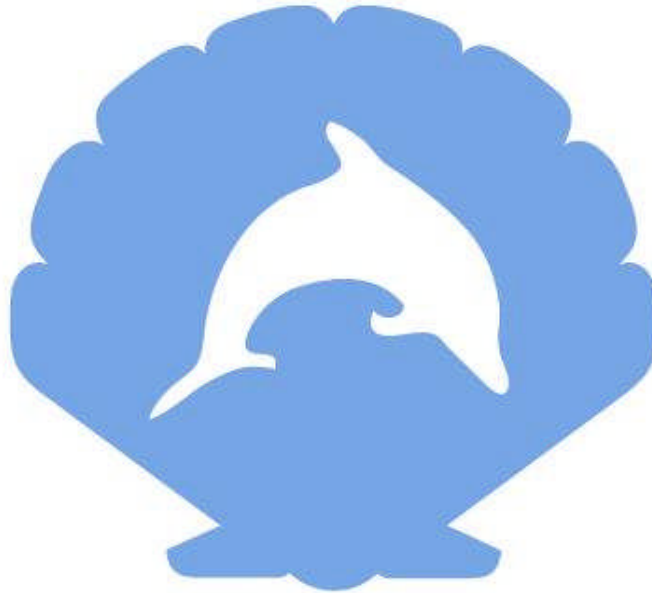




ANNUAL WORKPLAN  
FFY 07 or 08 Operating



SARASOTA BAY  
ESTUARY PROGRAM

**Protecting Our Water Heritage**

**Part 1 – Goals and Accomplishments**

Introduction.....3  
Program Goals.....3  
Specific Accomplishments.....5

**Part 2 –Planned Projects**

Introduction.....6  
New/Ongoing Projects.....6  
Citizen Action Plan.....16

**Part 3– Proposed Budget**

FY07 Projected Workplan.....17

**Part 4 – Program History**

Background.....19  
Accomplishments.....21

**Appendices**

Appendix A - Staff and Responsibilities .....32  
Appendix B - FY 07 Proposed Travel Budget .....34  
Appendix C - FY 07 Leveraged Funds Report.....35

# **SARASOTA BAY ESTUARY PROGRAM**

## **FEDERAL FY 07 WORKPLAN**

**(FY 08 Operating)**

### **PART 1 – ACCOMPLISHMENT AND GOALS**

This work plan does not include construction projects.

#### **Introduction**

The Sarasota Bay Estuary Program (SBEP) Management Conference was convened in June 1989. The mission of the Program is to develop and implement the Comprehensive Conservation and Management Plan (CCMP) to restore and protect Sarasota Bay. The Policy Committee made “action now” a guiding principle of the Program and supported a variety of implementation activities early in the process; this theme has carried through implementation. The SBEP Management Conference is comprised of relevant federal, state and local organizations, as well as citizens and technical advisors. SBEP staff promotes and oversees implementation, coordinates efforts among the various organizations responsible for Bay decision-making, seeks external funding and promotes public involvement.

On July 23, 2004, the SBEP entered into an Interlocal Agreement with its partners establishing a state agency to oversee implementation of the CCMP. Effective on October 1, 2005, the Interlocal Agreement requires the CCMP be updated within five years and the water quality components updated within two years. The water quality update is presently in draft form, with timelines for attaining water quality standards to be established by the Florida Department of Environmental Protection.

#### **Program Goals for FY 07**

In FY06, the Program continued to implement action plan elements as approved by the Policy Board and as specified in the Comprehensive Conservation and Management Plan (CCMP). The Policy Board continued to review the work plan annually and approve projects and budgets based on available funding to support CCMP implementation:

- Effectively support and coordinate CCMP implementation activities throughout the region.
- Assertively seek significant resources from various agencies to supplement base program funding and implement various elements of the CCMP.
- Establish an Independent Special District and operational office.

#### **Action Plan: Wastewater Treatment and Reclamation**

- Continue to assist the local governments in meeting wastewater treatment policies outlined in the CCMP.
- Continue to assist in developing and implementing a regional wastewater reuse system.

The SBEP is continuing to track sewer expansion by direct participation on the advisory committee overseeing construction and progress. The SBEP participates on advisory panels related to SWUCA, regional water supply initiatives and the Water Alliance. The SBEP also tracks community activity in relation to re-use programs.

#### Action Plan: Stormwater Treatment and Prevention

- Assist in implementing and further institutionalizing the Florida Yards & Neighborhoods Program.
- Continue to support construction of storm water retrofit projects in priority watersheds identified in the CCMP.
- Assist local governments in revising land and development codes for stormwater and other related environmental quality requirements.

The success of the FY&N program is slowly coming to fruition. The SBEP has been working with other agencies supporting cultural change toward water resources. This change is specifically noted through the projects and programs promoted by the regional agencies. Based on the results of the TMDL analysis, tributaries have been prioritized for action. The SBEP will work with the local governments to establish tributary action teams.

#### Action Plan: Freshwater and Saltwater Wetlands

- Continue to assist the community in restoring an average of approximately 18 acres of inter-tidal wetlands. (34 major projects are completed or underway).
- Continue to educate the public as to the importance of our wetlands and the need to protect and enhance them.

The SBEP continues to complete 2-3 habitat restoration projects annually.

#### Action Plan: Fisheries and Other Living Resources

- Continue to assist local governments in constructing artificial reefs throughout the region.
- Continue to assist in developing educational materials and outreach opportunities to meet the need for improved juvenile fishery habitat.
- Continue to develop oyster reef plan and sites.

The SBEP continues to deploy 500 to 600 reef balls and other material annually on permitted sites.

#### Action Plan: Recreational Use

- Continue to develop and market the Gulf Coast Heritage Trail and Blueways guides throughout the region, fully implementing the GCHT system throughout the area. The SBEP continues to distribute promotional materials in this regard.
- The SBEP will re-launch the Heritage Trail.

#### Monitoring and Research (Supports above action plans)

- Continue to coordinate the regional ambient water quality monitoring and research work; evaluate data to determine trends.
- Conduct additional research to determine sources of nutrient loading to Sarasota Bay.
- Conduct research of the impacts of development on hydrology.
- Conduct research to investigate seagrass monitoring programs to supplement the bi-annual assessments of extent by SWFWMD.
- Continue to coordinate regional Florida Yards and Neighborhoods Program research.
- Conduct monitoring efforts of deployed reef habitats to determine their quantitative (numbers of fish), and qualitative (species enhanced) effectiveness.

### Public Outreach and Education (Supports above action plans)

- Include the concept of “environmental stewardship” in SBEP education and outreach materials.
- Continue to participate in community activities, events, and projects to promote the goals of the SBEP and approved CCMP actions.
- Continue to implement public school educational programs.

The SBEP continues to implement Citizen Action plans promulgated bi-annually.

### Accomplishments Report – FY 2006

1. Successfully completed the first independent audit of the special district receiving the highest results that can be achieved. Audit recommendations implemented accordingly.
2. The SBEP released the “State of the Bay 2006” report documenting the state of the bay and programmatic accomplishments.
3. Successfully developed and implemented the SBEP Tracking System documenting \$523 million in budgeted expenses supporting Bay restoration.
4. The SBEP hired an accountant to review program expenses quarterly.
5. SBEP briefed the Florida Congressional and State delegation the state of the Bay; and on the issues surrounding red tide and the need for research funds.
6. The staff drafted the FY07 work plan and submitted the grant application to EPA headquarters.
7. The SBEP completed a reconnaissance study on water-bodies listed in the 303d report for those referred to EPA for TMDL development.
8. The SBEP completed the long-term finance plan recommending: the reinvigoration of the CAC for advocacy; the establishment of a Foundation; expansion of grant making (budgeted in 2007); and the development of partnerships to expand the resource base. Work has been substantially completed or budgeted for in FY07 to complete these tasks.
9. The SBEP participated on a task force co-chaired by Mote and the SBEP to incorporate red tide samples into ongoing Bay monitoring and beach monitoring programs; these samples provide “good” information for the weekly reporting of red tide intensity regionally to the public.
10. The SBEP has provided comment on the proposed Low Impact Design standards in Sarasota County.
11. The SBEP is supporting the development of water quality targets for the Bay by characterizing light requirements at the deep edge and by characterizing 1948-51 conditions.
12. The Robinson Preserve habitat restoration project has been substantially completed. South Lido Park restoration (Phase II) has been substantially completed with re-vegetation initiated through Bay Buddies. FISH Preserve has received exotics removal. Designs have been completed for Ballard Elementary and Bird Colonies. A permit has been granted for Ballard with a permit pending for Bird Colonies. Substantial funding has been secured for Sister Keys restoration. A restoration plan has been completed for Grassy Point and funding secured.
13. The SBEP has contracted to deploy 270 reef balls on 3 reefs in September/ October 2006.
14. The oyster restoration work is being monitored with success reported at the sites.
15. The stormwater outfall project has identified the major outfalls throughout the Bay.
16. The results on the initial phase of the soil compaction study indicated substantial compaction approaching concrete bulk density in many areas.

17. The SBEP has completed spring and summer 2006 newsletters in the electronic format; awarded nineteen (19) Bay Partner and FYN mini-grants; and completed a mangrove brochure. Eight (8) Bay partners grants were completed; Reef Rakers won a national award from the Gulf of Mexico Program.
18. The SBEP has successfully sponsored 3 Bay Buddies events engaging more than 400 children; and serviced 1150 through PIER field trips – totaling 6500 since 2004.
19. The State of the Bay report has been presented to the local elected and appointed bodies; and forums were held at the local libraries.
20. The Bay video is substantially under production; additional funds provided expanded the video from a 10 to 20 minute video scheduled for release late spring 2007.
21. The SBEP attended, presented the State of the Bay information and presented papers at four EPA conferences, two international conferences and numerous state and regional conferences and meetings to improve the staff experiences and knowledge base.

