

CCMP Progress Report

A Citizen's Assessment of the
Implementation of the Indian River Lagoon's
Comprehensive Conservation and Management Plan,
1996-1998

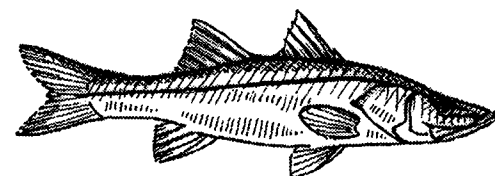
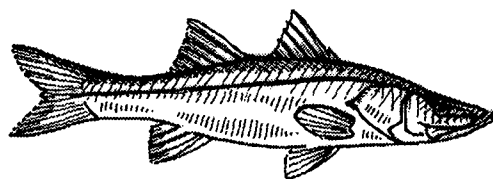
Produced by
Audubon of Florida
for the
Indian River Lagoon National Estuary Program
August 2000

REPORT CONTENTS

CCMP Implementation Overview & Summary (Includes summary and overall ranking per action for <u>all</u> agencies.)	2
Water & Sediment Quality Section (Includes ranking and survey results for <u>each</u> agency/organization.)	11
Living Resources Section (Includes ranking and survey results for <u>each</u> agency/organization.)	95
Public & Governmental Support & Involvement Section (Includes ranking and survey results for <u>each</u> agency/organization.)	137
Acronyms	161

PROGRESS REPORT GOALS

1. To document the progress toward implementing the CCMP's recommended actions through citizen's participation since the plan's adoption in November 1996;
2. To illustrate examples of CCMP implementation that can be updated and added to in years ahead;
3. To identify gaps and obstacles hindering environmental managers and decision-makers from successfully implementing the CCMP's recommended actions;
4. To convey ideas and opportunities to overcome the identified challenges.



In, 1996, Florida Governor Lawton Chiles and USEPA Administrator Carol Browner officially adopted the Indian River Lagoon CCMP. In it are dozens of actions, that if implemented would help maintain and improve the ecological integrity of the IRL. To evaluate the progress towards implementing recommended actions, we examined all government and private activities and rated progress as follows:

PROGRESS REPORT RATING SYSTEM

- 4 Implemented: (75-100% complete)--full implementation.
- 3 Substantial Progress: (50-74% complete)--major progress.
- 2 Moderate Progress: (25-49% complete)--fair level of progress.

- 1 Minimal Progress: (up to 24% complete)--minimal progress.
- 0 No Progress: (0% complete)--no progress.
- U – Unknown: Unknown progress.
- DNR – Did Not Respond to survey

CCMP IMPLEMENTATION OVERVIEW AND SUMMARY

In 1990, President George Bush declared the Indian River Lagoon an Estuary of National Significance. Over the next five years of facilitated meetings, stakeholder sessions and public hearings, a planning document was created that touches every segment of the lagoon. Called the Comprehensive Conservation and Management Plan, the CCMP contains goals, objectives, priority problems, and action items covering 68 subject areas ranging from water quality to wildlife resources. The CCMP also identifies the lead governmental agencies for each of these established priorities and action plans. It is a blue print for the preservation and restoration of the Indian River Lagoon, the most biologically diverse estuary in North America.

Whether the CCMP is a living and meaningful document is up to the citizens who care about the future of the Indian River Lagoon. A central feature of the CCMP and any successful watershed program is public accountability and adaptive management. The CCMP contemplates that non-governmental organizations will regularly look at the actions required by the plan to see what progress has been made. Adaptive management is the process of changing and revising plans as new priorities are identified, problems raised, and opportunistic solutions found.

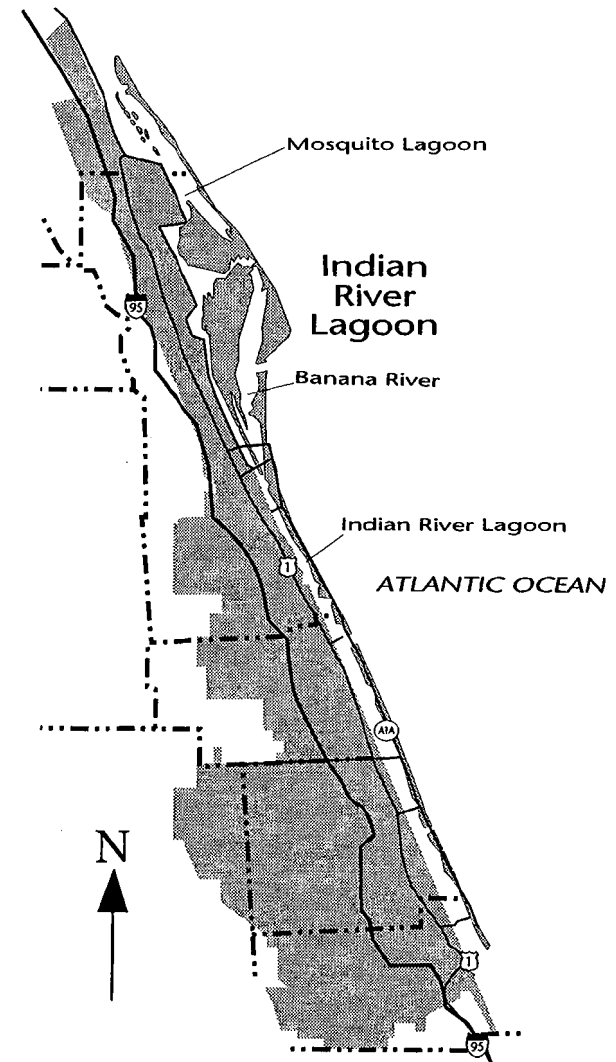
Audubon has been involved in issues concerning the Indian River Lagoon for nearly a century. It called upon its local chapters to sur-

