



# BIG CYPRESS BASIN

## STRATEGIC PLAN

### 2010~2015









**Charles J. Dauray**

## BIG CYPRESS BASIN BOARD

**Charles J. Dauray**

*Chairman*

**Pam Mac’Kie**

**John Sorey**

**Noah Standridge**

**Fred Thomas**

**John Vaughn**

# MESSAGE FROM THE BASIN CHAIRMAN

Since its inception in 1977, the Big Cypress Basin Board and South Florida Water Management District staff have done a commendable job in planning and implementing water resource and capital improvement projects. This year we are undertaking a higher-level perspective that emphasizes long-term goals and outcomes in carrying out our mission.

It is appropriate to embark on this strategic approach during one of the most dramatic economic downturns in our nation’s history. Faced with declining revenues and significant resource management challenges in 2010, the SFWMD and the Big Cypress Basin continue to find ways to move forward in serving the needs of both the people and water resources of the region. As stewards of taxpayer dollars, it is incumbent upon us to carefully and deliberately direct these limited resources toward the highest priorities that provide the greatest possible benefits.

Based on our legislative charge to effectively manage water resources, the Basin Board took a hard look at our key mission responsibilities. Recognizing the need to focus on multi-purpose projects and initiatives, we determined the following priorities (detailed further on pages 4 and 5):

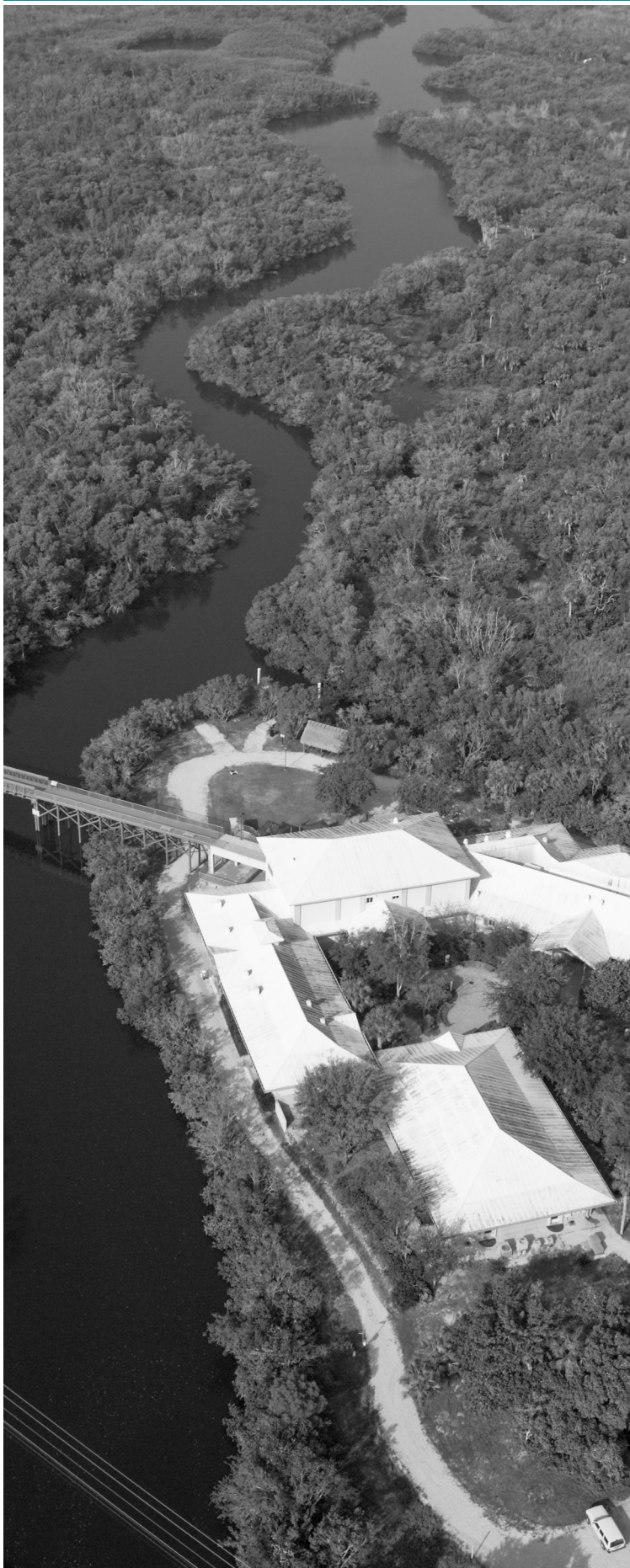
- Maximize flood protection
- Enhance and protect Big Cypress Basin ecosystems
- Protect and improve inland and estuarine waters to achieve water quality standards
- Ensure sustainable water supplies that protect natural systems and meet all reasonable-beneficial uses

The concepts, strategies and success indicators contained in this Strategic Plan serve as our blueprint for future planning and budgeting. We remain committed to identifying and implementing solutions for the protection of Big Cypress Basin resources.