# **SARASOTA BAY NATIONAL ESTUARY PROGRAM**

## **FEDERAL FY 07 WORKPLAN (FY08 Operating)**

### **PART 2 – PLANNED PROJECTS**

#### **Introduction**

A total of seven (7) projects (for FY 2007) are recommended to further implement the Comprehensive Conservation and Management Plan (CCMP). These projects are consistent with the goals, objective and recommendations outlined in the CCMP that was approved by the Governor of the State of Florida and the U.S. Environmental Protection Agency (EPA) Administrator on November 3, 1995.

Following is a list of projects planned for FY 07 – 08 operating and associated budgets. The projects are grouped by Action Plans found in the CCMP. The SBEP staff will assist the community and local governments in implementing various elements of the CCMP.

#### **WASTEWATER TREATMENT AND RECLAMATION**

##### **WW. 1 Participation on Advisory Boards**

SBEP will continue to participate as appointed members to boards and committees designed to oversee implementation of this component of the CCMP including: Water Alliance, Sewer Advisory Committee, SWUCA Technical Committee, etc.

##### **FY07: Budget: \$0**

Funding Source: Federal, and Interlocal

Lead organization: SBEP

Outputs/Outcomes: N/A

#### **RECREATIONAL USE**

##### **RV. 1 Gulf Coast Heritage Trail – Distribution of Materials**

The Gulf Coast Heritage Trail (GCHT) was established to enhance eco/heritage while promoting stewardship and a sense of place in the community. Included in the first phase of implementation was the creation of a land-based brochure, a recreational opportunities guide for Sarasota Bay, a resource book for the boater and a road sign system to assist motorists in finding the GCHT destinations. The SBEP will continue managing the GCHT distributing brochures and pocket guides to Trail destinations, coordinating Trail Advisory Committee meetings, and working with the GCHT destinations to help preserve the natural, cultural and historical resources at the sites. The GCHT brochures continue to be distributed at the tourist information centers. The SBEP will re-launch this program in FY07.

**FY 07: \$0 (To Be Determined by the SBEP Citizen Advisory Committee as part of the Citizen Action Plan (CAP) and Public Education Program)**

**STORMWATER TREATMENT AND PREVENTION**

**SW. 1 Florida Yards and Neighborhoods Program (FY&N)**

This project will further institutionalize the Florida Yards and Neighborhoods Program within the University of Florida, Institute of Food and Agricultural Sciences (IFAS), regional agencies, and county Cooperative Extension Agencies. The FY&N Program emphasizes reduction in the use of pesticides, herbicides, and insecticides; water conservation; urban and suburban habitat creation and greenways; use of slow-release fertilizers; and improved landscape design and efficient, environmentally friendly maintenance methods.

Manatee County and Sarasota County added a FYN coordinator position and SWFWMD has funded a major community outreach initiative addressing the business community.

In FY06, the SBEP awarded and completed in FY05 a series of mini grants to homeowners associations supporting modifications to landscapes in common areas and provided supplemental funding for the SWFWMD business outreach program.

These funds will provide for additional support to supplement Water Management District funds for business outreach.

**FY 07: \$20,000**

Funding Source: Federal and Interlocal

Lead Organization: SBEP, University of Florida, Institute of Food and Agricultural Sciences; Manatee and Sarasota County Cooperative Extension Services.

Outputs/Outcomes: Year-end report.

CCMP: Stormwater Action Plan. Objective 1.0: Promote pollution prevention.

**SW.2 Land Development Code Review (See Integrated Water Resource technical project)**

This project involves the preparation of a white paper addressing the land development regulations regionally and the potential issues related to promoting water quality and environmental conservation through the land development regulations. Phase II will further evaluate the findings discovered in Phase I for possible implementation regionally.

**FY07: \$0 (continued funding from FY01- \$20,000 - is pending approval by the Policy/Management Board)**

Funding Source: Local

Lead Organization: SBEP

Note: This project is on hold until preliminary results are obtained from the USGS hydrology study and soil compaction studies. Policy changes regarding the use of fill material may be necessary in Manatee and Sarasota County. The SBEP requests funds be reallocated for the evaluation of codes and the reduction of hardened surfaces or other alternatives to pavement.

## **FRESHWATER AND SALTWATER WETLANDS**

### **WL. 1 Wetlands Restoration and Protection – Coordination**

This project will assist the SBEP in further identifying wetland areas for restoration and/or protection; coordinating design and permitting activities, construction management and providing graphics for presentations to citizens and various boards for approval. The selected consultant will work closely with FDEP and other agencies to insure maximum use of resources.

#### **FY 07: \$50,000**

Funding: Federal and Interlocal

Lead Organization: SBEP

Outputs/Outcomes:

Progress Report - October 2008

Final Report – September 2009

CCMP: Fresh & Saltwater Wetland Action Plan. Objective 1: Implement comprehensive wetland protection and restoration

### **WL. 2 Wetland Restoration**

This project provides for minor in-ground habitat restoration and management activities, possibly including (but not limited to) exotic species removal, lagunal contouring, and revegetation with proper native species. Target areas will be small public projects that would be difficult to fund through the grant-making process. Small projects listed in the Five-Year Plan and maintenance of previous SBEP restoration projects will receive priority.

#### **FY 07: \$0**

Funding: SBEP

Lead Organization: SBEP

Outputs/Outcomes:

Progress Report - October 2007

Final Report – September 2008

## **FISHERIES AND OTHER LIVING RESOURCES**

### **FL. 1 Artificial Reefs and Shoreline Enhancement**

This project will supplement existing funding for the continued construction of artificial reef structures throughout the Bay to enhance juvenile fisheries. A Fishery Habitat Enhancement Task Force assists in determining the best sites for artificial reef placement and appropriate construction methods and materials. A comprehensive plan has been developed which outlines priority sites for reef placement. Reef deployment could include both in-bay and shoreline habitat enhancement. Funds could be used for (but not limited to) planning, permitting, construction, deployment and monitoring.

#### **FY 07: \$30,000**

Funding Source: Federal and Interlocal

Lead Organization: Florida Sea Grant; Sarasota County; Manatee County

Outputs/Outcomes:

1. Progress report - August 2008
2. Final report - August 2009

CCMP: Fisheries And Other Living Resources Action Plan. Objective 1: Increase available habitat for juvenile fish.

## **FL. 2 Oyster Reefs**

Because the possibilities for creating new wetlands and mangrove stands in Sarasota Bay is limited and continued local growth will increase Bay pollution via stormwater runoff, the use of the American oyster as a means to filter bay water and provide habitat. Oysters were once common in Sarasota Bay and should be able to reestablish themselves if a hard substrate is provided. By simple cultch deposition and spat seeding, it should be possible to restore enough reef area to make a significant improvement in habitat and localized water quality. A subset of deployed habitats will be monitored to determine success (survival rate). This is an implementation project. The SBEP has identified two pilot locations for deployment and has applied for permits.

### **FY 07: \$0**

Funding Source: SBEP

Lead Organization: SBEP

Outputs/Outcomes:

1. Progress report - August 2006
2. Final report - September 2008

CCMP: Fisheries and Other Living Resources Action Plan. Objective 3: Restore and enhance shellfish habitats.

## **MONITORING AND RESEARCH**

### **MR. 1 Long-term Water Quality Monitoring Plan (Supports Wastewater and Stormwater Action Plans)**

Based on EMAP protocol, a long-term water-quality monitoring program was undertaken by both Manatee and Sarasota Counties. The program ensures continuity among monitoring programs for Tampa Bay, Sarasota Bay and Charlotte Harbor and provides water quality trend information.

### **FY 07: \$0**

Funding Source: Local governments

Lead Organization: Manatee County; Sarasota County

Outputs/Outcomes: State of the Bay - Trends Report

### **MR. 2 Non-point Source Pollution**

#### **a. Identify Water Quality Control Retrofits For Urban Stormwater**

Identify and plan water quality control retrofits for urban stormwater (including possible residential and commercial areas), especially in direct discharge locations. Criteria should include low price, easy accessibility for maintenance, and a receiving water of high resource value (bays rank higher than ditches). The study should include information needed for implementation, such as structure type, cost, and property ownership. No effort should be

directed to high cost fixes, a need for more study, or a new funding initiative; instead only readily do-able suggestions should be produced. This project was highly ranked by the SBEP Technical Advisory Committee at a goal-setting meeting in 2004. A Request For Proposal was released and awarded to PBS&J; report pending.

**FY07: \$0**

Funding Source: Federal and Interlocal

Lead Organization: SBEP

Outputs/Outcomes:

1. Draft report - June 2006
2. Final report - September 2007

CCMP Action Plan: Stormwater Treatment & Prevention. Objective 4: Reduce or mitigate the impact of future development on stormwater loadings in Sarasota Bay.

**b. Further Investigation of Soil Compaction and Analysis (Supports Stormwater Action Plan)**

This study initiated in FY05, investigated the amount of soil compaction resulting from construction activity in the region. Soil profiles will be evaluated from selected location to assess the impact of soil compaction with regard to porosity and runoff. Plant growth will also be evaluated. This phase will explore pre and post construction alternatives; or modification in practices to promote the use of soil and plant material for stormwater treatment. This phase will address engineered soils

**FY07: \$30,000**

Funding Source: SBEP

Lead Organization: IFAS, University of Florida

Outputs/Outcomes: Draft Report – October 2007

Final report – February 2008

CCMP Action Plan: Stormwater Treatment and Prevention. Objective 4; Reduce or mitigate the impact of future development on Sarasota Bay.

