed telemetry. **This project is completed.**

Cost: \$18,066,000

Project Schedule:

Construction close-out is in progress.

Start Date: 1997

Finish Date: 2006

	1997	1998	1999	2000	2001	2002	2003	2004	2005
Design									
Construction									

Detailed Project Budget Information (\$1000)

	Thru 2005	Total
USACE	9,074	9,074
SFWMD	8,992	8,992
Total	18,066	18,066

Hyperlink: <http://www.saj.usace.army.mil/projects/newrpt.htm>

Contact: USACE

Source: Detailed budget and schedule information based on the FY08 budget submission to OMB and updated to reflect current price levels in October 2006 dollars.

Program Name: Infrastructure
Project Name: Everglades National Park Water and Wastewater
Project ID: 1705
Lead Agency: National Park Service

Strategic Plan Goal(s) Addressed: Primary: Other

Measurable Output(s): Number of water and wastewater systems that are rehabilitated or replaced

Project Synopsis: This project will rehabilitate or replace 28 water and wastewater systems in two districts of Everglades National Park. A large percentage of the existing water and wastewater systems within the park were constructed over 35 years ago when the public health and environmental standards were not as fully evolved as they are today. While originally constructed to code, all of the systems are in non compliance with environmental regulations and standards for operating a public water supply. This rehabilitation effort would modify or replace all of the existing systems with new systems that offer the full level of public health and environmental protection that present day standards require. The final result will be potable water systems properly designed to provide safe, clean water and wastewater that is sufficiently treated to fully protect the fragile water resources within Everglades National Park. **This project has been completed.**

Cost:
Total \$18,965,000

Project Schedule:
 Start Date: 1997
 Finish Date: 2006

	1997	1998	1999	2000	2001	2002	2003	2004
Construction								

Detailed Project Budget Information (\$1,000)

	Thru 1999	2000	2001	2002	2003	2004	Balance to complete	Total
Federal	3,516	1,894	2,883	4,192	4,594	286	1,600	18,965
State								
Tribal								
Local								
Other								
Total	3,516	1,894	2,883	4,192	4,594	286	1,600	18,965

Hyperlink: N/A
Contact: Michael Jester, 305 242 7771

Program Name: Restoration Program: Water Quality, Habitat & Species
Project Name: Lake Okeechobee Sediment Removal Feasibility Study and Pilot Project
Project ID: 1708
Lead Agency: South Florida Water Management District
Authority: Chapter 373, Florida Statutes
Funding Source:

Strategic Plan Goal(s) Addressed: Other

Measurable Output(s): Recommendation Regarding Sediment Removal from Lake Okeechobee

Project Synopsis: The goal of this project was to analyze alternatives and determine the best method of sediment management to reduce internal phosphorus loading in Lake Okeechobee. The Feasibility Study addressed alternatives such as sediment removal, processing, disposal, chemical treatment, and/or sealing sediment to achieve the project goal. The goal of the Feasibility Study was achieved using an objective methodology that allowed for review and input by experts and stakeholders throughout the study process. A pilot test of a state-of-the-art sediment removal/treatment technology train was conducted in parallel with the Feasibility Study. The pilot test included sediment removal, de-watering, treatment, and a pilot water quality treatment system. The results of the pilot test were incorporated into the Feasibility Study.

The results for the feasibility study indicated that once the TMDL is met the annual frequency of algal blooms would decrease to below a 15% annual probability of a bloom occurrence (from a current annual likelihood of approximately 20%) by 2015 and 10% by 2028. Under this “no in-lake action” alternative, steady-state lake recovery conditions would be achieved approximately 35 years from the point that external loads are reduced to the inflow load of 140 metric tons. Dredging did not prove feasible, while chemical treatment might be of value under limited conditions.

Cost:

Total	\$955,069
Project Development	\$955,069
Land Acquisition	N/A
Implementation	N/A
Operations and Maintenance	N/A

Project Schedule:

Start Date: 6/1/00
 Finish Date: 6/1/03 (Completed 04/03)

Detailed Project Budget Information (\$1000)

	Thru 1999	2000	2001	2002	2003	Balance to complete	Total
State		0	287.5	280.8	386.7		955.1
Tribal							
Local							
Other							
Total			287.5	280.8	386.7		955.1

Hyperlink: N/A
Contact: Don Nuelle (561) 682-6743

Program Name: Restoration Program: Water Quality, Habitat & Species
Project Name: Lake Okeechobee Tributary Sediment Removal Pilot Project
Project ID: 1709
Lead Agency: South Florida Water Management District
Authority: Chapter 373, Florida Statutes
Funding Source: SFWMD Ad Valorem; EPA 319

Strategic Plan Goal(s) Addressed: Other

Measurable Output(s): Reduction in phosphorus loads from the Lettuce Creek drainage basin to Lake Okeechobee.