vey local governments along the lagoon to see how they were implementing the action plans in the CCMP. This progress report contains the conclusions from the survey of state, regional, and local governments within the lagoon. These trained citizens learned about the goals and objectives of the CCMP and will continue to be citizen sentinels to observe how local jurisdictions are tackling or ignoring important priorities.

It is hoped that this Progress Report will be an important tool in adaptive management for restoration of the Indian River Lagoon. This report should identify those jurisdictions that have made a difference and also gently nudge those who are not doing their fair share. Most importantly, we hope to identify those barriers to carrying out the ambitious programs of the action plans.

Overall we found that there has been progress in some key areas and that support for protection of the Indian River Lagoon has made its way into comprehensive plans designed to guide our future. But we also found that there is still some confusion over who is taking the lead in certain areas like land acquisition and biodiversity issues, or who has authority in areas like resource-protection zones, wetlands policies or compliance with the IRL Act. In the meantime, major problems still remain and natural conditions continue to deteriorate as the pressure on the lagoon continues to grow.

This progress report will identify those areas of concern in hopes that citizen sentinels and policymakers will continue their effort to protect and restore the Indian River Lagoon.



CCMP IMPLEMENTATION OVERVIEW AND SUMMARY

WATER AND SEDIMENT QUALITY

Program Goal I: *Water and Sediment Quality*
To attain and maintain water and sediment of sufficient quality to support a healthy estuarine, lagoonal system.

Point Source Discharges (PS)

The first set of action plans relates to compliance with Indian River Lagoon Act (Ch-90-262 Laws of Florida). The act required elimination of wastewater treatment plant effluent discharge by April 1, 1996, as well as elimination of on-site sewage disposal in areas where they were determined to be a threat to the lagoon.

The surveys show that there has been a significant effort toward compliance with the first part of the act. Nearly all local jurisdictions have completed construction of new wastewater treatment facilities designed to produce gray-water rather than effluent discharge.

The act did not address the issue of industrial discharges. The CCMP identified 27 industrial discharges to the IRL from power plants, reverse-osmosis potable water treatment plants, citrus processing plants, and others. FDEP has permitted one new industrial plant to discharge to the IRL, however most local jurisdictions have adopted policies designed to prohibit industrial discharge.

To comply with the requirements of the IRL Act,

many WWTPs dispose of their effluent through deep-well injection. Disposal of effluent using this method may result in loss of freshwater resources and may also contaminate the Floridan aquifer. The IRLCCMP calls for the identification and development of alternatives to deep-well injection. Currently, FDEP is in the development process to identify alternatives, however no deep-well disposals have been abandoned nor significantly reduced.

On-Site Sewage Disposal (OSDS)

A second part of the Indian River Lagoon Act focuses on on-site sewage disposal systems such as septic tanks and package treatment plants. The act required studies to determine problem areas associated with on-site disposal and required local governments to connect these areas to wastewater systems. The CCMP identified approximately 120,000 OSDSs in the lagoon basin, and more than 80,000 were determined to be in 'problem' or 'potential problem' areas, presenting a threat to water quality.

The surveys show that there has been a mixed response to the requirement to eliminate septic tanks in areas where they are a threat to the lagoon. In many municipalities there are no septic tanks permitted, so this is mostly a county issue. In some counties, however, there is not the political will or there is a perceived lack of authority to require compliance. FDEP also

believes it does not have the authority to require compliance with this part of the act.

Despite the perceived lack of authority (and accountability), St. Lucie and Indian River Counties have made significant steps in eliminating septic tanks that are a threat to the lagoon. But Volusia County is running into conflict with local cities.

Lack of public support is listed as a reason for not going further. Brevard County questions whether there are sufficient studies to show the effectiveness of alternatives to septic tanks. The City of Oak Hill passed a charter amendment to ban sewer systems and is trying to stop Volusia County from extending sewers into a problem area.

Freshwater and Stormwater Discharges (FSD)

An essential part of solving water quality problems with the Indian River Lagoon involves management of freshwater and stormwater discharges. Freshwater discharges affect the overall salinity of the lagoon while stormwater discharges sweep large amounts of sand, metals, fertilizers, and petroleum by-products into the lagoon ultimately causing a growing layer of muck on the bottom. This black ooze inhibits submerged vegetation and the species that depend on it for food or shelter.

Stormwater discharges from urban areas and agricultural runoff contribute significantly to the chronic decline of the lagoon. The CCMP calls for a wide range of actions. Priority steps include setting pollution loading goals and implementing SWIM plans and best management practices.