**MR.3 Water Atlas (Supports Citizen Action Plan)**

The objective of this project is to produce Sarasota and Manatee County Water Resources Atlas that will consolidate surface water related information from multiple agencies and disseminate the information to the public, decision makers, and scientists. The Atlas will be available as an interactive web site designed to make science and watershed management understandable to all readers. The Atlas will serve as an archive of historic data and a continuously improving reference for new water resource information.

**FY07: \$0**

Funding Source: SBEP

Lead Organization: Counties

CCMP: Recreational Use Action Plan. Objective 4: Improve education of recreational users.

#### **MR.4 Seagrasses**

Conduct a monitoring program; and reanalyze (if necessary) a subset of archived Sarasota Bay aerial photographs available from the Southwest Florida Water Management District to examine whether the shift in seagrass polygon category from patchy to continuous can be attributed to changes in seagrass species dominance (e.g., *Halodule wrightii* to *Thalassia testudinum*), changes in seagrass shoot density, or can be attributed to changes in interpretation capabilities. Note: This project will be coordinated through the regional Southwest Florida Seagrass Working Group.

**FY07: \$0**

Funding Source: SBEP

Lead Organization: SBEP

Outputs/Outcomes:

1. Draft report – March 2007
2. Final report – July 2007

CCMP: Fish and Other Living Resources Action Plan. Objective 5: Maximize opportunities for reestablishing and protecting seagrass habitat throughout the Bay.

#### **MR.5 Tributary Analysis (TMDLs) (Supports Wastewater and Stormwater Action Plans)**

The SBEP evaluation completed in FY 04 identified several bay segments and tributaries as impaired, with regard to the Total Maximum Daily Load regulations. PBS&J is presently under contract to verify impairment on the 22 Water Body Identification units identified as impaired by FDEP on the 1998 303D list. This analysis will support the refinement of the management plans produced by the local governments during the basin management action plan process and support the water quality consortium. This phase will provide revenue for source identification and assessment.

**FY07: \$0**

Funding Source: Federal and Interlocal

Lead Organization: SBEP

Outputs/Outcomes:

- Interim Report - March 2006
- Final Report – September 2007

CCMP: Stormwater Action Plan. Objective 2: Treatment of priority basins.

#### **MR.6 Red Tide Support**

Worldwide, the incidences of harmful algal blooms appear to be increasing in both frequency and duration. A number of mechanisms have been proposed, including the increase in nitrogen loading to coastal waters by anthropogenic activities and long term climatic cycles, or the increase in seawater nitrogen content by precursor blooms of nitrogen-fixing phytoplankton, which, may be stimulated by iron deposition associated with Saharan dust. This work proposes to complement recent research on red tides in the Gulf of Mexico, primarily along the Florida coast.

**FY07: \$70,000**

Funding Source: SBEP

Lead Organization: SBEP

Outputs/Outcomes: Draft Report – September 2008

Final Report – December 2008

CCMP Action Plan: Stormwater Treatment and Prevention. Objective SW 4: Reduce or mitigate the impact of future development on stormwater loadings to Sarasota Bay.

## **PUBLIC OUTREACH**

### **PO.1 Public Outreach**

The Policy Committee has consistently supported the participation of the NEP at community functions. Funds provided here support these and other activities of the program and the Citizens Action Committee.

#### **FY 07: \$10,000**

Funding Source: Federal and Interlocal

Lead Organization: SBEP

CCMP: Recreational Use Action Plan. Objective 4: Improve education to protect bay resources.

### **PO.2 Citizens Action Plan (CAP) (Supports Wetlands, Recreation and Stormwater Action Plans)**

In order to increase citizen involvement, the SBEP Citizen Advisory Committee (CAC) has developed a Citizen Action Plan (CAP) focusing on education and citizen involvement in Bay-related activities and special projects to support CCMP implementation. The goal of the CAP is to create public awareness of the issues facing Sarasota Bay and to increase environmental stewardship. Key components of the CAP include the P.I.E.R. Program, Bay Partner Grants, publications, workshops, presentations and community events related to the environment.

#### **FY 07: \$110,000**

Funding Source: Federal and Interlocal

Lead Organization: SBEP

Outputs/Outcomes:

1. Annual Progress Report – September 2007

CCMP: Recreational Use Action Plan. Objective 4: Improve education of users to protect the resources of the bay.

## **GOVERNANCE**

### **GR.1 Program Administration and Operations**

Funding will provide staff and administrative support to:

- Assist the Manatee/Sarasota community in effectively implementing the CCMP;

- Continue the Sarasota Bay Management Conference structure for policy and decision making purposes;
- Communicate the CCMP and implementation progress to the public and elected officials;
- Continue to develop support and seek resources for CCMP implementation;
- Develop budget initiatives for presentation to local governments and state agencies;
- Continue to coordinate workplans and efforts with other local, state and federal agencies to achieve consistency in policy and programs;
- Provide the Management Conference with periodic progress reports;

**Total: \$481,200**

Funding Source: Federal and Interlocal

Lead Organization: SBEP

CCMP: Action Plan For Governance. Objective 1: Maintain existing committee structure and staff.

**GR.2 Sarasota Bay Foundation**

The Sarasota Bay Estuary Program will promote establishing a citizens support organization to further support the goals of the CCMP; and to protect the Bay. Partnership with another organization is being discussed.

**FY 07: \$0**

Funding Source: Federal and Interlocal

Lead Organization: SBEP

CCMP: Action Plan For Governance. Objective 1: Maintain existing committee structure and staff.

**GR.3 Long-term Financial Planning**

Working collaboratively with SBEP, consultant will: a) identify major budgetary gaps; b) identify sources of funding to implement the SBEP CCMP; c) determine the need for any additional steps (e.g., targeted interviews, workshop); and d) complete a draft and final finance strategy to SBEP. Additionally, a concise description of the finance planning effort will be provided to EPA HQ to be used as a case study in the National NEP finance website.

**FY 07: \$0**

Funding Source: Federal and Interlocal

Lead Organization: SBEP

Outputs/Outcomes:

1. Complete draft plan by August 2006.
2. Final plan by September 2006.

CCMP: Action Plan For Governance. Objective 1: Maintain existing committee structure and staff.

#### **GR.4 Grant Writing**

This effort seeks to actively seek out grants to fund either specific projects in the CCMP, or specific staffing requirements. SBEP would contract with a professional grant writer to seek out particular grants with a high probability of successful outcomes to supplement existing financial resources.

#### **FY 07:\$0**

Funding Source: Federal and Interlocal

Lead Organization: SBEP

CCMP: Action Plan For Governance. Objective 1: Maintain existing committee structure and staff.

#### **GR.5 Matching Funds**

There are a variety of projects throughout the Sarasota Bay watershed that could be used as match. The SBEP proposes to use a combination of local organization, habitat restoration, and aquifer storage and recovery funds as match to the federal grant.

Funding Source: tbd

Lead Organization: SBEP

Amount: \$154,000 or more for match

CCMP: Wastewater Action Plan. Objective 6: Develop a multi-county wastewater reclamation plan to minimize discharge of wastewater into the bay.

**CAC Citizens Action Plan**  
**FY 2008-2009**  
**DRAFT**

*Goal 1: Promote cultural change in the region with regard to land and water resources through environmental stewardship and community involvement in Bay restoration and protection.*

Action 1      Promotional Materials

Design and produce major publications and promotional materials for education of the general public and use at fairs and expos.

\$15,000

Action 2      Marketing Assistance and Special Program Development

Assist with SBEP branding, event ads, press releases, content and scheduling of newsletter, event planning and new outreach concepts. Develop new programs/workshops targeting neighborhoods, realtors, the general public, etc. about the how to protect Sarasota Bay.

\$50,000

*Goal 2: Establish links between the activities in the watershed and the resulting impacts on the Bay and its tributaries.*

Action 1      PIER in-school curriculum

Conduct fieldtrips, distribute Coastal Habitats curriculum, as well as provide teacher training workshops on coastal habitats and marine science.

\$20,000

Action 2      Bay Partners Grants

Continue to promote citizen involvement in Bay restoration and education by offering small grants to community organizations for habitat restoration, bay-friendly landscaping or marine science education projects.

\$20,000

Action 3      Bay Buddies Family-friendly Volunteer Program

Continue to support restoration efforts of Bay Buddies program through contract with Volunteer Services of Manatee County.

\$5000

**SARASOTA BAY ESTUARY PROGRAM - FFY 07 WORKPLAN (08 Operating)**  
**PART 3 – WORKPLAN BUDGET SUMMARY**

**Resources:**

EPA	\$418,000
SWFWMD (SWIM)	133,000
Manatee County	50,000
Sarasota County	50,000
City of Sarasota	33,000
City of Bradenton	15,000
Town of Longboat Key	15,000
Interest	14,200
SBEP	73,000
In-kind match	<u>154,000*</u>
<b>TOTAL:</b>	<b>\$955,200</b>

**Expenditures**

Salaries & Expenses	\$ 481,200
Red Tide Support	70,000
Tributary Analysis/TMDL Support	0
Public Outreach and Education	10,000
FY&N Outreach	20,000
Water Atlas	0
Non-point Source Pollution	30,000
Citizens Action – PIER	110,000
Artificial Reefs and Shoreline Enhancement	30,000
Wetlands - Coordination	50,000
Wetlands Restoration/Maintenance	0
Sarasota Bay Foundation	0
Long-term Financial Planning	0
Grant Writing	0
Wetlands – Restoration Match	<u>154,000*</u>
<b>TOTAL:</b>	<b>\$955,200</b>

\*REQUEST THAT UP TO \$500,000 from other local projects be used as Federal match at the discretion of the program and EPA through wetlands restoration, stormwater, land acquisition, FY&N, etc.; including South Lido, Robinson, Sister Keys and Sarasota County Spoil Islands.