Project Synopsis: This project provides a direct comparison between two sediment removal technologies, namely, a continuous deflective separation (CDS) unit and a tributary sediment trap (TST) to determine if particulate phosphorus loading to Lake Okeechobee from Lettuce Creek drainage basin may be reduced using either of two pre-selected technologies. This project also examines the feasibility of sediment removal in a tributary as a method of reducing phosphorus loading to Lake Okeechobee. The effectiveness of the two technologies is being evaluated over a 12-month monitoring period. Initial monitoring results have indicated poor removal efficiencies for phosphorus by both units. Upon evaluation of the physical characteristics of the particles in the Lettuce Creek water, it was hypothesized that the settling velocities of the particles are too slow to allow capture of the particulate phosphorus within the relatively short residence times provided by the two units. Additional sediment management techniques are being investigated to examine if the effectiveness of these units can be improved by enhancing the settling velocity of the particles. The effectiveness of each system will be quantified using both a concentration-based and mass balance approach. The economic viability of each technology will be evaluated by comparing the present worth cost (20-yr) per kilogram of sediment and phosphorus removed by each system. If one of the tested sediment trap methods is found effective, landowners in the watershed will be encouraged to use it. The District will also use the technology wherever possible on District facilities. **This project has been completed.**

Cost:

Total	\$440,000
Project Design (Phase I)	\$93,728
Construction, Installation and Calibration of Monitoring Instruments (Phase II)	\$210,940
Post Sediment Removal Monitoring and Measuring Effectiveness of the Project (Phase III)	\$135,332

Project Schedule: Start Date: October 2000 Completion Date: June 2004

	10/2000	08/2001	01/2002	04/2002	05/2002	06/2004
Project Design						
Construction and Installation						
Monitoring and Project Evaluation						

Detailed Project Budget Information (\$1000)

	2000-2001	2001-2002	2002-2003	2003-2004	Balance to complete	Total
Federal EPA	59.5	87.1	23.4			170
State SFWMD	71	136.6	42.4	20		270
Total	130.5	223.7	65.8	20		440

Contact: Odi Villapando (561) 682-2936

Program Name: Restoration Program: Hydrological Restoration, Water Quality

Project Name: S-5A Basin Runoff Diversion Works

Project ID: 1713

Lead Agency: South Florida Water Management District

Authority: Florida's Everglades Forever Act

Strategic Plan Goal(s) Addressed: Getting the Water Right

Measurable Output(s): Reduce phosphorus levels before it enters the Everglades Protection Area (EPA).

Project Synopsis: S-5A Basin Runoff Diversion Works is located in western Palm Beach County at the confluence of the Hillsboro and Ocean Canals in the Everglades Agricultural Area (EAA). The project diverts flow from the S-5A Basin into STA-2 for treatment. This project included enlargement of approximately 17 miles of the Hillsboro and Ocean Canals in approximately 2001 and the construction of a water control structure (G-341) which was completed in June 2005.

*** Cost (Estimate):**

Total:	\$ 14,233,758
(1) Project Development:	\$ 408,815
Land Acquisition:	\$ 1,902,688
(2) Implementation:	\$ 11,298,233
Operations and Maintenance:	\$ 624,022

Project Schedule:

Completion Date: June 2005

	FY 1994 - FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010 - FY 2016
Project Development						
Land Acquisition						
Implementation						
Operations and Maintenance						

*** Detailed Project Budget Information**

	Actual FY 1994-05	Projected FY 2006	Projected FY 2007	Projected FY 2008	Projected FY 2009	Balance to complete	Total
Federal							
State	\$13,536,252	\$49,892	\$51,387	\$53,314	\$54,913	\$488,000	\$14,233,758
Tribal							
Local							
Other							
Total	\$13,536,252	\$49,892	\$51,387	\$53,314	\$54,913	\$488,000	\$14,233,758

- (7) Cost data reflects actual inception-to-date expenditures through September 30, 2005 and current preliminary cost estimate projections.
- (8) Project Development includes Design Phase [contracts & staff costs] costs.
- (9) Implementation includes all Construction [contracts & contingency] and Construction Management [contracts & staff costs] costs.