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## BIG CYPRESS BASIN

### OVERVIEW

The South Florida Water Management District (SFWMD) is a regional governmental agency that oversees the water resources in the southern half of the state. Covering almost 18,000 square miles, the region encompasses all or part of 16 counties. Headquartered in West Palm Beach, it is the oldest and largest of the state's five water management districts.

State legislation divides the SFWMD into two taxing basins based on hydrologic characteristics unique to each basin. The Big Cypress Basin (BCB, Basin) includes all of Collier County and a portion of mainland Monroe County. The Okeechobee Basin comprises the remaining area within SFWMD boundaries.

A nine-member Governing Board, appointed by the Governor, provides oversight and sets policy for both basins. The Governor also appoints five Collier County residents to oversee Big Cypress Basin-specific planning, budgeting and operations. The SFWMD Board member representing the lower west coast area serves as Chairman of the Big Cypress Basin Board.

Established in 1977, the BCB was initially charged with providing for the broad objectives of conservation, preservation and enhancement of water resources. Between

### SFWMD VISION

*To be the world's premier water resource agency*

### SFWMD MISSION

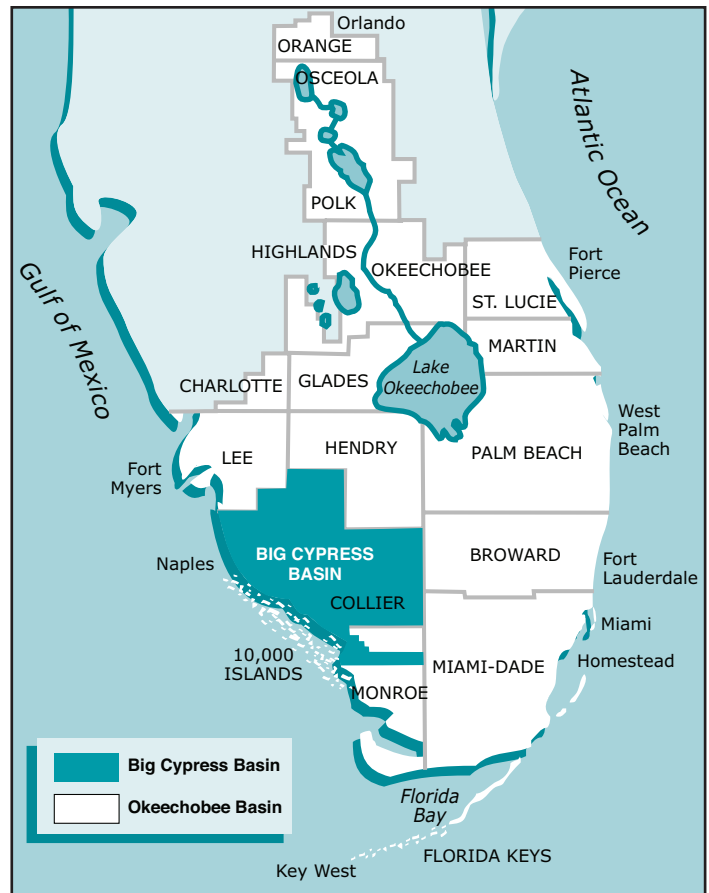
*To manage and protect water resources of the region by balancing and improving water quality, flood control, natural systems and water supply*



1979 and 1993, agreements with Collier County transferred operation and maintenance of the county's primary network of canals and water control facilities to the Basin.

Today, the Big Cypress Basin is responsible for operating and maintaining 162 miles of canals and 46 water control structures. Capital improvements to the water management infrastructure, designed to enhance water supply, environmental and flood control capabilities, are also provided by the BCB. In addition to water storage and drainage responsibilities, the Big Cypress Basin assists local governments and water utilities in developing alternative water supplies and implementing stormwater management programs to improve water quality. Major environmental protection and restoration partnership projects under way in the Basin include the Lake Trafford and Picayune Strand projects. Environmental, water use and right-of-way permitting support and water resource education / community outreach programs are other key Basin activities.