**OPERATING BUDGET  
FY 07 (08 Operating)**

(October 1, 2007 – September 30, 2008)

Direct Personnel Expenses	\$275,600
Other Personnel Expenses	91,987
Travel/Conferences	19,000
Office Supplies	5,200
<b>Contractual</b>	
Computer Support	2,800
Contract Procurement	1,000
Legal Services	2,000
Accounting/Auditing	13,000
Payroll Services	2,700
Liability/Workers Compensation	7,300
<b>Operations</b>	
Lease	30,000
Copier/Postage Machine Lease	5,600
Telecommunications	7,600
Postage/Courier	1,500
Advertising	2,500
Capital Expenditure	3,000
Subscriptions/Dues	6,000
Printing/Duplicating	1,713
Repair	300
Other	<u>2,400</u>
<b>TOTAL EXPENSES</b>	<b>\$481,200</b>

## SARASOTA BAY ESTUARY PROGRAM HISTORY

### Background

In 1989, the Program developed a technical plan of action to assess the complexity and severity of environmental problems and began to build general consensus in the community with regard to priority problems facing the Bay. The “State of the Bay Report”, released in January 1990, presented both information on the “state of knowledge” and a technical plan of action to the community.

Between 1990 and 1992, the Program funded the research outlined in the “State of the Bay – 1990” report; and initiated several habitat restoration and stormwater management projects as both stormwater pollution and loss of wetlands were clearly identified as problems early in the process. The purpose of these projects was to test the effectiveness of resource management options and determine cost estimates for use in the development of the CCMP. These projects also: helped focus the attention on Bay issues; improved inter-agency coordination; provided opportunities for citizen volunteerism; and served as a mechanism for public education.

In 1993, the Sarasota Bay Program completed technical studies investigating wetlands, fisheries, bottom habitats, water and sediment quality, circulation, recreational uses, shellfish contamination, sea-level rise, and pollutant sources and loading. The technical findings were presented in the “Framework for Action” report (March 1993). The report also described potential management options for bay protection and improvement.

Emphasis has also been placed on public outreach and education to involve citizens in restoring the Bay. Programs for public schools, action projects, exhibits at community events, opportunities for volunteers, workshops and publications were developed. The Florida Yards and Neighborhoods Program was one such initiative developed with the University of Florida, Florida Cooperative Extension Service that has become a statewide program.

In 1994, a series of public forums, sponsored by the league of Women Voters, was held throughout the watershed to promote the Program’s findings and obtain citizen input to potential management options. Consensus was built and six (6) Action Plans were developed: Wastewater Treatment and Reclamation; Stormwater Treatment and Prevention; Freshwater and Saltwater Wetlands; Fisheries and Other Living Resources; Recreational Use; and Governance. Monitoring and research priorities were also developed for inclusion in the Comprehensive Conservation and Management Plan (CCMP).

In November 1995, following a year of governmental and public review, the CCMP was approved by the Governor and EPA Administrator. In early 1996, the SBEP began working with the community on Bay restoration. Sarasota Bay has improved since 1988:

- Nitrogen pollution has been reduced by approximately 50%.
- Total sea grass coverage has increased by 7% since 1988, while continuous seagrass beds have increased from 32% in 1988 to 68% in 2003 resulting in 3250 of improved habitat in the Bay. Overall seagrass coverage increased 2% between 2001 and 2003.

- Extensive intertidal wetlands restoration projects have been implemented restoring over 200 acres;
- 20 inshore artificial reefs have been permitted; twelve have been expanded since 1995.
- Master planning has been completed for regional wastewater reuse systems with more than \$50 million in wastewater reclamation systems under construction (aquifer storage and recovery has been selected as the preferred alternative for wet weather storage).
- The \$121 million sewer expansion program in Sarasota County is under construction.
- Most regional wastewater treatment plants have been upgraded to advanced waste treatment standards or equal levels of treatment with reuse.

In total, thousands of acres of new habitat have been created in the Bay.

In July 2004, the SBEP was established as an independent state agency under Chapter 163 of Florida state law.

## COMMUNITY ACCOMPLISHMENTS

### SINCE 1988

1. Nitrogen pollution to the Bay has been reduced by 50% since 1990 (nitrogen pollution from wastewater treatment plants has been reduced by more than 80%)

2. Seagrass acreage has increased by 7%.	<ul style="list-style-type: none"> <li>➤ Secured funding and contracted to develop a pollutant loading model</li> <li>➤ Evaluated nitrogen reduction strategies</li> <li>➤ Assessed the condition of the Bay in relation to modeled loads</li> <li>➤ Evaluated the impact of nitrogen reductions on Bay resources</li> <li>➤ Established the pollutant loading reduction goals</li> </ul>
3. Saltwater wetland acreage has been increased by 8%; 34 wetland enhancement projects have been proposed and funded.	<ul style="list-style-type: none"> <li>➤ Assessed trends (expansion in relation to water quality)</li> <li>➤ Conducted studies evaluating the condition and quality of existing habitat</li> </ul>
4. 20 Bay artificial reef projects have been permitted; twelve have been constructed since 1999.	<ul style="list-style-type: none"> <li>➤ Secured funding and conducted studies to evaluate the extent and quality</li> <li>➤ Assessed trends and established goals for enhancement</li> <li>➤ Established funding sources and identified lands suitable.</li> </ul>
5. Sarasota Bay supports millions of additional fish, crabs and shrimp.	<ul style="list-style-type: none"> <li>➤ Developed the artificial reef master plan</li> <li>➤ Tested innovative strategies for reef deployment</li> <li>➤ Provided funding for enhanced reef creation.</li> </ul>
6. Significant Bay front land has been purchased.	<ul style="list-style-type: none"> <li>➤ Conducted studies to provide baseline information on seagrass habitat</li> <li>➤ Studied data as an indicator of the Bay's increased capacity to support life.</li> </ul>
7. The Gulf Coast Heritage Trail linking the Bay community's cultural, historical and environmental treasures has been launched and fully implemented.	<ul style="list-style-type: none"> <li>➤ Drafted proposals, in concert with local staff, to secure these properties.</li> </ul>
8. Several watersheds have been retrofitted for improved stormwater management.	<ul style="list-style-type: none"> <li>➤ Initiated the Trail</li> <li>➤ Obtained support from the National Park Service</li> <li>➤ Developed brochures and educational materials</li> <li>➤ Implemented road and destination sign system and auto route</li> </ul>
9. The Florida Yards and Neighborhoods Program has been developed recommending alternative landscapes regionally; SRQ. Co. passed an ordinance requiring FY&N on new landscapes in the County in November 2001.	<ul style="list-style-type: none"> <li>➤ Supported the development of Environmental Utilities</li> <li>➤ Sponsored retrofit projects for funding</li> <li>➤ Assessed toxicity and identified sources</li> </ul>
10. Central sewers are being constructed in north Sarasota County (Phillippi Creek and Whitaker Bayou).	<ul style="list-style-type: none"> <li>➤ Developed the Program and related educational materials</li> <li>➤ Secured grants and funding for implementation</li> <li>➤ Promoted research and statewide implementation</li> <li>➤ Analyzed the bacteria data and alerted appropriate agencies</li> </ul>
11. Scallops have been reintroduced to the Bay to reestablish stocks; initial efforts failed – more are underway.	<ul style="list-style-type: none"> <li>➤ Conducted studies on bacteria and viruses</li> <li>➤ Participated on the multi-agency task force</li> <li>➤ Provided technical support and funds for educational programs</li> </ul>
12. A regional Wastewater Reuse System has been planned, funded and is under construction supported by aquifer storage and recovery as a means for preserving water resources.	<ul style="list-style-type: none"> <li>➤ Conducted studies on spawning</li> <li>➤ Deployed and monitored performance</li> <li>➤ Fostered the development of the master plan; secured funding support</li> </ul>
13. \$5.0 million in technical studies to better understand the Bay have been completed.	<ul style="list-style-type: none"> <li>➤ Established the need for the Plan and connections to Bay quality</li> <li>➤ Promoted the master plan with Basin Board members &amp; SWFWMD</li> <li>➤ Participated in the regional task force</li> <li>➤ Evaluated wet weather storage options</li> </ul>
14. A sophisticated multi-jurisdictional bay monitoring program is in place; trend analysis is planned.	<ul style="list-style-type: none"> <li>➤ Secured funding and contracted for 50 technical studies to characterize the Bay and its resources.</li> </ul>
15. SBEP staff has been directly involved in leveraging more than \$ 20.0 million for Bay restoration activities. The community has committed more than \$200 million for implementation with regional infrastructure supporting long-term protection valued at more than \$1 billion.	<ul style="list-style-type: none"> <li>➤ Developed protocols and assisted in establishing the regional network.</li> <li>➤ Trend analysis continues.</li> </ul>
16. Citizens are engaged in decision making with regard to the Bay.	<ul style="list-style-type: none"> <li>➤ Drafted proposals and work plans</li> <li>➤ Established a regional network</li> </ul>
17. SBEP policies have been integrated into the local government comprehensive plans.	<ul style="list-style-type: none"> <li>➤ Maintained the CAC and a network in the community</li> <li>➤ Funded projects promoting education, community outreach and public involvement</li> <li>➤ Most major issues in the plan have been publicly debated</li> </ul>
18. Developed and fully implemented PIER program, a bay and watershed education program for grades K-12 in Sarasota and Manatee County schools.	<ul style="list-style-type: none"> <li>➤ Provided Contractual and Staff Support</li> </ul>
	<ul style="list-style-type: none"> <li>➤ Established contracts with Mote Marine Laboratory's Distance Learning Program and Around the Bend Nature Tours to develop written curriculum, field trip activities and distance learning modules.</li> </ul>

## SBEP INVOLVEMENT

## **Wastewater Treatment and Reclamation**

- Assist the local governments in meeting wastewater treatment policies outlined in the CCMP.
- Assist in developing and implementing a regional wastewater reuse system.