Contact: Steve Poonasingh, (561) 682-2934

Program Name: Restoration Program: Hydrological Restoration, Water Quality

Project Name: STA-1 Inflow and Distribution Works

Project ID: 1719

Lead Agency: South Florida Water Management District

Authority: Florida's Everglades Forever Act

Strategic Plan Goal(s) Addressed: Getting the Water Right

Measurable Output(s): Reduce phosphorus levels in outflows from the STAs as directed in the Everglades Forever Act.

Project Synopsis: STA-1 Inflow and Distribution Works is located in Western Palm Beach County, just north of the Water Conservation Area No. 1 (Loxahatchee National Wildlife Refuge). This project redirects the discharge from S-5A Pump Station via the L-40 and L-7 Borrow Canals to STA-1 West and STA-1 East. The project scope includes the construction of four water control structures (G-300, G-301, G-302, G-311), and associated bypass canals, a separation levee extending from L-7 to L-40 and an inflow canal and perimeter levee leading to the STA-1W project.

*** Cost (Estimate):** Total: \$ 12,679,955
 (1) Project Development: \$ 1,090,618
 (2) Implementation: \$ 11,589,337
 Operations and Maintenance: \$ Included with STA-1 West

Project Schedule:

Completion Date: September 2005 (including structure G-311, inflow structure for STA-1E)

	FY 1994 - FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010 - FY 2016
Project Development						
Land Acquisition						
Implementation						
Operations and Maintenance						

*** Detailed Project Budget Information**

	Actual FY 1994-05	Projected FY 2006	Projected FY 2007	Projected FY 2008	Projected FY 2009	Balance to complete	Total
Federal							
State	\$12,679,955	-	-	-	-	-	\$12,679,955
Tribal							
Local							
Other							
Total	\$12,679,955	-	-	-	-	-	\$12,679,955

(10) Cost data reflects actual inception-to-date expenditures through September 30, 2005 and current preliminary cost estimate projections.

(11) Project Development includes Design Phase [contracts & staff costs] costs.

(12) Implementation includes all Construction [contracts & contingency] and Construction Management [contracts & staff costs] costs.

Contact: Steve Poonasingh, (561) 682-2934

Program Name: Land Acquisition
Project Name: Babcock Ranch
Project ID: 2102
Lead Agency: Florida Department of Environmental Protection
Authority: Florida Forever Program

Strategic Plan Goal(s) Addressed: 2.A.1

Measurable Output(s): 73,542 Acres acquired

Project Synopsis: The Babcock Ranch project consists of approximately 91,361 acres in Charlotte and Lee counties. Acquisition of would assist in the creation of a wildlife corridor that would span from Lake Okeechobee to the Gulf of Mexico. The majority of the project area consists of mesic flatwoods with the center of the project dominated by Telegraph Swamp. This ten thousand acre swamp drains most of the project area. Portions of the project provide habitat for the endangered red-cockaded woodpecker, crested caracara, and numerous other plants and animals. The project is proposed primarily as a less-than-fee simple acquisition a portion of the project will be acquired in full fee title. The evaluation team visited the project on September 25, 2001.

The majority of the Babcock Ranch project lies in southeastern Charlotte County; a small part extends into northeastern Lee County. It is contiguous with Fred C. Babcock-Cecil M. Webb Wildlife Management Area (Babcock-Webb WMA) for approximately 6 miles (mostly Babcock Family Reserve portion; proposed Curry Lake conservation easement is contiguous for 0.75 mile) on the west, Fisheating Creek Florida Forever project for approximately 3 miles on the east, and Caloosahatchee Regional Park for approximately 1.5 miles on the south. Bright Hour Watershed conservation easement is situated approximately 12 miles to the north, Hall Ranch Florida Forever project (contiguous with Babcock-Webb WMA) is contiguous with the Babcock Family Reserve portion for approximately 3 miles (it is ca. 4 miles to the northwest of the proposed Curry Lake conservation easement), Hickey Creek Mitigation Park Wildlife and Environmental Area is located less than 1.5 miles to the south, Moya Sanctuary is located less than 1 mile east of the southeast boundary of the proposal, and the Caloosahatchee Ecoscape Florida Forever project and Okaloacoochee Slough State Forest lie 10.5 miles and 15 miles, respectively, to the southeast. **This project has been completed.**