Meetings of the Basin Board are held every other month. All meetings are open to the public and provide a discussion forum for matters relating to the region's water resources and budget issues. Basin administration is managed through the SFWMD Big Cypress Basin office in Naples. Operations and maintenance activities – including future responsibility for new pump stations and levees being constructed as part of the Picayune Strand restoration project – are carried out by staff at the SFWMD Big Cypress Basin Field Station, also located in Naples.



## OUR VALUES

### EXCELLENCE

*Our knowledge, experience and passion set us apart as world-renowned water managers*

### TEAM

*We are committed to the success of all as individuals, as a team and as an organization*

### COMMUNICATION

*We value and expect open, honest and timely communication*

### HONESTY

*Honesty is never compromised*

### SERVICE

*We meet our customers' (internal and external) needs with professionalism and integrity*

### INTEGRITY

*Teamwork and sound science are the foundation of our excellence*

### DIVERSITY

*Our diversity is the cornerstone of our strength*

### FOCUS

*We are steadfast in our belief and commitment to the District's mission*

### ADAPTABILITY

*We embrace change by taking informed risks and capitalizing on new opportunities and challenges*

### ENTHUSIASM

*We do the coolest work on the planet!*

# BIG CYPRESS BASIN BOARD PRIORITIES

The Big Cypress Basin statutorily pursues and implements the broader South Florida Water Management District mission of managing and protecting the regional water resources by improving flood control, water quality, water supply and natural systems. The strategic priorities of the activities of the Basin are captured here.



## Strategic Priorities

### **Maximize flood protection by:**

- *Maintaining preparedness for emergency storm operations*
- *Efficiently operating and maintaining the Basin's primary canal and water control structure network*
- *Improving canal conveyance capacities while emphasizing water resource protection and beneficial alternative uses*
- *Retrofitting old, inefficient water control structures; building new structures to meet current or future design conditions*
- *Cooperating with local governments to improve and maintain secondary and tertiary stormwater management systems*
- *Inventorying, prioritizing and retrofitting coastal and other water control structures in response to sea level rise, where necessary*

### **Enhance and protect Big Cypress Basin ecosystems by:**

- *Completing construction of existing key restoration projects*
- *Restoring historic flow-ways to enhance wetland functions while recognizing private property rights*
- *Supporting land acquisition for environmental restoration*
- *Improving water storage capacity*
- *Improving the timing, quality and distribution of fresh water to coastal estuaries*
- *Implementing restoration projects and protection plans for coastal water bodies*
- *Using reservation and allocation authority to protect water for the natural system*





***Protect and improve inland and estuarine waters to achieve water quality standards by:***

- *Monitoring the trends of surface and groundwater quality in inland and receiving waters*
- *Supporting local governments to implement stormwater improvement projects*
- *Operating water control structures with advanced water release technologies to meet water quality standards of receiving waters*

***Ensure sustainable water supplies that protect natural systems and meet all reasonable-beneficial uses by:***

- *Developing and implementing the regional water supply plan in coordination with local governments to meet the current and future demands of water users and the environment*
- *Strengthening the linkage between land use, water supply planning and consumptive use through coordination with local governments and public water supply utilities*
- *Creating financial and other incentives for regional solutions, developing alternative water supplies and water conservation*
- *Updating regional models and analysis to assist in determining water sustainability in the Basin*



***On the following pages, Big Cypress Basin activities and initiatives are organized by the SFWMD's resource area structure. Background information, success indicators and strategies are provided for each group, as well as key deliverables and milestones scheduled for completion over the next five years.***

## SUCCESS INDICATORS

Compliance with the current fiscal year budget-driven segment of 50-year plan

100% compliance with permit requirements of constructed Big Cypress Basin facilities

90% design conveyance capable

99% of planned structure maintenance performed on schedule

99% of planned vehicle maintenance performed on schedule

90% compliance with electronic communication installation and maintenance schedule

Less than 10% of land at an unacceptable level of exotic infestation

92% of Right-of-Way permit compliance or resolution

95% planned general field station maintenance performed on schedule

Capital improvement project implementation compliance with annual work plan schedule



## MANAGING THE SYSTEM

The goal of the Operations and Maintenance resource area is to minimize flood damage, provide regional water supply, and protect and restore the environment by optimally managing the primary water control system and SFWMD lands. The BCB operates and maintains a network of 162 miles of primary canals, 46 water control structures and four pumps. These facilities provide flood control during the wet season and protect water supplies and environmental resources from over-drainage during the dry season. Objectives also include prevention of saltwater intrusion, recharging public water supply wellfields and protecting regional ecosystems. Canals are maintained to maximize conveyance capacity, including shoal and debris removal, as well as aquatic and terrestrial vegetation control. Right of Way Permits are issued to protect the SFWMD's ability to effectively and safely use the canal and levee rights of way of the works of the Big Cypress Basin.