Implementation has not been uniform. SJRWMD has set goals, recommended 'best management practices,' developed pollutant load reduction goals and sponsored SWIM projects, but local governments have not consistently followed their lead or taken advantage of their programs.

Some local jurisdictions have experimented with muck removal and new engineering. The overall impediment is lack of a funding source to undertake the solutions needed. While many local jurisdictions have enacted stormwater utility fees, it appears that the priority is for draining rather than water quality.

Marina and Boat Impacts (MB)

The cumulative impact of over 60,000 registered boats along the lagoon and large amounts of boat traffic has an effect on the lagoon. Props destroy seagrass habitat and injure or kill manatees.

Most marinas do not have pump out facilities for wastes. Shoreline erosion is a long-term

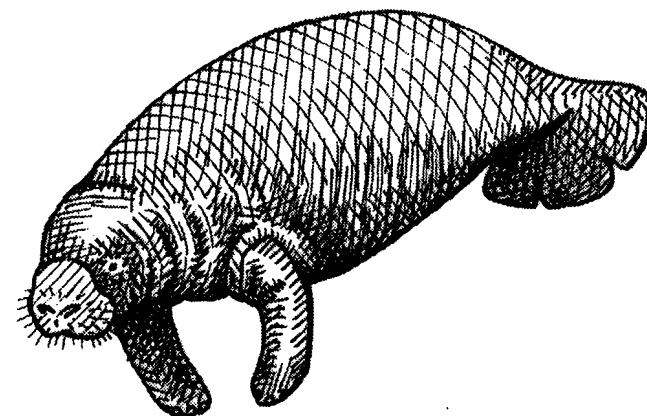
effect of wake from large vessels. The CCMP recommends more enforcement from the Florida Marine Patrol and better boater education as high priority items. The responses from the surveys show governments have not made much progress in this area. None of the Manatee Protection Plans have been formally adopted, FMP presence is inefficient to protect resources or enforce speed limits, and a coordinated effort to educate boaters and identify/encourage use of pump-out facilities has not implemented.

Atmospheric Deposition of Pollutants (AD)

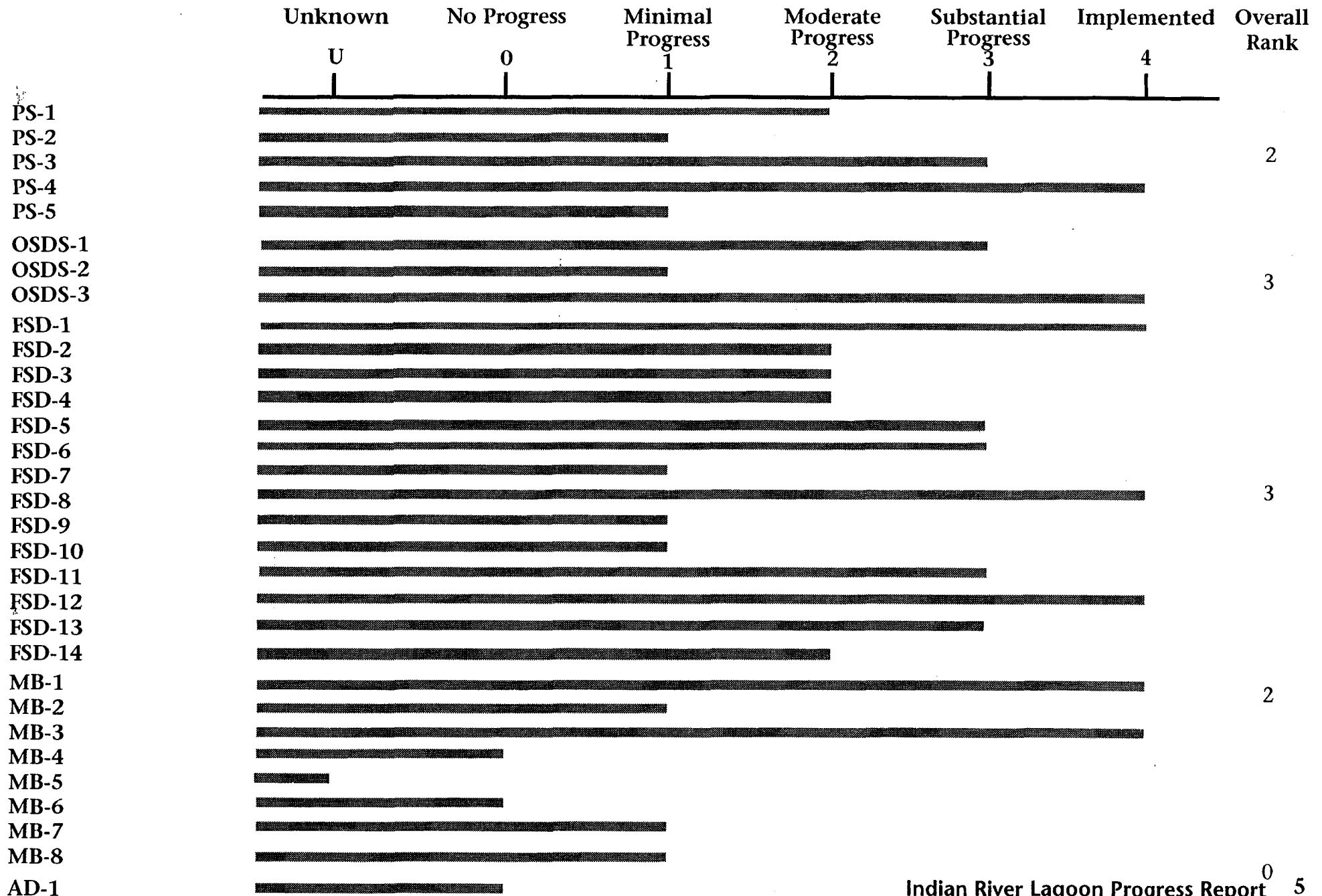
Atmospheric deposition is an emerging issue for the Indian River Lagoon and other waters of Florida. Recent work in Tampa Bay estimated that 28 percent of nitrogen loadings to Tampa Bay are the result of atmospheric deposition directly into the water. Assessing the impact of atmospheric deposition is difficult because the processes by which air pollution is transferred to water bodies are not well understood. Sources may result from local emissions, emissions from outside the state, and even emissions located outside the United States.