Cost: Total: Project size is 73,542 acres. 73,542 acres have been acquired at a cost of \$ 350,000,000
 Project Development
 Land Acquisition: 0 acres remaining to be acquired.
 Implementation
 Operations and maintenance

Project Schedule:

Start Date: 2001
 Finish Date: Upon completion

Detailed Project Budget Information (\$1000)

	Thru 2007	2008	2009	2010	Balance to complete	Total
Federal						
State*	308,461					
Tribal						
Local	41,538					
Total	350,000					TBD

Contact: John Outland (850) 245-2089

Program Name: Land Acquisition
Project name: Cayo Costa
Project ID: 2110
Lead Agency: FDEP
Authority: CARL Program

Strategic Plan Goal(s) Addressed: 2.A.1

Measurable Output(s): 1,954 Acres acquired

Project Synopsis: The project area, involving 1,954 acres, includes Cayo Costa and North Captiva, both part of a small chain of barrier islands that provide protection for Charlotte Harbor, one of Florida's most productive estuaries. The natural communities within the project are in excellent condition and have high species diversity; some may be unique to these islands. This project contains several archaeological and historical sites. Cayo Costa Island is subdivided into small lots and is threatened by rapid residential development. **This project has been completed.**

Cost: Total: Project size 1,954. All acres acquired at a cost of \$28,337,346
 Project Development
 Land Acquisition:
 Implementation
 Operations and maintenance

Project Schedule:

Start Date: 1980
 Finish Date: 2004

Detailed Project Budget Information (1000s)

	Thru 2004	2005	2006	2007	2008	Total
Federal						
State	\$28,337					28,337
Tribal						
Local						
Other						
Total	\$28,337					28,337

Contact: John Outland (850) 245-2089

Program Name: Land Acquisition
Project Name: Dupuis Reserve Land Acquisition
Project ID: 2116
Lead Agency: South Florida Water Management District
Authority: Save Our Rivers (SOR)

Strategic Plan Goal(s) Addressed: Primary: 2.A.1

Measurable Output(s): Target 21,875 Acres

Project Synopsis: The Dupuis Reserve encompasses 21, 875 acres in northwestern Palm Beach and southwestern Martin Counties. The property is interspersed with numerous ponds, wet prairies, cypress domes, pine flatwoods, and remnant Everglades marsh. Dupuis is actively managed by the District and the Florida Fish and Wildlife Conservation Commission. Numerous public use opportunities are available, including hiking, horseback riding, hunting, fishing, and bicycling. Total project acreage is 21,875 acres. **This project has been completed.**

Cost: Total \$23,016,601
 Project Development N/A
 Land Acquisition \$23,016,601
 Implementation N/A
 Operations and Maintenance N/A

Project Schedule:

Start Date: 1985
 Finish Date: 1986

Detailed Project Budget Information (\$1000)

	Through 1999	2000	2001	Balance to Complete	Total
Federal					
State	23,016.601				23,016.601
Tribal					
Local					
Other					
Total	23,016.601				23,016.601

Contact: Wanda Caffie-Simpson, (561) 682-6445

Additional information available at www.sfwmd.gov under the heading "Major Projects"

Program Name: Land Acquisition
Project name: Frog Pond/L31N
Project ID: 2123
Lead Agency: Florida Department of Environmental Protection
Authority: CARL Program

Strategic Plan Goal(s) Addressed: 2.A.1

Measurable Output(s): 10,450 Acres acquired

Project Synopsis: Lands border Everglades National Park and are considered critical to the Park's ecosystem, particularly Shark River Slough. The project's water storage capacity helps to prevent excessive flooding and serves as a recharge area for well fields in South Dade. The area is highly vulnerable to development pressure. **This project has been completed.**

Cost: Total: Project size 10,450 acres. 11,126 acres have been acquired at a cost of \$102,872,897
 Project Development
 Land Acquisition: 0 acres remaining to be acquired.
 Implementation
 Operations and maintenance

Project Schedule:

Start Date: 1982
 Finish Date: Upon completion

Detailed Project Budget Information (1000s)

	Thru 2007	2008	Balance to complete	Total
Federal	4,700			
State*	98,172			
Tribal				
Local				
Other				
Total	102,872			102,872