BCB's hydrologic monitoring network continuously collects data on rainfall, evaporation, surface and ground water levels, stream flow, water control structure operations and other meteorological parameters. Real time data, delivered via a telemetry system, improves the response capability to localized or regional water resource conditions and allows the public to view water control structure operations and water conditions on the web.

## STRATEGIES

- Maintain preparedness for emergency storm operations
- Efficiently operate and maintain the Basin's primary canal and water control structure network
- Cooperate with local governments to improve and maintain secondary and tertiary stormwater management systems
- Improve canal conveyance capacities while emphasizing water resource protection and beneficial alternative uses
- Inventory, prioritize and retrofit coastal and other water control structures in response to sea level rise, where necessary
- Retrofit old, inefficient water control structures; build new structures to meet current or future design conditions
- Maintain water control structures and future pump stations to meet operational demands
- Implement the Henderson Creek Flow Diversion project to restore the ecological health of Naples Bay and Rookery Bay
- Maintain all vehicles and equipment in safe condition
- Maintain and upgrade Supervisory Control And Data Acquisition (SCADA) infrastructure network in BCB

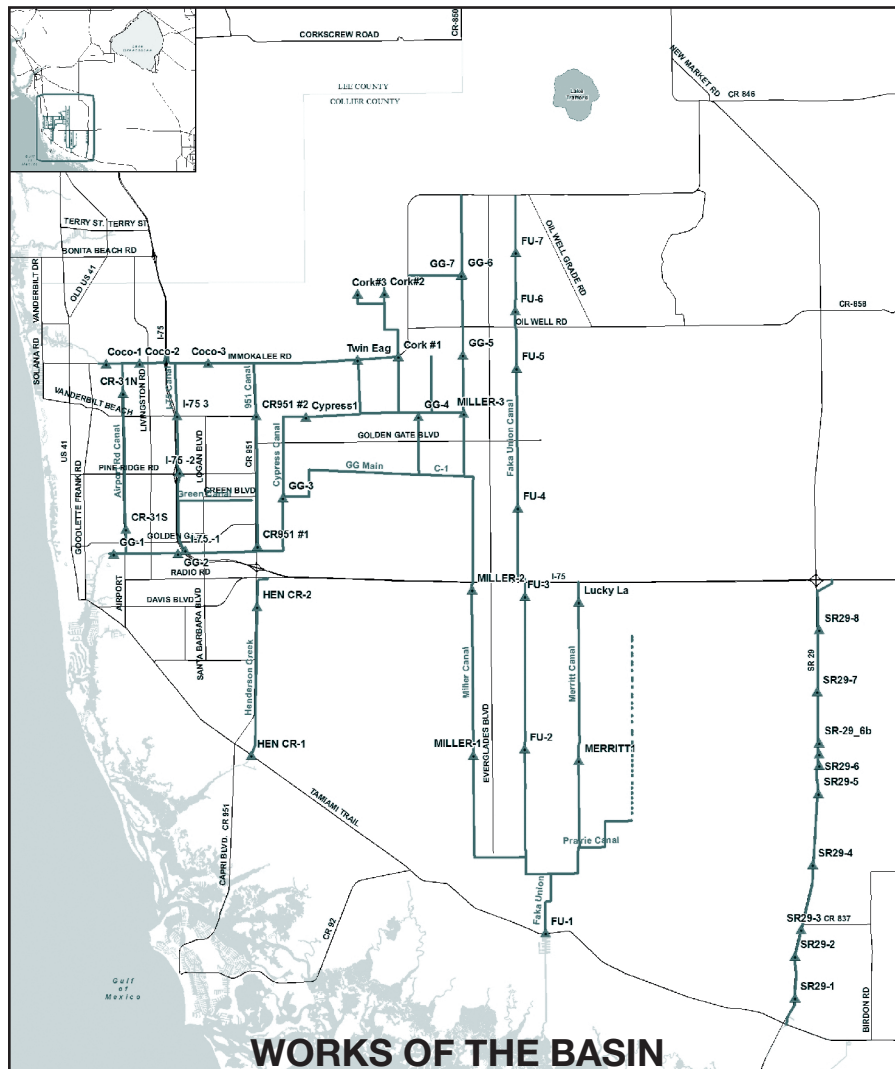


## DELIVERABLES AND MILESTONES

ELEMENT	2011	2012	2013	2014	2015
CAPITAL PROJECTS	<ul style="list-style-type: none"> <li>Complete Miller Canal Weir #3 H&amp;H Assessment</li> </ul>	<ul style="list-style-type: none"> <li>Complete Henderson Creek Canal Weir #2 Retrofit H&amp;H Assessment</li> </ul>	<ul style="list-style-type: none"> <li>Complete Golden Gate Canal Weir #4 Retrofit H&amp;H Assessment</li> </ul>	<ul style="list-style-type: none"> <li>Complete Golden Gate Canal Weir #5 Retrofit H&amp;H Assessment</li> </ul>	<ul style="list-style-type: none"> <li>Complete C-1 Connector Canal H&amp;H Assessment</li> </ul>
	<ul style="list-style-type: none"> <li>Complete Henderson Creek Diversion #3 H&amp;H Assessment</li> </ul>		<ul style="list-style-type: none"> <li>Complete Cypress Canal Weir #1 H&amp;H Assessment</li> </ul>	<ul style="list-style-type: none"> <li>Complete Faka Union Canal Weir #6 and #7 Retrofit H&amp;H Assessment</li> </ul>	<ul style="list-style-type: none"> <li>Complete Airport Road Canal North Weir Retrofit H&amp;H Assessment</li> </ul>
	<ul style="list-style-type: none"> <li>Initiate design and permitting of BCB Field Station</li> </ul>	<ul style="list-style-type: none"> <li>Start construction of BCB Field Station</li> </ul>	<ul style="list-style-type: none"> <li>Complete construction of BCB Field Station</li> </ul>	<ul style="list-style-type: none"> <li>Complete retrofit of Cypress Canal Weir #1</li> </ul>	<ul style="list-style-type: none"> <li>Complete retrofit of Golden Gate Canal Weir #5</li> </ul>