### **Reuse - Summary**

In FY 97, the Southwest Florida Water Management District (SWFWMD) chaired an interagency task force comprised of Manatee County, Sarasota County, City of Sarasota, Florida Department of Environmental Protection (FDEP), and SBEP. The task force discussed options for wastewater treatment, disposal and reuse needs of each jurisdiction.

In FY 98, the SBEP funded projects to evaluate options for reclaiming wastewater on a large scale. Aquifer storage and recovery (ARS) was identified as the primary option for the regional recovery of wastewater. Each local government is implementing a wastewater reuse master plan. ASR has become more expensive as a result of the proposed injection of raw water into the Floridan Aquifer, as a part of Everglades restoration. Monitoring and permitting costs have increased. The Manasota Agricultural Reuse System (MARS) is under construction with approximately \$28 million committed from federal, state, and local sources for construction. The regional system will recover 30 MGD of wastewater and offset over-pumpage of 50 MGD from the Floridan Aquifer. The system will virtually eliminate wastewater discharge in central and northern Sarasota Bay; and coupled with other projects described below in lower Tampa Bay and central Sarasota Bay.

In FY 99, the SBEP summarized information developed through this process and prepared a report for the local governments throughout the region. Construction on the MARS system was initiated in 2001. Most elements of the regional re-use system are funded by the Governing Board and Manasota Basin Board of the Southwest Florida Water Management District in concert with the local entities throughout the region. These projects include: central Sarasota County Reuse system, Venice ASR, Manatee County ASR, Bradenton re-use expansion, northern Sarasota County ASR, Sarasota City ASR, and the southern Sarasota County re-use system. These projects were independently developed by local staff, but are consistent with the overall goals of the NEP and master plan.

In 2004, the Manasota Basin Board continued to support the reclamation of wastewater as an alternative source (in the Sarasota Bay area) sponsoring numerous projects in this regard. Sarasota City and County interconnected there wastewater reclamation systems.

### **Septic to Sewers – Package Treatment Plant Consolidation**

The CCMP identified Phillippi Creek as the watershed most impacted by septic systems. In February 1998, the Sarasota County Commission agreed to move forward with Phillippi Creek clean up. It was agreed that each subdivision in the identified region would be assessed independently for compliance with the existing codes related to septic tanks. In FY 98, Sarasota County taxpayers made \$30 million available for construction of sewers along Phillippi Creek; Congress made \$1.5 million available in both FY 00 and FY01; continued funding is anticipated. The City of Sarasota proposed annexing areas north of Phillippi Creek that was debated in the community. In FY00, Sarasota County reviewed the data and analysis that was completed on the project using an independent contractor selected by the organizations opposing expansion. The consultants confirmed that Phillippi Creek was contaminated with fecal material and that septic tanks were the likely source.

In February 2001, Sarasota County officially initiated the sewer expansion program authorizing a \$121 million program; a bulk service agreement was signed between the County and the City in February 2002. The City and County are working cooperative to provide sewer service to customers bordering the jurisdictions

In 2003-4, major areas within the watershed received sewer service; construction was initiated on several others. In regard to smaller ineffective package plants, Kensington Park and Dolomite Utilities in the Whitaker Bayou watershed were taken off line; as was Atlantic Timidities on Phillippi Creek. It is estimated that pollutant loads of nitrogen to Whitaker Bayou have been reduced by 41% since 2000.

Nutrient loads to Phillippi Creek are expected to be reduced 31 percent by 2012.

### **Stormwater Treatment and Prevention**

- Assist in implementing and institutionalizing the Florida Yards and Neighborhoods Program; participate in statewide implementation.
- Support construction of stormwater retrofit projects in priority watersheds identified in the CCMP.
- Assist local governments in revising comprehensive plans.

### **Florida Yards and Neighborhoods Program (FY&N)**

A statewide initiative sponsored by the University of Florida, Institute of Food and Agricultural Services (IFAS) is presently being implemented locally. The FY&N Program is being implemented through the County Cooperative Extension Service offices (IFAS). In FY99, the SBEP co-chaired the statewide task force to evaluate financing options. The Manatee-Sarasota area received FDEP grant funds to support a coordinator for three years beginning in 1999.

In FY 99, a management team comprised of representatives from the local governments, the University of Florida and SBEP was formed to assist in implementation of FY&N as the grant was awarded for the FY&N Program locally. Local efforts have concentrated on the development industry with moderate results. It was determined that the current land development regulations and permitting process may inadvertently be encouraging poor development - and environmentally insensitive landscapes.

In FY 2001, a project was initiated to evaluate the land development regulations with respect to water conservation and stormwater runoff; a white paper was released in October 2001. The results suggested the Comprehensive Plans support environmentally sensitive landscapes; the land development codes do not. In November (2001), the Sarasota County Commission unanimously passed a landmark ordinance mandating FY&N concepts on all new development in Sarasota County, requiring no more than 50% turf on irrigated portions of landscapes. Manatee County is deliberating an action on a rebate program. Recent information suggests that significant compliance has been achieved.

In FY 2002, a Sarasota County condominium outreach program was extremely successful in changing habits; 90% of the condominiums visited had substantially modified landscapes and watering systems. Also, in 2002, the Manasota Basin Board and Governing Board of SWFWMD funded a business outreach program focusing on modifying irrigation and landscape practices.

In 2004, Manatee County formalized their landscape rebate program offering incentives to homeowners to replace high water use landscapes that also pollute nearby waterways.

## Stormwater Retrofit of Priority Basins

The SBEP supported the development of the Stormwater Environmental Utility (SEU) in Sarasota County in the early 1990s.

Phillippi Creek was retrofitted (Celery Fields project) between FY 96-01 at an approximate cost of \$30 million. The retrofit included: the construction of a regional stormwater treatment facility (Celery Fields), the modification of waterways to transfer water during high flow periods, the construction of a levee to prevent flooding (these areas are also on septic tanks and small treatment plants) and the acquisition of properties along the creek. The projects have significantly reduced pollutant input into Phillippi Creek. Flooding of areas serviced by septic tanks and package plants has been significantly reduced reducing both the input of nitrogen and bacteria in the creek; several transfer stations are no longer flooded either.

Lead contamination was identified in Hudson Bayou, a tributary leading to Sarasota Bay. In FY2001, a study was completed to estimate the extent and volume of contamination in the Bayou. The results were referred to the Health department to evaluate public health risk. The Health Department designated the creek as unsafe for swimming and for eating oysters in 2001. The contaminated sediment is approximately four feet thick and extends from the mouth of the creek to the headwaters. Contamination levels increase from the surface (bay floor) to the bedrock. It was determined that removal of the sediment may be more damaging than leaving them in place.

Major stormwater retrofit projects are also under construction in the Bowlees Creek watershed.

## Sarasota Bay Integrated Water Resource Evaluation

Significant changes in freshwater flows to the Sarasota Bay estuary have occurred during the last century. The predominant changes have been the conversion of natural upland and wetland communities to urban land uses including residential and commercial development and agriculture. With these land use changes, alterations in the timing, duration, and volume of freshwater inputs to Sarasota Bay have occurred which may have significant effects on estuarine biota (fish, invertebrate, and vegetation) and productivity.

A number of projects are currently underway or planned including a number of flood storage ponds (detention), stormwater conveyance improvements, Aquifer Storage and Recovery wells, brackish water treatment/disposal, septic tank replacement/wastewater collection system construction, reclaimed water transmission/distribution, and regional distribution of surface water supplies.

Also, pervious surfaces like porous concrete, porous rubber pavement, and various loosely aggregated materials have been developed to allow a certain degree of infiltration, minimizing stormwater runoff. Compacted fill dirt is conceptually known to decrease rainwater infiltration and increase stormwater runoff. However, the impact of these surfaces is limited by lack of data. Investigation of their effects in actual situations could allow decision-making that could minimize total stormwater runoff and decrease the destruction of natural systems during the construction of additional stormwater retention systems. The SBEP initiated a study with the United States Geological Survey in 2003. The results of this study were presented to the Technical Advisory Committee for action in 2004.

Based on the results of this analysis, the SBEP has initiated a contractual relationship with the University of Florida to further evaluate soil compaction and soil modification per construction activity.

## **Freshwater and Saltwater Wetlands**

- Assist the community in restoring an average of approximately 18 acres of inter-tidal wetlands annually.
- Continue to educate the public as to the importance of our wetlands and the need to protect and enhance them.

The SBEP completed a regional habitat restoration plan in 2004.

The SBEP continues to contract with consulting in the design and oversight of construction of wetland restoration projects including: developing and finalizing conceptual plans; permitting and management activities; overseeing construction; and seeking supplemental funding for habitat restoration.