**State expenditures may include local government contributions on CARL, Florida Forever, FCT and SOR projects.*

Contact: John Outland (850) 245-2089

Program Name: Land Acquisition
Project Name: Lake Walk-in-Water Land Acquisition
Project ID: 2130
Lead Agency: South Florida Water Management District
Authority: Save Our Rivers (SOR)

Strategic Plan Goal(s) Addressed: Primary: 2.A.1

Measurable Output(s): Target 4,009 Acres

Project Synopsis: The Lake Walk-in-Water project covers land between the northeast shore of lake Weohyakapka (Walk-in-Water) and SR60. The retirement communities of Nalcrest and Fedhaven border the property to the west and the community of Indian Lake Estates lies to the south. The project has extensive frontage along SR60 and Lake Water-in-Water and contains a large expanse of dry prairie, interspersed with small, isolated depression marshes a very large basin marsh along the highway, and large pine stands that have grown back since being logged in the 1920s. In 1999, the District and Polk County partnered to make the initial 4,000 acre purchase. The project is historically significant Town of Sumica. Polk County actively manages the property with financial assistance from the District. The total project acreage is 4,009 acres and all have been acquired. **This project has been completed.**

Cost: Total SFWMD does not make cost projections on SOR projects
 Project Development N/A
 Land Acquisition SFWMD does not make cost projections on SOR projects
 Implementation N/A
 Operations and Maintenance N/A

Project Schedule:

Start Date: 1995
 Finish Date: 1998

Detailed Project Budget Information (1000s)

	Thru 1999	2000	2001	Balance to Complete	Total
Federal					
State	\$1,975				\$1,975
Tribal					
Local	\$1,975				\$1,975
Other					
Total	\$3,950				3,950

Additional information available at www.sfwmd.gov under the heading "Major Projects"

Contact: Wanda Caffie-Simpson, (561) 682-6445

Program Name: Land Acquisition
Project Name: Loxahatchee River Land Acquisition
Project ID: 2131
Lead Agency: South Florida Water Management District
Authority: Save Our Rivers (SOR)

Strategic Plan Goal(s) Addressed: Restore, Preserve and Protect the Natural Habitat and Species

Measurable Output(s): Target 1,936 Acres

Project Synopsis: This 1,936-acre project connects to the southern end of Jonathan Dickinson State Park, and contains lands in Palm Beach and Martin Counties. The project includes the historic floodplain of the Northwest Fork of the Loxahatchee River, a National Wild and Scenic River.

The purpose of this project is to protect the outstanding natural and cultural values of Florida’s first federally designated Wild and Scenic River. Public ownership of this property will prevent direct disruption of surface and groundwater flows to the northwest Fork, and increase minimum flows to the Loxahatchee River, which will affect downstream movement of the saltwater wedge during dry conditions. A total of 1,914 acres are in public ownership; the District has acquired 1,547 acres and Palm Beach County owns 367 acres within the project area. **This project has been completed.**

Project is completed.

Cost:	Total	\$13,074,703
	Project Development	N/A
	Land Acquisition	\$13,074,703
	Implementation	N/A
	Operations and Maintenance	N/A

Project Schedule:

Start Date:	1984
Finish Date:	2001

Detailed Project Budget Information (\$1000)

	Thru 1999	2000	2001	Balance to Complete	Total
Federal					
State	\$11,927.120				\$11,927.120
Tribal					
Local	\$1,147.583				\$1,147.583
Other					
Total	\$13,074.703				\$13,074.703

Additional information available at www.sfwmd.gov under the heading “Major Projects”

Contact: Wanda Caffie-Simpson, (561) 682-6445

Program Name: Land Acquisition
Project Name: Nicodemus Slough Land Acquisition
Project ID: 2137
Lead Agency: South Florida Water Management District
Authority: Save Our Rivers (SOR)

Strategic Plan Goal(s) Addressed: Primary: 2.A.1

Measurable Output(s): Target 2,231 Acres

Project Synopsis: Nicodemus Slough consists of wet prairie, broadleaf marsh, and prairie hammock south of the Herbert Hoover Dike (LD-3) and west of State Road 78. Until recently, the construction of the Herbert Hoover Dike, coupled with the maintenance of lower stages in Lake Okeechobee, resulted in a shortened hydroperiod and general lowering of water levels in Nicodemus Slough. This in turn altered vegetative patterns on the property and allowed the spread of transition and upland species. **This project has been completed.**