	<ul style="list-style-type: none"> <li>Complete retrofit of Golden Gate Canal Weir #6 and #7</li> </ul>	<ul style="list-style-type: none"> <li>Complete relocation and retrofit of Miller Canal Weir #3</li> </ul>	<ul style="list-style-type: none"> <li>Complete retrofit of Henderson Creek Weir #2</li> <li>Start construction of Henderson Creek Diversion</li> </ul>	<ul style="list-style-type: none"> <li>Complete retrofit of Golden Gate Canal Weir #4</li> <li>Complete construction of Henderson Creek Diversion</li> </ul>	<ul style="list-style-type: none"> <li>Complete retrofit of Faka Union Canal Weir #6 and #7</li> </ul>
STRUCTURE AND PUMP MAINTENANCE AND REFURBISHMENT	<ul style="list-style-type: none"> <li>Maintain and repair Basin works</li> </ul>				
CANAL/LEVEE MAINTENANCE	<ul style="list-style-type: none"> <li>Maintain and repair buildings and grounds</li> </ul>				
ELECTRONICS/ COMMUNICATIONS AND CONTROL	<ul style="list-style-type: none"> <li>Upgrade and maintain BCB Hydrologic Monitoring Network</li> </ul>				
EXOTIC/AQUATIC PLANT CONTROL	<ul style="list-style-type: none"> <li>Apply aquatic herbicide</li> <li>Apply terrestrial herbicide</li> </ul>				
GENERAL MAINTENANCE	<ul style="list-style-type: none"> <li>Complete general service of facilities</li> </ul>				

BCB – Big Cypress Basin

H&H – Hydrologic and Hydraulic



## SUCCESS INDICATORS

Reservations, Minimum Flows and Levels and other rules completed on schedule

Established Minimum Flows and Levels met

Saltwater interface along the coastal boundary identified

Percentage of watershed treated to improve habitat and water quality in Naples Bay increased and consistent with its Surface Water Improvement and Management Plan

Increased spatial coverage of oyster beds and proper distribution based on historical patterns

Reduction in point discharge by 30% of freshwater inflows to the estuaries

Lake Trafford watershed long-term management plan developed and implemented on schedule

6.5 million cubic yards of organic material removed from Lake Trafford by 2011



## RESTORING WATER FLOWS

The goal of the Everglades Restoration and Capital Projects resource area is to restore, preserve and protect the ecosystem by implementing projects that improve the quality, quantity, timing and distribution of water deliveries. In the Big Cypress Basin, a key focus is reconnecting historic flow-ways and reestablishing ecosystems while enhancing the flow conveyance capabilities of the BCB water management infrastructure. The BCB presently supports two Everglades restoration capital projects: the Picayune Strand Restoration Project and the Lake Trafford Critical Restoration Project.