The U.S. Army Corps of Engineers (COE) has completed a feasibility study for Section 1135 funding (\$7.25 million) which has been accepted by the County Commission. The COE is has completed an engineering and design study. The U.S. Fish & Wildlife Service has provided more than \$3.5 million regionally for habitat restoration and enhancement; supplemented by over \$1,000,000 in Basin Board (SWFWMD) and SWIM funds; the State (FDEP) has contributed approximately \$1.5 million as well. The SBEP staff assisted Sarasota County staff with preparing a successful \$500,000 application to the Jacksonville Community Foundation for restoration.

Twenty projects have been completed: Sarasota Bay-walk at Ken Thompson Park and Ken Thompson Park – Phase II; Quick Point North and South; Leffis Key North and South (Coquina Bay-walk) and the dredge hole; Durante Park – North and South; Selby Gardens; USF Caples campus; Sixth Street; Snake Island, Sister Keys; 1912 Schoolhouse, Perico Trail and Cut; Crosley Estates Phase I and II, GWIZ and Hog Creek.

Five projects are nearing or under construction (as of September 2004): Ballard Elementary, South Lido, Robinson Preserve, Bird Colony Islands and Perico Bayou enhancement.

Two projects have conceptual designs completed and are nearing engineering design: Jim Neville Preserve and Palmer Point Park..

Three projects have conceptual designs completed: Big Edwards Island, Little Edward's Island, and Skiers' Island.

Note: Little Edwards Island has met with significant public resistance; Sarasota County decided not to pursue construction after funding was secured.

## **Fisheries and Other Living Resources**

- Help construct and deploy artificial reefs throughout the region.
- Assist in establishing an aquatic preserve at Sister Keys.
- Assist in developing educational materials and outreach opportunities to meet the need for improved juvenile fishery habitat.
- Assist angling organizations in developing and promoting the practice of catch-and-release.
- Assist in a scallop seeding program in areas where water quality improvements have been documented.
- Prepare and implement an oyster reef program.

## Artificial Reefs

In 1995, the SBEP sponsored the development of an artificial reef master plan that is presently being implemented. The plan received statewide acclaim because of its unique focus on juvenile fish and artificial reef placement inshore. The plan is comprehensive in scope and addresses several methods to enhance juvenile fish habitat within the Bay. These methods include seawall enhancement, channel markers as habitat, dredge hole or benthic habitat enhancement, and open deep-water bay deployment. Monitoring is conducted by Sarasota County Natural Resources Department and Manatee County Environmental Management. Twenty (20) artificial reef sites have been identified: seven (7) existed in Sarasota County and were enhanced; three (3) new reefs were constructed in FY 98 by Sarasota County. In FY 01-02, the SBEP with Manatee and Sarasota Counties constructed seven (7) new reefs in the Bay with 1200 reef balls. In FY03, 1500 additional reef balls were deployed.

In FY 04, 600 reef balls were deployed. The reefs were permitted with the assistance of SWIM-SFWMD staff. Additional reef modules were manufactured through Sarasota County DNR and Manatee County EMD; the NEP provided funds for deployment. This effort, combined with the efforts already completed primarily by both Sarasota County DNR staff and Manatee County EMD in the Bay and offshore, may constitute perhaps the largest in-shore/offshore reef project in the United States. Anecdotal fishing reports indicate that a significant accomplishment has been achieved through the partnership.

## Bay wide increases in Bottom Habitat

Total sea grass coverage in Sarasota Bay increased by approximately 7% between 1988 and 2002. In 1988, patchy seagrass beds comprised 67.1% of the total acreage. Currently, 68.2% of the total seagrass acreage is defined as continuous. Research to determine causes and importance of this shift (documented by SWFWMD) is needed; an RFP is presently in preparation by the SBEP staff.

## Bay Scallop Research

The SBEP continues to work with the University of South Florida, Mote Marine Laboratory, and the Florida Sea Grant Extension Service to develop a scallop production and enhancement project in Sarasota Bay. Approximately 65 adult Bay Scallops were collected from Sarasota Bay in the late summer of 1998 and were transferred to the University of South Florida where they were maintained until reproductive maturity. Spawning was induced by thermal shock and the larvae and subsequent juveniles propagated in nylon bags or cages until the scallops reached a size of 17-20 mm. At this stage, approximately 25,000 juvenile scallops were transferred to the Mote Marine Laboratory. Mote maintained the scallops until they reached the size of 20 mm. In June 1999, surviving scallops were transferred to locations in the Bay near Buttonwood Harbor, Palma Sola Bay, and Sister Keys/Tidy Island in 100 cages. All three locations are situated in the northern half of Sarasota Bay where recent improvements in water quality should allow for survival, growth, and spawning of introduced scallops. The cages were placed in close approximation to each other in each location such that the success of fertilization can be maximized when the scallops spawn

Prior to deployment of the cages, surveys of natural scallop populations were conducted in each location. Mortality in the cages was 100% due to fouling. A much larger project (\$300,000) is presently being conducted by the National Oceanographic and Atmospheric Association (NOAA) testing alternative deployment methods. The recent red tide outbreaks in Florida have been directly linked to the failures of the scallop enhancement project. The Florida Marine Research Institute seeded scallops in Sarasota Bay during the summer of 2003.

The most recent efforts to restore scallop populations to lower Tampa and upper Sarasota Bay have also proved unsuccessful; seeding continues. Red tide persisted in northern sections of Sarasota Bay in 2003; red tide has also occurred in 2004 and 2005.

### Oyster Reefs

The American oyster may be a valuable means to provide benthic and fishery habitat and to filter bay water. Oysters were once common in Sarasota Bay and should be able to reestablish themselves if a hard substrate is provided. By simple cultch deposition and spat seeding, it should be possible to restore enough reef area to make a significant improvement in bay water quality.

A key issue in oyster bar restoration is to establish a historical baseline showing pre-development location and extent of this hard-bottom habitat within a bay system. A 2002-2003 project of the SBEP will provide index maps showing the geographical extent of large-scale maps and smooth sheets compiled by the U.S. Army Corps of Engineers and Coast & Geodetic Survey during the 19<sup>th</sup> and 20<sup>th</sup> centuries covering the southwest Florida coast. These historic source documents will be used to compile geographic information system (GIS) coverages for two pilot areas: Little Sarasota Bay and the Manatee River. A cartographic analysis will be undertaken to show changes in the distribution of oyster bars from 1879-80 to the present time: 1879-80 to 1953-55 will be derived from maps compiled by the University of Florida Sea Grant Team; the 1953-55 to 2000 period depends upon receiving a GIS coverage of the present distribution of oyster bars. This methodology should also be useful in evaluating oyster habitat restoration in other areas of southwest Florida. The information will also aid in planning future oyster restoration projects. In FY 04, the SBEP identified 2 project sites and has received permits to plant oyster in the spring of 2005.

### Seagrasses

Five species of Seagrasses are found in Sarasota Bay: shoal grass (*Halodule wrightii*), turtle grass (*Thalassia testudinum*), manatee grass (*Syringodium filiforme*), widgeon grass (*Ruppia maritima*) and star grass (*Halophila engelmannii*). Seagrass coverage is assessed and mapped every two years in aerial photographs of the region. The analysis distinguishes between *patchy seagrass beds* with less than 75 percent coverage and *continuous seagrass beds* with greater than 75 percent coverage in a given area. Since 1988, approximately 593 new acres of Seagrasses have been mapped. Continuous seagrass beds in Sarasota Bay have increased by more than 3,465 acres which equates to 4,058 acres of new or improved habitat. Scientists suggest a correlation between water quality and the relative healthy and coverage of seagrass beds. The SBEP is presently preparing an RFP in this regard.

Trends in seagrass regeneration vary among embayments, most likely due to differences in nearby water quality. North Sarasota Bay, for example, has seen expansion in coverage. The lower bays also appear to be steady or increasing in acreage, according to the most recent two surveys. These positive trends are indicative of water-quality improvement throughout Sarasota Bay.

### Recreational Use

- Assist local neighborhood-initiated projects to enhance visual or recreational access to the Bay.
- Work with the community to develop a network of historical, environmental, and cultural assets through a Heritage Trail.
- Promote this region as “Paradise Reclaimed”, and a “Special Place”
- Assist the community in developing an anti-litter campaign.

## Gulf Coast Heritage Trail

To address the recreational use elements of the CCMP (increase managed access to the bay and its resources), the SBEP developed the Gulf Coast Heritage Trail (GCHT) program in FY 99. The Trail highlights the area's environmental, cultural, and historical features along the Gulf Coast. The SBEP has worked in concert with the National Park Service and both counties' Tourist Development Councils, among others, to develop the trail system and accompanying materials. A community forum was sponsored by the SBEP in March 1997 to gather information on prospective places of interest along the trail. A second community forum was held in January 1998 to unveil the conceptual master plan for the GCHT and gain further community input. Themes related to environmental stewardship and "sense of place" has been woven into the materials.

In FY 00-01, an auto tour guide (that provides a map and educational materials about the area) and Blueways guide were completed; roadway signs were also installed and the "Chronicles of the Florida Gulf Coast" was produced. The Blueways Guide highlights canoe and kayak launching sites; boat ramps and places to likely view dolphins, manatees and coastal birds; and includes these features as well as delineating the Intracoastal Waterway (ICW) and anchorage for overnight accommodations. The Guide promotes catch and release practices, provides information on the negative impacts of marine debris and the importance of enhancing fish habitat, and other environmental stewardship measures. Manatee County opened its canoe trail in FY 01.

The maps and guides (Blueways and Heritage Trail) are regularly used and distributed at Information centers.