USEPA reports that addressing atmospheric deposition is a low priority due to limited time, staff and funding. USEPA also notes that with limited resources, it is important to first

address issues that are solvable, because the complexity of addressing deposition problems often cross state and federal borders.



OVERALL RANKINGS FOR WATER & SEDIMENT QUALITY FOR ALL AGENCIES



CCMP IMPLEMENTATION OVERVIEW AND SUMMARY

LIVING RESOURCES

Program Goal II: Living Resources

To attain and maintain a functioning, healthy ecosystem that supports endangered and threatened species, fisheries, commerce and recreation.

Biodiversity Research and Management (BD)

The length of the Indian River Lagoon traverses a broad variety of natural communities as well as two climatic regions, subtropical and temperate. The variety of species which reside and migrate to the region make the Indian River Lagoon the most biologically diverse estuary in North America. Rapid human population growth and loss of habitat have caused over 75 species to be identified as rare, endangered, threatened or species of special concern by state and federal governments and private organizations. Nevertheless, the lagoon still supports a significant fin and shellfish harvest both commercially and recreationally.

To promote biodiversity, the CCMP calls for coordinated efforts at research, land acquisition, and exotic plant removal. While these efforts are not coordinated per the recommendations of the CCMP, a major part of the job is getting done. Each of the counties along the lagoon has acquired land to protect biodiversity. The SJRWMD and The Nature Conservancy have worked to coordinate efforts and propose the Indian River Blueway for acquisition.

As for exotic plant removal, it is happening in an opportunistic fashion where funds and resources are available. Many state agencies and local governments participate in coordination of workdays, enlisting volunteers to remove invasive exotics.

Seagrasses (SG)

Seagrass and other submerged aquatic vegetation communities are vital to the health of the IRL. The extent and health of these communities has decreased significantly due to declines in water quality, especially water clarity. Seagrass abundance has declined about 18 percent over a 50-year period, and in some areas, seagrass acreage has declined by 70 percent.

Preservation and restoration of seagrass beds are the highest priorities for the Indian River Lagoon program, and while acreage of seagrasses in most areas of the lagoon is stable, there are no state standards that provide the necessary protection for seagrass.

Wetlands Restoration and Preservation (W)

Wetlands protection and restoration is a critical factor for the long-term future of the Indian River Lagoon. Wetlands are important habitats for a diverse number of shorebirds and other species. Wetlands also serve as a filter for freshwater and stormwater discharges, thus protecting water quality.

Wetlands, per se, are protected by regulations that appear to be working. Wetland protection rules are widespread through the lagoon and are enforced by federal, state, regional, and local governments. Nevertheless, there is a recognized need to protect buffers around wetlands. Some local jurisdictions have successfully done that while others cite lack of science or property rights concerns for not implementing a stronger rule.

Impounded Marshes (IM)

Reconnection of impounded marshes and other restoration projects are also an important component of lagoon conservation. Reconnection of impounded marshes is receiving attention throughout the lagoon, while shoreline restoration projects are happening only in an opportunistic fashion. Fifteen thousand acres of marshes impounded for mosquito control have been reconnected to the IRL.

Land Acquisition (LA)

Endangered land acquisition projects represent a significant victory for lagoon conservation projects. Much of the open space along the lagoon has been acquired or is on a list to be acquired. Large ecosystem projects like Canaveral National Seashore, Merritt Island NWR, Archie Carr NWR, and Pelican Island NWR, represent large public investments in conservation. WMD's and local governments have used Preservation 2000, Save