Establishing and meeting Minimum Flow and Levels (MFLs) protect major water bodies from significant harm. MFL criteria define the point at which additional water withdrawals would result in significant harm. MFL criteria have been adopted for the Lower West Coast deeper aquifers that underlie the Big Cypress Basin.

## STRATEGIES

- Complete construction of existing key restoration projects
- Restore historic flow-ways to enhance wetland functions while recognizing private property rights
- Support land acquisition for environmental restoration
- Improve water storage capacity
- Improve the timing, quality and distribution of fresh water to coastal estuaries
- Implement restoration projects and protection plans for coastal water bodies
- Use reservation and allocation authority to protect water for the natural system
- Monitor the trends of surface and groundwater quality in inland and receiving waters
- Participate in the establishment and maintenance of MFLs in the Basin
- Operate water control structures with advanced water release technologies to meet water quality standards of receiving waters
- Continue to support implementation and operation of the Picayune Strand and Lake Trafford restoration projects
- Support the development and implementation of the Southwest Florida Feasibility Study
- Increase understanding of coastal ecosystems through applied scientific research
- Assist local governments with implementation of coastal water body restoration projects
- Assist in the development of technical criteria for water reservations and minimum flows and levels
- Stay abreast of emerging water quality and environmental issues



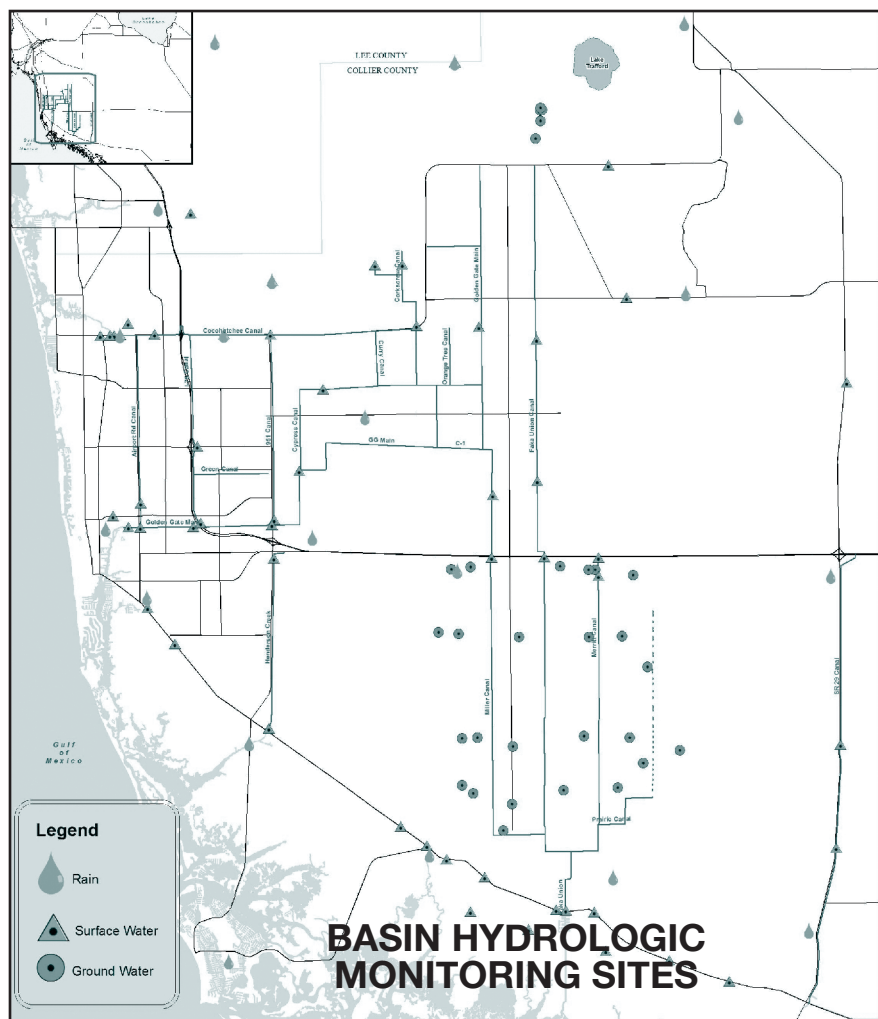
## DELIVERABLES AND MILESTONES

ELEMENT	2011	2012	2013	2014	2015
CRITICAL RESTORATION PROJECTS	<ul style="list-style-type: none"><li>• Complete Lake Trafford Phase III Dredging</li><li>• Start identifying water quality impairments in Lake Trafford</li></ul>	<ul style="list-style-type: none"><li>• Assess biological indicators for Lake Trafford</li></ul>	<ul style="list-style-type: none"><li>• Complete Lake Trafford Watershed Management Plan</li></ul>	<ul style="list-style-type: none"><li>• Implement Lake Trafford Watershed Management Plan</li></ul>	
CERP PROGRAM ELEMENTS	PICAYUNE STRAND RESTORATION PROJECT				
	<ul style="list-style-type: none"><li>• Coordinate local sponsor construction management for Merritt and Faka Union pump stations</li></ul>	<ul style="list-style-type: none"><li>• Coordinate local sponsor construction management for Faka Union and Miller pump stations</li></ul>	<ul style="list-style-type: none"><li>• Coordinate local sponsor construction management for levees and canal/road removal</li></ul>	<ul style="list-style-type: none"><li>• Implement operations of pump stations</li></ul>	
BIG CYPRESS BASIN	<ul style="list-style-type: none"><li>• Complete Southwest Florida Feasibility Study</li></ul>				
	<ul style="list-style-type: none"><li>• Complete BCB Saltwater Intrusion Monitoring Network Improvement Plan</li></ul>	<ul style="list-style-type: none"><li>• Implement BCB Saltwater Intrusion Monitoring Network Improvement Plan</li></ul>			