## Monitoring and Research

- Continue to coordinate the regional ambient water-quality monitoring program and review data to evaluate trends.
- Conduct additional research to determine sources of toxic substances and nutrient loading to Sarasota Bay.
- Work with regional agencies to monitor seagrass growth and coverage to determine trends.
- Establish a national monitoring site and conduct atmospheric NOx monitoring; support regional and national NOx work.

The Sarasota Bay water quality monitoring program is conducted by the local governments in the area. It follows protocols outlined in EPA's Estuarine Monitoring and Assessment Program (EMAP). The water quality monitoring program is designed to evaluate long-term changes. The EMAP water quality monitoring is supplemented with biological monitoring to assess the overall health of Sarasota Bay. The SBEP contracted with Mote Marine Lab to evaluate system response to pollutant reduction. The findings were significant as most areas of the Bay exhibited positive water quality trends. The SBEP completed or initiated technical research projects to further evaluate sources of nitrogen loading and toxins to Sarasota Bay in FY 01.

## Non-point Source Pollution Studies

### Main Bay

Recent analysis released by the Sarasota Bay Estuary Program indicates that water quality throughout most of Sarasota Bay is "good," i.e., consistently obtaining water quality standards. In contrast, a report released in 1998 by the State of Florida characterized most of Sarasota Bay as "fair" to "poor" and listed most segments of Sarasota Bay as potentially impaired. A comparison of these two reports suggests that quality water is

improving in Sarasota Bay.

SBEP studies also indicate improving trends or no change in water quality in all Bay segments except Palma Sola Bay, which appears to be declining in quality. The SBEP is currently investigating sources of pollution to Palma Sola Bay. Roberts Bay and Blackburn Bay are undergoing more intensive study to determine possible impairment. Between 1988 and 2003, Roberts Bay seagrass coverage increased by 37 acres (11%), similar improvement has occurred in Blackburn Bay.

- *SBEP has assessed water quality data in relation to attainment of water quality standards bay-wide; data supporting the statewide efforts on TMDLs (see Attachment A) and Impaired Waters Rule adopted under the Florida Watersheds Act of 1999. **Of the nineteen WBIDs identified as “impaired” in the 1998 State 303d Water Quality Report, all met water quality standards in 2004.***
- *However, two WBIDs (Roberts Bay and Clower Creek) in the Sarasota Bay Planning Unit may still be listed as “impaired” using the State protocol and addressed under Florida consent decree; several other WBIDs may have TMDLs developed by EPA mainly due to the lack of data in small oligohaline zones.*

Blackburn Bay and Roberts Bay (just south of downtown Sarasota) may have a stricter standard of 5.5 ug/l and 7.12 ug/l proposed for Chl-a by the State in lieu of the statewide standard of 11 ug/l. A decision to accept or contest this standard will need to be made in 2005. A scope of work has been prepared to develop site-specific criteria for Chl-a for this WBID under the proposed Reasonable Assurance Plan (Ra) for the Bay. The Florida Watersheds Act of 1999 encourages regions with NEPs to develop Reasonable Assurance plans to address areas of concern instead of regulatory imposed load reduction. A draft has been promulgated by the SBEP.

Clower Creek has an extremely high value of 150 ug/l for chlorophyll in one sample in 2003; the same sample has a 9 mg/l phosphorous level. This sample is skewing the data set causing the impairment designation for Clower Creek. A decision will need to be made in 2005 to accept or contest the results from this sample; the sample results suggest a spill.

Palma Sola Bay was not listed as impaired in the 1998 303d report and is, therefore not part of the decent decree. Recent data indicates impairment for Chl-a in 2001 and 2003, the same years as red tide was noted. The SBEP will further evaluate water quality and sources in the near future.

Philippi Creek, Methany Creek and Bowless Creek have also been identified as impaired through the data analysis, but were also not identified in the 303d report for the specified parameter of concern – basic management action plans have been prepared and are already in the implementation phase in these basins.

- *A Reasonable Assurance Plan has been prepared for the Bay area.*

### Tributary Action Plans

In addition to evaluating and improving Bay water quality, the SBEP is addressing water quality standards in the tributaries flowing to Sarasota Bay. Only three tributaries--Phillippi Creek, Bowlees Creek and Clower Creek-- have been classified as not attaining water quality standards. Local governments have developed and are implementing Action Plans in two of these basins to achieve standards; Clower has been improved by the NEP, but data suggests possible impairment.

## Phillippi Creek and Roberts Bay

Phillippi Creek and Roberts Bay are being addressed under one Action Plan. This Plan focuses on improving water quality through septic tank replacement, consolidation of small wastewater treatment plants, and upgrades and improvements to stormwater treatment systems in the basin. Major stormwater projects include the construction and proposed expansion of the Celery Fields Regional Treatment Facility and the Construction of the Phillippi Creek Levee Project. These projects reduced flooding in the Phillippi Creek basin. When flooded, areas serviced by septic tanks as well as small treatment plants release waste, thus increasing the amount of wastewater discharged to Sarasota Bay.

## Bowlees Creek

A second Action Plan has been developed and is being implemented to improve water quality in Bowlees Creek. Projects include improvements to airport drain; expansion of the holding capacity of Lake Brennan (including a biological treatment system); a stormwater project on Nicholson Drain; and upgrades to the Holiday Inn Marina. Manatee County is making improvements to the Trailer Estate's sewer lines. Studies conducted by Manatee County indicate that the other communities serviced by wastewater treatment systems in the area are functioning to standard.

## Bacteria

Bacteria contamination of water bodies is another area of concern. Each of the tributaries previously mentioned are failing to meet water quality standards for bacteria contamination. The SBEP has made funding available to evaluate sources of bacteria to each of these watersheds. Primary bacteria sources are wildlife, including birds and raccoons, and humans. To develop an appropriate management plan to reduce bacteria, a confirmed source must first be identified. Previous studies have concluded, for example, that septic tanks are the cause of bacteria contamination in Phillippi Creek. The SBEP and Sarasota County will be sampling other impaired creeks in an effort to pinpoint bacteria sources and to document the improvements following the removal of septic tanks.

Several area beaches have had “No Swim Advisories” posted intermittently during the past few years, including popular beaches in Venice, Siesta Key and the Ringling Causeway. A Sarasota County task force has forged technical studies that determined that birds are the primary source of contamination at these locations.

## Public Outreach

- Develop promotional materials to show progress in implementing the CCMP and communicate the future goals of the Program. The SBEP released the “State of the Bay” Report in FY 2000.
- Continue to produce and distribute newsletters informing area residents about Program activities and project status.
- Participate in community activities, events, and projects to promote the goals of the SBEP and approved CCMP actions.

The SBEP continues to be an active participant in community events that focus on environmental stewardship and public education. The SBEP also seeks to inform the community through newsletters and press releases.

## Governance

### Local and Regional Government Comprehensive Plan Consistency

In the late 1990's, the SBEP worked with local and regional government planning staff to incorporate CCMP concepts and recommended language into their Comprehensive Plans. The SBEP provided significant input to the Evaluation and Appraisal Report (EAR) process in each jurisdiction. Manatee County, Sarasota County and the City of Sarasota have adopted their respective EARs approved by the Florida Department of Community Affairs (FDCA). Both the Tampa Bay and the Southwest Florida Regional Planning Councils concurred with the local government's recommended modifications. Appropriate amendments were made to the Comprehensive Plans and subsequently approved by FDCA. The SBEP will continue to remain involved in Planning Board meetings and Public Hearings on Comprehensive Plan amendments. (Note: recent changes were recommended in 2005)

In FY01, the SBEP initiated work to address the Land Development Code in relation to enhancing water conservation and sensitive land preservation during development; this work concluded that the SBEP was successful in incorporating language into the comprehensive plans.

A full review of the current land development code/regulations was put on hold, pending the outcome of the USGS hydrology study and TMDL studies. With the completion of these efforts in 2004, it was decided to address soil compaction issues in 2005, prior to addressing the land development codes. There are more than twenty separate codes and regulation creating the current development scenario related to stormwater, public vehicle access and protection, filling, etc.

In 2004, the SBEP was formally established as special district in the State of Florida through the signing of an Interlocal Agreement. The Policy Board was expanded to include the City of Bradenton and the Town of Longboat Key.

## Appendix A

### Sarasota Bay Estuary Program Staff Responsibilities

#### **Mark Alderson - Director**

Oversees preparation of Annual Work Plan and Budget each year for review by Management and Policy Boards and submittal to EPA

Manages program staff

Oversees preparation of annual Cooperative Agreement application package for base program operation each year for submittal to EPA

Secures funding contributions from local governments each year from local governments and water management district

Accomplishes program goals specified in the Annual Work Plan each year

Meets the entire general and special conditions specified in the cooperative agreements for base program and other grant awards

Maintains controllable expenditures within budget and take appropriate actions when unexpected budget problems develop. Make necessary amendments as required by EPA regulations.

Ensures that the NEP program responsibilities under the Interlocal Agreement are met

Comply with legal meeting notice requirements and agenda mailings 10 days prior to meeting

Monitors progress of work on grant awards both received and made by the Program to assure timely completion of work

Ensures that SBEP meets matching fund requirements for grants it receives and that in-kind match is sufficiently documented per requirements of awarding agencies

Ensures compliance with relevant federal and state purchasing and procurement procedures

#### **Marian Pomeroy – Finance Director**

Works with Director and EPA Project Officer to ensure that all requirements and documents for cooperative agreements are submitted and tracked on a timely and accurate basis

Acts as the Grants and Contract Coordinator, tracking expenditure and reimbursement

Prepares reports, documents and assists Director with presentations

Acts as human resources coordinator

Acts as payroll and retirement coordinator

Processes payments, purchase orders, SBEP accounts payable and receivable

Assists with the setting up of SBEP meetings and arrangements as required

Responsible for reporting, collecting and processing all federal reimbursements and local government contributions

Provides assistance to Director as needed in managing the program

Provides training and supervision of secretary, helping her set priorities, and assists with scheduling.