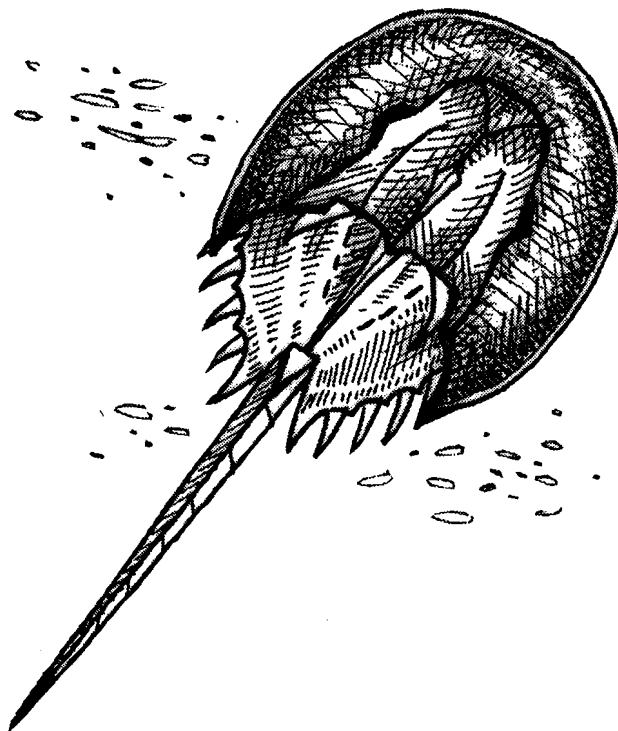
Our Rivers, and Florida Communities Trust projects to plan projects like the Indian River Blueway and other local acquisitions. Every county along the lagoon has purchased conservation lands.

Endangered and Threatened Species (ETS)

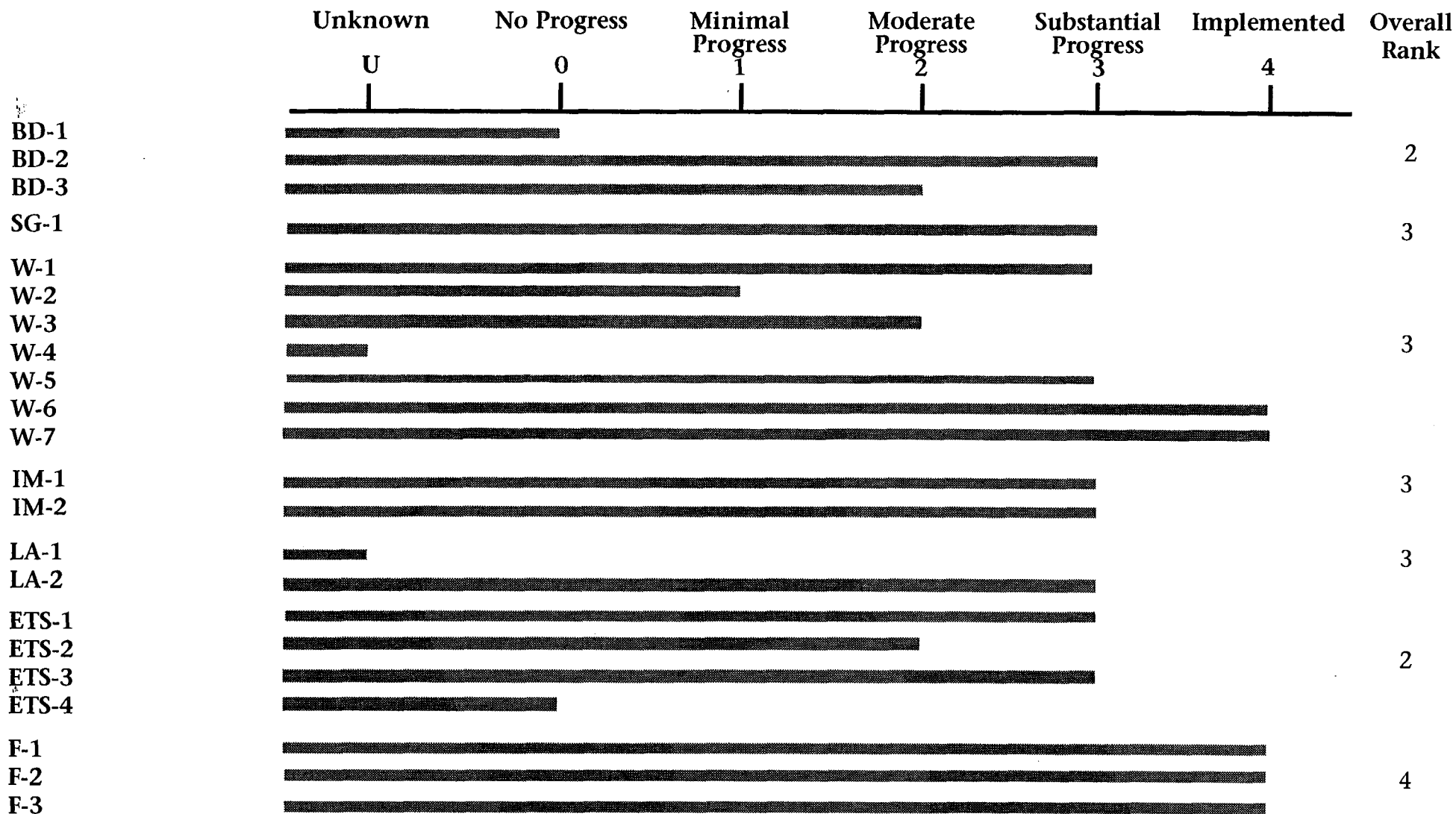
As for coordinated research and species management, it is happening around single species recovery plans only. Plans for protection of sea turtles, manatees, and scrub-jays get multi-agency input and coordination. Otherwise, it does not seem to be any agency's priority. In addition, studies of wildlife diseases or deaths are not being performed by the Fish and Wildlife Service, however, the Game Commission has conducted studies on pelican deaths in the lagoon.