Cost: Total \$1,894,501
 Project Development N/A
 Land Acquisition \$1,894,501
 Implementation N/A
 Operations and Maintenance N/A

Project Schedule:

Start Date: 1981
 Finish Date: 1988

Detailed Project Budget Information (1000s)

	Thru 1999	2000	2001	Balance to Complete	Total
Federal					
State	\$1,894.5				\$1,894.5
Tribal					
Local					
Other					
Total	\$1,894.5				\$1,894.5

Contact: Wanda Caffie-Simpson, (561) 682-6445
 Additional information available at www.sfwmd.gov under the heading "Major Projects"

Program Name: Land Acquisition
Project Name: South Fork St. Lucie River Land Acquisition
Project ID: 2153
Lead Agency: South Florida Water Management District
Authority: Save Our Rivers (SOR)

Strategic Plan Goal(s) Addressed: Restore, Preserve and Protect the Natural Habitat and Species

Measurable Output(s): Target 184 Acres

Project Synopsis: This project includes 184 acres on the western shore of the upper South Fork St. Lucie River. The property begins approximately 0.75 miles south of State Road 76 and extends approximately 1.25 miles southward.

The purpose of this project is to protect the integrity of the river corridor. River water quality is best maintained when river corridor lands remain in their natural state and are restored and managed to enhance the natural community quality. Prescribed fire has successfully been used as the main restoration tool to improve the condition of degraded communities on this property. Responsibility for management of land is divided between the Department of Environmental Protection and Martin County. **This project has been completed.**

Project is completed.

Cost:	Total	\$2,480,000
	Project Development	N/A
	Land Acquisition	\$2,480,000
	Implementation	N/A
	Operations and Maintenance	N/A

Project Schedule:

Start Date:	1995
Finish Date:	1996

Detailed Project Budget Information (1000s)

	Thru 1999	2000	2001	Balance to complete	Total
Federal					
State	\$2,480			0	\$2,480
Tribal					
Local					
Other					
Total	\$2,480			0	\$2,480

Contact: Wanda Caffie-Simpson, (561) 682-6445
 Additional information available at www.sfwmd.gov under the heading "Major Projects"

Program Name: Land Acquisition
Project Name: Tibet-Butler Preserve Land Acquisition
Project ID: 2157
Lead Agency: South Florida Water Management District
Authority: Save Our Rivers (SOR)

Strategic Plan Goal(s) Addressed: Restore, Preserve and Protect the Natural habitat and Species

Measurable Output(s): Acres Acquired

Project Synopsis: The Preserve covers 439 acres along the southwest shore of Lake Tibet-Butler in Orange County. The vegetative communities include bay swamp, pine flatwoods, cypress swamp, and smaller areas of xeric oak and freshwater marsh. The Tibet-Butler Preserve site includes approximately 4,000 feet of shoreline on Lake Tibet. Orange County Parks and Recreation Department manages Tibet-Butler Preserve as an environmental education facility. **This project has been completed.**

Cost: Total \$3,601,900
 Land Acquisition \$3,601,900

Project Schedule:

Start Date: 1988
 Finish Date: 1999

Detailed Project Budget Information (1000s)

	Through 1999	2000	Balance to Complete	Total
Federal				
State	\$3,601.9			\$3,601.9
Tribal				
Local				
Other				
Total	\$3,601.9			\$3,601.9

Contact: Wanda Caffie-Simpson, (561) 682-6445

Additional information available at www.sfwmd.gov under the heading "Major Projects"

Program Name: Land Acquisition
Project Name: Yamato Scrub
Project ID: 2161
Lead Agency: FDEP
Authority: Florida Forever

Strategic Plan Goal(s) Addressed: Primary: 2.A.1

Secondary:

Measurable Output(s): Target 207 Acres

Project Synopsis: Predominantly natural communities here are sand pine scrub and scrubby flatwoods. The species richness of the scrub is considered higher than that of any other scrub on the southeast coast. A bargain shared project. **This project has been completed.**

Cost: Total: Project size 207 acres all acquired
Project Development
Land Acquisition: 207 acres acquired at a cost of \$25,932,850
Implementation
Operations and maintenance

Project Schedule:

Start Date: 1992
Finish Date: 1996

Detailed Project Budget Information (1000)