Assists with Management/Policy Board agenda, meeting notices, agendas and packets

Maintains general responsibility for smooth and efficient office operations (i.e. building maintenance, supplies, office machines, staff assistance, etc.)

**Gary Raulerson - Senior Scientist**

Manages technical, artificial reef and habitat restoration projects

Organizes and coordinates meetings of the Technical Advisory Committee and subcommittees as required to meet technical objectives of program

Presents results of SBEP's technical work to NEP committees and community groups

Provides technical support as needed to Director, Public Outreach Coordinator and Finance Director

Keeps current in research and developments in estuarine science and management

Presents results of SBEP work to appropriate local, state and national science and resource management meetings, and participate in state-wide/national efforts on atmospheric deposition.

Actively participates in regional resource management committees directly related to SBEP objectives

Monitoring progress toward SBEP goals through tracking implementation of local government/agencies' Action Plans.

Reports environmental conditions and trends to Management Board

Pursues additional funding sources for implementation of the CCMP

Works with attorney and Director to create contracts and intergovernmental agreements, and processes them for execution ensuring that all federal and state requirements are being followed.

**Julia Burch- Public Outreach Coordinator**

Manages implementation of the SBEP Citizen Action Plan

Promotes the Program's accomplishments to the media through ongoing and consistent communication of SBEP Program goals, challenges and achievements

Researches, writes and coordinates production of the SBEP newsletter and oversees all publications

Gathers and coordinates information for the quarterly update of the SBEP website

Develops public education programs that address SBEP priority goals, and assists government and non-profit partners in creating and promoting educational programs and tools

Provide staff support to the CAC, while encouraging members to become more actively involved in developing and implementing their own projects

Ensures that SBEP maintains a high profile among the environmental community by assisting local public, private and non -profit partners with outreach needs, and serving on committees and task forces

**Bonnie Payne- Secretary**

Responsible for all correspondence, telephone messaging and mailings

Oversees calendar of Director and assists in meetings as needed

Make travel arrangements for TBEP staff as needed

Provides materials for all Board briefings and meetings

Transcribes meeting minutes

Responsible for maintenance of office supplies

Provides support as needed to Director, Finance Director and Public Outreach Coordinator and Senior Scientist

**APPENDIX B****Proposed Travel for Period:**

October 2007 to September 2008

Purpose	Location	# Staff	Airfare	Days	Hotel	Registration	Rental Car	Est. Cost
ANEP/NEP meeting	San Juan	3	\$1,000	5	\$2,000	\$600	\$0	\$3,600
ERF	Virginia	1	\$400	3	\$500	\$250	\$0	\$1,150
NEP/EPA meeting	Washington DC	2	\$900	5	\$2,800	\$600	\$300	\$4,600
GoM meeting	TBA	2	\$500	2	\$450	\$0	\$0	\$950
Region 4 meeting	Atlanta	4	\$900	2	\$1,200	\$0	\$0	\$2,100
Community Involvement Conf	TBA	1	\$300	3	\$500	\$300	\$0	\$1,100
Local Mileage, Rentals	Florida	5						<u>\$5,500</u>
						<b>TOTAL</b>		<b>\$19,000</b>

October 2006-September 2007

PROJECT Name	Role	Leveraged Federal Cash	Leveraged Local Cash	Leveraged Private Cash	Total Leverage
--------------	------	------------------------------	----------------------------	------------------------------	----------------

320 Match Program Support	Primary		\$532,591.28	\$14,681.94	\$547,273.22
---------------------------	---------	--	--------------	-------------	--------------

Local Projects:

		In-Kind	In-Kind		
Impact of Organic Amendments on Soil Water Retention and Water Conservation (B139)	Primary	\$0.00	\$2,500.00		\$2,500.00
Honi Hanta Restoration Project	Primary	\$0.00	\$5,000.00		\$5,000.00
FISH Preserve Habitat Restoration	Primary	\$63,000.00	\$8,000.00		\$71,000.00
Southern Coastal CWM (B155)	Support	\$0.00	\$8,952.00		\$8,952.00
Southern Coastal Watershed Leadership Program (L238)	Support	\$0.00	\$15,000.00		\$15,000.00
Grassy Point Habitat Restoration Project	Primary	\$10,000.00	\$20,000.00		\$30,000.00
Hotel/Motel Water Conservation Program (Water C.H.A.M.P.)(B131)	Primary	\$0.00	\$20,701.00		\$20,701.00
Ballard Elementary School	Primary	\$0.00	\$25,000.00		\$25,000.00
Seagrass Mapping and Monitoring (W331)	Primary	\$0.00	\$25,000.00		\$25,000.00
Artificial Reefs and Shoreline Enhancement	Primary	\$0.00	\$30,000.00	\$5,000.00	\$30,000.00
Field Evaluation of Bahiadwarf, For Water Use Efficiency, Turf Quality, Mowing Requirement and Persistence (B229)	Support	\$0.00	\$30,903.00		\$30,903.00
South Lido Park Habitat Restoration (W607)	Primary	\$0.00	\$34,360.00		\$34,360.00
Mapping and GIS (B530)	Support	\$0.00	\$34,897.00		\$34,897.00
Land Use/Cover Mapping (B219)	Support	\$0.00	\$44,912.00		\$44,912.00
Tailwater Recovery (B201)	Support	\$0.00	\$45,000.00		\$45,000.00
Water Atlas	Primary	\$0.00	\$50,000.00		\$50,000.00
Wetlands Restoration and Protection – Coordination	Primary	\$0.00	\$50,000.00		\$50,000.00

Manatee/Bradley River Estuary MFL (B204)	Support	\$0.00	\$62,494.00		\$62,494.00
Youth Water Resources Education (formerly In-School Education)(P259)	Support	\$0.00	\$98,073.00		\$98,073.00
Florida Yards and Neighborhoods - Manatee County (L510)	Significant	\$0.00	\$100,000.00		\$100,000.00
Florida Yards & Neighborhoods Program (including Regional Builder/Developer Coordinator - B246, L206)	Primary	\$0.00	\$143,625.00		\$143,625.00
Maintenance of Watershed Parameters and Models (B206)	Support	\$0.00	\$154,124.00		\$154,124.00
SWIM Plan Implementation - Sarasota Bay (W601 and W612)	Primary	\$0.00	\$165,854.00		\$165,854.00
Public Education (P268)	Support	\$0.00	\$172,141.88		\$172,141.88
Spoil Islands Restoration Project: Bird Colony, Jim Neville, Palmer Point (W611)	Primary	\$100,000.00	\$187,496.00		\$287,496.00
Coastal Basin Beach Road BMPs (W617)	Support	\$0.00	\$200,000.00		\$200,000.00
Surface Water Monitoring Program for Sarasota County (L015)	Support	\$0.00	\$200,000.00		\$200,000.00
Tidal Creek Biological Index Study (W615)	Support	\$0.00	\$203,121.00		\$203,121.00
Sarasota County Tidal Creek Biological Index (W615)	Support	\$0.00	\$263,121.00		\$263,121.00
Neal Preserve Environmental Restoration (W602)	Primary	\$0.00	\$303,414.00		\$303,414.00
Roberts Bay Watershed Management Plan (L611)	Significant	\$0.00	\$304,470.00		\$304,470.00
Sister Keys Habitat Restoration (W614)	Primary	\$0.00	\$304,725.00		\$304,725.00
Hudson Bayou Implementation of BMPs (L613)	Support	\$0.00	\$401,157.00		\$401,157.00
Matheny Creek Implementation of BMPs (L614)	Support	\$0.00	\$426,157.00		\$426,157.00
Sarasota County Pollutant Model Development (W552)	Significant	\$0.00	\$436,831.00		\$436,831.00

Dona Bay Watershed Management Plan (L493)	Support	\$0.00	\$510,416.00		\$510,416.00
Facilitating Agricultural Resource Management Systems Program (H017)	Support	\$0.00	\$550,528.00		\$550,528.00
Anna Maria-Implementation of BMPs (L607)(W226)	Significant	\$0.00	\$623,157.00		\$623,157.00
Nicholson Drainage Channel Stormwater Treatment Project (W608)	Support	\$0.00	\$1,001,581.00		\$1,001,581.00
Wares Creek Bridge Replacement (L200)	Support	\$0.00	\$1,002,029.00		\$1,002,029.00
Sarasota County-Coastal Fringe Watershed Management Plan (L618)	Support	\$0.00	\$1,003,000.00		\$1,003,000.00
Watershed Management Plans Update - Sarasota County (L019)	Significant	\$0.00	\$1,127,406.00		\$1,127,406.00
Robinson Preserve	Primary	\$1,000,000.00	\$1,842,000.00		\$2,842,000.00
Phillippi Creek (Celery Fields) Implementation of BMPs (L210)	Support	\$0.00	\$2,601,140.00		\$2,601,140.00
Perico Bay	Support	\$0.00	\$6,000,000.00		\$6,000,000.00
Wares Creek Watershed Implementation of BMPs (K253)	Support	\$8,000,000.00	\$6,002,912.00		\$14,002,912.00
<b>TOTALS:</b>		<b>\$9,173,000.00</b>	<b>\$27,373,789.16</b>	<b>\$19,681.94</b>	<b>\$36,561,471.10</b>