Fisheries (F)

The Indian River Lagoon has some of the richest and most diverse fisheries in the United States with more than 600 identified species. The CCMP calls for improved management of fisheries through coordinated research. FDEP reports that research and management is coordinated and that some stock assessments have been performed. Obstacles preventing additional stock assessments include the lack of life history information on most fish species.



OVERALL RANKINGS FOR LIVING RESOURCES FOR ALL AGENCIES



CCMP IMPLEMENTATION OVERVIEW AND SUMMARY

PUBLIC & GOVERNMENTAL SUPPORT & INVOLVEMENT

Program Goal III: Public and Governmental Support and Involvement

To achieve heightened public awareness and coordination of interagency management of the Indian River Lagoon system.

Public Involvement and Education (PIE)

For the CCMP to be successfully implemented will require cooperation among the dozens of jurisdictions that touch or concern the lagoon. It will also require support from educated citizens who understand the value of the IRL resources, as well as threats to these resources.

Overall, public and governmental education and involvement programs have done a good job of providing information about the benefits, both environmental and economic, of undertaking protection, preservation and restoration activities. Shoreline clean-up projects now are part of every community.

Future Implementation (FI)

At present, the IRL lagoon advisory committee is the only intergovernmental program coordinating CCMP implementation throughout the lagoon. From the responses to the survey, it is clear that not all jurisdictions are working to implement the CCMP through regulations or growth management plans.

Data and Information Management (DIM)

Over the years, numerous studies and monitoring programs have been completed for the Indian River Lagoon by a variety of agencies. Much of this information is valuable in making informed management decisions. However, much of the information was scattered throughout different agencies, found in different formats, and difficult to locate. The CCMP calls for the centralization of IRL data to be compiled in the STORET system.

Some progress has been made in centralizing much of the IRL data, however the immense amount of information probably makes it improbable to achieve full centralization. The SJRWMD has provided funding and assistance toward the completion of the first and second editions of the IRL Information System bibliography, which contains thousands of literature citations related to the IRL.

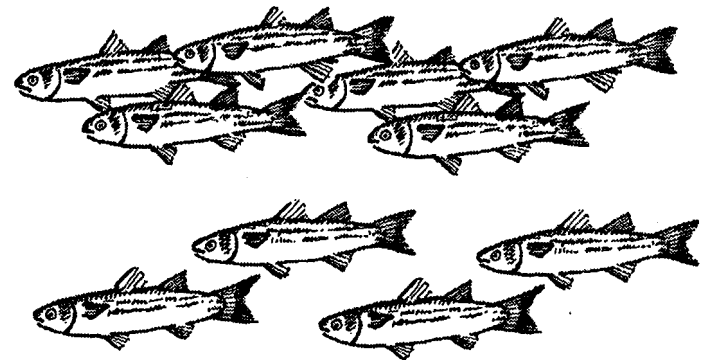
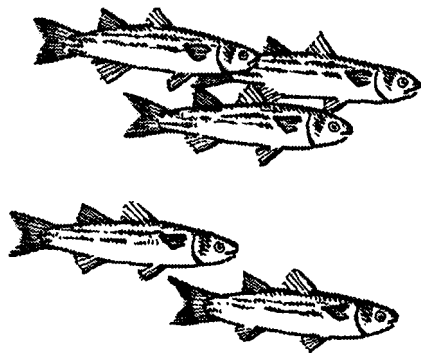
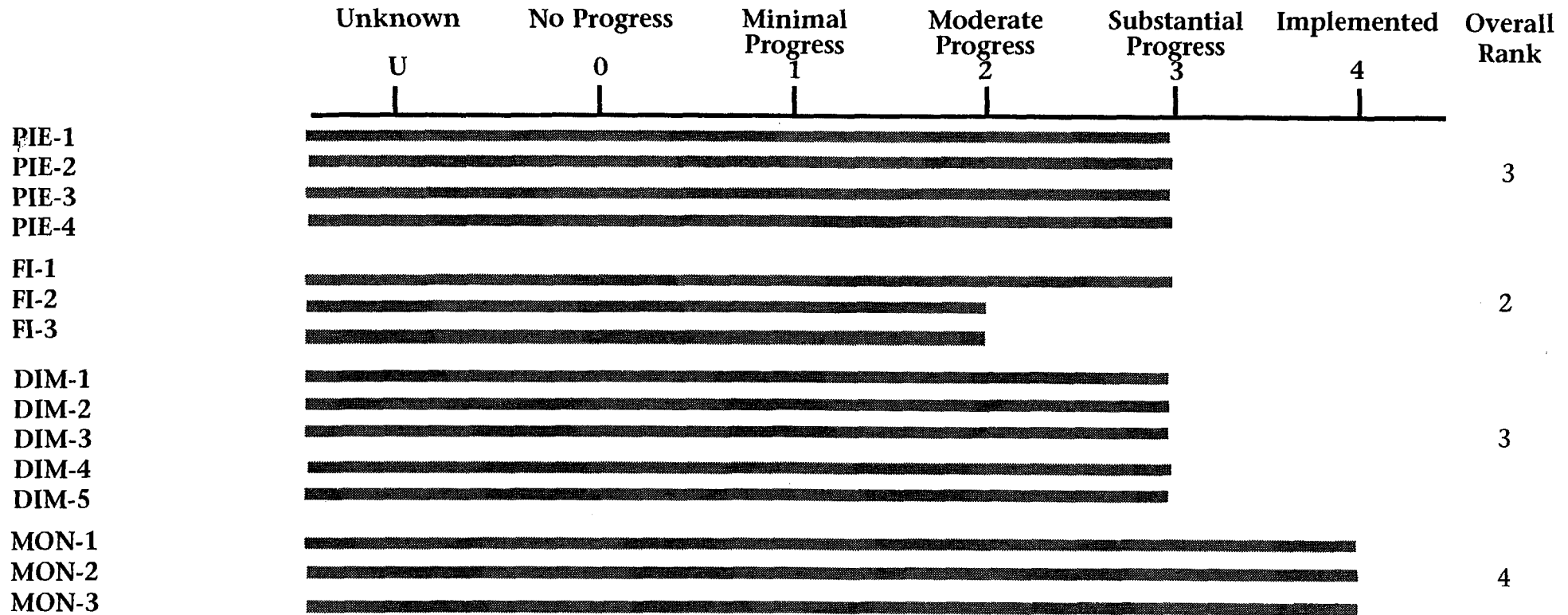
An important step to overcoming the obstacle of centralizing this information is to identify the responsible entity and provide funding to staff the position.