	Thru 1999	2000	2001	Balance to complete	Total
Federal					
State	17,500				17,500
Tribal					
Local	8,432.8				8,432.8
Other					
Total	25,932.8				25,932.8

Contact: John Outland (850) 245-2089

Program Name: Invasive Exotic Species Management
Project Name: Estero Bay Aquatic Preserve and Buffer Enhancement and Exotic Removal Project
Project ID: 2604
Lead Agency: FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
Authority: Chapter 403, Florida Statutes
Funding Source:

Strategic Plan Goal(s) Addressed: 2.B.2

Measurable Output(s): Acres of exotic plants removed

Project Synopsis:

I. Melaleuca removal: Treatment, removal, monitoring and follow-up treatment of 708 acres of Melaleuca within the 10,405 acre Estero Bay Preserve State Park – **PROJECT COMPLETED**

II. Dog Key Exotic Removal: Treatment, removal, monitoring and follow-up treatment of exotic vegetation on Dog Key, a 24 acre island within the Estero Bay Aquatic Preserve and part of the Estero Bay State Buffer Preserve with documented Calusa Indian middens/mounds – **PROJECT COMPLETED**

Cost: Total: \$1.05 million

Project Development:

I. Melaleuca Removal – The initial aerial treatment of 708 acres of melaleuca was completed through funding by the Bureau of Invasive Plant Management (BIPM) at a cost of approximately \$100,000.00. Only the heavily infested monoculture areas were treated, leaving untreated buffers around native plant communities. It will be necessary to hand treat these buffer areas and any unsuccessful initial treatment areas. It is anticipated that \$600,000.00 will be needed for this work. Monitoring and follow-up treatment of this large-scale treatment still needs funding. Smoke from a prescribed fire within these treatment areas (dead) would be a major problem in the Estero development area so actual removal of dead or live trees off site would be preferable. In this case, costs could exceed the \$600,000.00 figure.

Implementation:

I - initial treatment completed in 2001. On the ground treatment of the buffer areas (edges of the treated areas) and any unsuccessful treatment areas should also occur toward the end of 2001 or beginning of 2002. Monitoring and follow-up treatment to continue through 2004 at an estimated cost of \$300,000.00.

Operations and maintenance: Total =2,852 acres treated at a cost \$1,129,214
 Estimated at \$40,000.00 through 2004.

Project Schedule:

Start Date: 1998
 Finish Date: 2004

Detailed Project Budget Information (1000s)

	Thru 2003	2004	2005	Balance to complete	Total
Federal					
State	\$538.5	\$28.6	\$20.5		
Tribal					
Local					
Other					
Total	\$538.5	\$28.6	\$20.5		\$587.6

Hyperlink: N/A
Contact: N/A

Program Name: Infrastructure
Project Name: Critical Projects - Florida Keys Carrying Capacity
Project ID: 4100
Lead Agency: USACE / FDCA
Authority: WRDA 1996

Strategic Plan Goal(s) Addressed:Primary: Other

Measurable Output(s): Report

Project Synopsis: The carrying capacity study/analysis will develop information that will improve decision-making regarding development approvals and infrastructure investments, and its impact on the ecology and natural system in the Florida Keys and Florida Bay. The development of a decision making tool will provide a comprehensive basis for coordinating and strengthening water and land related planning efforts by local, state and federal agencies. The Study was completed March 2003. **This project has been completed.**

Cost:
 Total: \$6,000,000
 Project Development: \$6,000,000
 Land Acquisition:
 Implementation:
 Operations and maintenance:

Project Schedule:

Start Date: 1997
 Finish Date: 2003

	1997	1998	1999	2000	2001	2002	2003
Planning & Design							
Real Estate							
Construction							

Detailed Project Budget Information (\$1000)

	Thru 2003	Total
USACE	3,000	\$3,000
FDCA	3,000	\$3,000
Total	6,000	\$6,000

Hyperlink: <http://www.saj.usace.army.mil/projects/proj4.htm>
Contact: USACE



Coordinating Success and Tracking Success

For further information on this document please contact:

**South Florida Restoration Task Force
Office of the Executive Director
c/o Florida International University
OE Building, Room 165, University Park Campus
Miami, Florida 33199**

Phone: (305) 348-1665 Fax: (305) 348-1667

Marsha Bansee Lee

**For more information on the
South Florida Ecosystem Restoration Program
or to view this document on-line, please visit
<http://www.sfrestore.org>**



Coordinating and Tracking Success