	<ul style="list-style-type: none"><li>• Monitor Collier County surface water quality</li></ul>				
	<ul style="list-style-type: none"><li>• Monitor Collier County groundwater quality</li></ul>				
		<ul style="list-style-type: none"><li>• Initiate development of Naples Bay Hydrodynamic Model</li><li>• Florida Department of Environmental Protection completes Naples Bay salinity and water quality monitoring</li></ul>	<ul style="list-style-type: none"><li>• Complete calibration / verification of Naples Bay Hydrodynamic Model</li></ul>	<ul style="list-style-type: none"><li>• Complete development of Naples Bay Hydrodynamic Model</li></ul>	<ul style="list-style-type: none"><li>• Update and begin implementation of the Naples Bay SWIM Plan</li></ul>
REGIONAL MODELING	<ul style="list-style-type: none"><li>• Complete peer review of BCB models</li></ul>				
	<ul style="list-style-type: none"><li>• Maintain, enhance and apply BCB integrated surface water-groundwater model for operational planning, flood events and evolving environmental issues</li></ul>				
	<ul style="list-style-type: none"><li>• Maintain, enhance BCB real-time hydrologic modeling system for flood warning</li></ul>				

BCB – Big Cypress Basin

CERP – Comprehensive Everglades Restoration Plan

SWIM – Surface Water Improvement and Management



## SUCCESS INDICATORS

100% of BCB Environmental Resource Permit applications processed consistent with adopted rules and criteria

100% of BCB Water Use Permit applications processed consistent with adopted rules and criteria

Completion and application of water supply plan BCB data gathering and model runs in compliance with Annual Work Plan schedule

Alternative water supply capacity and reclaimed water use increased consistent with adopted Lower West Coast Water Supply Plan

Conservation levels achieved meet or exceed targets within adopted Lower West Coast Water Supply Plan

95% of correspondence responded to within 10 working days of receipt



## CENTRALIZED LOCAL SERVICES

The goal of the Regulatory and Public Affairs resource area is to manage and protect the regional water resources through effective planning, regulation and public involvement. The Big Cypress Basin supports the SFWMD's regulatory authority by providing permit review to ensure protection of the Basin's environmental and water resources. The Basin also participates in the development and implementation of the Lower West Coast Water Supply Plan. Because traditional sources of water are limited, the plan focuses on alternative water supplies and conservation to address future demands.

Technical and financial assistance is provided to local governments for projects enhancing stormwater management, alternative water supply, ecosystem restoration and water conservation education. In addition, the Basin actively looks for, and implements, opportunities to expand public involvement and intergovernmental coordination. Staff routinely participates in community outreach events and water resource educational programs to share information about water resource management and protection.