Monitoring (MON)

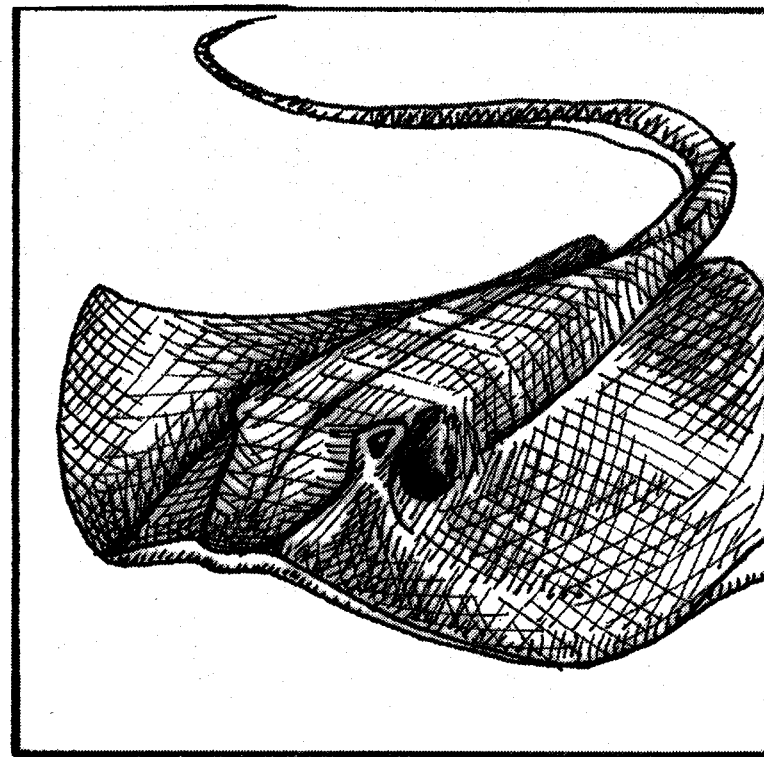
Monitoring water and sediment quality, as well as various biological resources, is necessary to determine the condition of the water body and gauge the effectiveness of actions taking place.

Surveys show that the WMDs, FDEP and several local governments perform monitoring of a variety of conditions found in the lagoon, including: water quality, seagrass meadows, meteorological data, atmospheric deposition, and pollutants. Monitoring is coordinated and reports are produced and shared with other agencies.

OVERALL RANKINGS FOR PUBLIC GOVERNMENTAL SUPPORT & INVOLVEMENT FOR ALL AGENCIES



WATER & SEDIMENT QUALITY IMPROVEMENT SECTION



WATER & SEDIMENT QUALITY IMPROVEMENT

Section Ranking

To evaluate the progress toward implementing recommended actions in the Water & Sediment Quality Improvement Section, we rated progress as follows:
 4 - Implemented: (75-100%); 3 - Substantial Progress: (50-74% complete); 2 - Moderate Progress: (49-25% complete); 1 - Minimal Progress: (up to 24% complete);
 0 - No Progress: (0% complete); U - Unknown Progress; DNR - Did Not Respond to survey

Point Source Discharge

PS-1 - Ensure compliance with the Indian River Lagoon Act (Chapter 90-262, Laws of Florida).

PS-2 - Prevent changes to the IRL Act that would reduce its effectiveness.