## STRATEGIES

- Develop and implement the regional water supply plan in coordination with local governments to meet the current and future demands of water users and the environment
- Strengthen the linkage between land use and water supply planning through coordination and water use permit review with local governments and public water supply utilities
- Create financial and other incentives for regional solutions to develop alternative water supplies and water conservation
- Update regional models and analysis to assist in determining water sustainability in the Basin
- Implement the SFWMD Comprehensive Water Conservation Program
- Update the ground and surface water database and complete numerical modeling and empirical analyses to address water resource planning and operational issues in the Basin
- Implement projects to increase storage and groundwater recharge
- Support local governments in implementing stormwater improvement projects





## DELIVERABLES AND MILESTONES

ELEMENT	2011	2012	2013	2014	2015
BIG CYPRESS BASIN	•Support Collier County secondary system Memorandum of Understanding				
	•Fulfill Collier County Memorandum of Understanding commitment for funding Freedom Park acquisition			•Carry out secondary system conveyance improvements	
	•Satisfy permit mandate for Cocohatchee Canal Phase 4 construction; submit annual report to the FDEP and U.S. Fish and Wildlife Service				
	•Complete Regional Coordination Team work plan annually with partner agencies				
	•Provide financial and technical support for stormwater projects identified in the Annual Work Plan - Collier County - Naples - Marco Island				
	•Complete Everglades City Water Management Plan	•Initiate final design for water plant improvement	•Complete final design for water plant improvement	•Complete development of funding mechanism for water plant construction	
	•Complete Naples Bay salinity and hydrologic data collection and development of hydrodynamic model			•Complete update of Naples Bay SWIM Plan	
ENVIRONMENTAL RESOURCE PERMITTING	•Provide review input for key Environmental Resource Permit applications				
WATER USE PERMITTING	•Provide review input for key Water Use Permit applications				
CONSERVATION	•Implement the SFWMD Comprehensive Water Conservation Program				
ALTERNATIVE WATER SUPPLY	•Support BCB alternative water supply projects consistent with the Lower West Coast Water Supply Plan				
PLANNING	•Strengthen the linkage between land use and water supply planning through coordination with local governments and utilities				
GOVERNMENT & PUBLIC AFFAIRS	•Facilitate Basin Board meetings				
	•Coordinate intergovernmental affairs				
	•Address media inquiries and generate media coverage				
	•Develop and disseminate informational and education materials for local projects and SFWMD initiatives				
	•Provide citizen problem-resolution services				

BCB – Big Cypress Basin

FDEP – Florida Department of Environmental Protection

SFWMD – South Florida Water Management District

SWIM – Surface Water Improvement and Management



# BASIN MANAGEMENT & CORPORATE RESOURCES

## SUCCESS INDICATORS

Less than 10% of total budget used for administration

85% or higher actual expenditure of discretionary budget

85% of Basin projects operating in compliance with the standard methodology

5% or greater of contract dollars to Small Business Enterprise vendors

Greater than 90% of employees retained beyond introductory period

Greater than 90% of employees performing effectively or above

100% compliance with Security Plan schedule



## EFFICIENT & EFFECTIVE OPERATIONS

The goal of Basin Management and Corporate Resources is to provide optimum leadership, business support and logistical functions in carrying out the mission of the Basin. Administrative actions are based on sound management of financial resources to meet the Basin Board's legislative charge and policy guidance. This includes preparation of an annual operating budget for adoption by the Basin Board and inclusion in the SFWMD Budget, and other related administrative functions.

Over the years, rapid population growth in Collier County has stimulated significant concerns regarding efficient management of water and environmental resources of the region. Current property value declines and resulting reduction in BCB revenue poses extraordinary challenges to balancing financial resources with needs. Increased responsibilities for planning, construction, operation and maintenance of additional facilities are met with innovative water resource management strategies and efficient administration.

## STRATEGIES

- Implement Governor, Legislative, SFWMD Governing Board and Basin Board direction
- Ensure open government
- Provide excellent customer service
- Prepare financial statements in conformity with generally accepted accounting principles
- Continue to recognize the value of employees
- Attract, retain and develop a high-performance, team-oriented, diverse workforce

## DELIVERABLES AND MILESTONES

ELEMENT	2011	2012	2013	2014	2015
BUSINESS SUPPORT	• Provide administrative support for Basin Board meetings and budget development				
	• Implement performance management cycle				
	• Implement process management practices				
	• Perform general administrative services				
	• Manage facilities and assets				
	• Maintain and upgrade buildings and grounds				
SAFETY, SECURITY AND EMERGENCY MANAGEMENT	• Implement Security Plan and conduct security response drills				
	• Conduct annual planning, training and emergency exercises				







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**[sfwmd.gov](http://sfwmd.gov)**