FDEP	2
East Central Florida RPC	4
Treasure Coast RPC	4
VOLUSIA COUNTY	3
Edgewater	4
New Smyrna	DNR
Oak Hill	DNR
BREVARD COUNTY	1
Cape Canaveral	1
Cocoa	1
Cocoa Beach	4
Indialantic	U
Indian Harbor Beach	U
Malabar	DNR
Melbourne	1
Melbourne Beach	U
Melbourne Village	0
Palm Bay	DNR
Palm Shores	4
Rockledge	4
Satellite Beach	4
Titusville	1
West Melbourne	4
INDIAN RIVER COUNTY	4
Fellsmere	DNR
Indian River Shores	4
Sebastian	1
Vero Beach	0
ST. LUCIE COUNTY	4
Fort Pierce	1
Port St. Lucie	0
St. Lucie Village	0
MARTIN COUNTY	2
Sewall's Point	4
Stuart	2
FDEP	1
IRLNEP+	

PS-3 - Reduce or eliminate industrial discharges to the IRL.

FDEP	1
East Central Florida RPC	4
Treasure Coast RPC	4

PS-4 - Investigate and recommend funding alternatives for the upgrading of Wastewater Treatment Plants (WWTPs).

FDEP	4
------	---

PS-5 - Investigate alternatives to deep-well disposal of domestic wastewater and industrial effluents.

FDEP	1
------	---

On-Site Sewage Disposal Systems

OSDS-1 - Complete or continue projects related to OSDS in the 1994 SWIM plan update and the IRL Act.

East Central Florida RPC	3
Treasure Coast RPC	4
Volusia County	4
Brevard County	2
Indian River County	2
St. Lucie County	4
Martin County	2

OSDS-2 - Develop and implement a program to inspect OSDS.

East Central Florida RPC	0
Treasure Coast RPC	0
Volusia County /CPHU	0
Brevard County /CPHU	0
Indian River County /CPHU	4
St. Lucie County /CPHU	0
Martin County /CPHU	0

OSDS-3 - Undertake further studies of OSDSs in the IRL region to quantify the impact of OSDS on the lagoon and further refine the extent of "problem" and "potential problem" areas.

USEPA	4
-------	---

Freshwater and Stormwater Discharges

FSD-1 - Complete or continue the diagnostic, management or feasibility projects related to freshwater or stormwater discharges found in the 1994 IRL-SWIM Plan update.

SJRWMD	4
SFWMD	3

FSD-2 - Implement the NPDES non-point source (stormwater) permitting program throughout the Indian River Lagoon region.

USEPA	2
FDEP	2

FSD-3 - Develop and implement pollutant load reduction goals (PLRGs) for all areas of the Indian River Lagoon.

SJRWMD	1
SFWMD	2
East Central Florida RPC	4
Treasure Coast RPC	0

FSD-4 - Develop and implement new or improved best management practices (BMPs) for management of freshwater discharges or stormwater management.

NRCS	0
FDEP	4
SJRWMD	4
SFWMD	4
VOLUSIA COUNTY	0
Edgewater	4
New Smyrna	DNR
Oak Hill	DNR
BREVARD COUNTY	4

Cape Canaveral	4
Cocoa	4
Cocoa Beach	4
Indian River	0
Indian Harbor Beach	0
Malabar	DNR
Melbourne	4
Melbourne Beach	4
Melbourne Village	0
Palm Bay	DNR
Palm Shores	0
Rockledge	4
Satellite Beach	4
Titusville	4
West Melbourne	0
INDIAN RIVER COUNTY	4
Fellsmere	DNR
Indian River Shores	0
Sebastian	0
Vero Beach	0
ST. LUCIE COUNTY	4
Fort Pierce	0
Port St. Lucie	4
St. Lucie Village	4
MARTIN COUNTY	0
Sewall's Point	0
Stuart	0

FSD-5 - Develop a comprehensive drainage map of the Indian River Lagoon basin.

SJRWMD	2
SFWMD	4
Melbourne Tillman WCD	U
Fellsmere WCD	U
Fort Pierce Farms WCD	U
North St. Lucie River WCD	U
Indian River Farms Drainage District	U
VOLUSIA COUNTY	3
Edgewater	3
New Smyrna	DNR
Oak Hill	DNR
BREVARD COUNTY	3
Cape Canaveral	3
Cocoa	3
Cocoa Beach	3
Indian River	3
Indian Harbor Beach	3
Malabar	DNR
Melbourne	3
Melbourne Beach	3

Melbourne Village	0
Palm Bay	DNR
Palm Shores	3
Rockledge	3
Satellite Beach	3
Titusville	3
West Melbourne	3
INDIAN RIVER COUNTY	3
Fellsmere	DNR
Indian River Shores	3
Sebastian	3
Vero Beach	3
ST. LUCIE COUNTY	3
Fort Pierce	3
Port St. Lucie	3
St. Lucie Village	3
MARTIN COUNTY	0
Sewall's Point	3
Stuart	3

FSD-6 - Reduce the impacts of muck (ooze) on the Indian River Lagoon.

SJRWMD	3
SFWMD	3

FSD-7 - Amend local government comprehensive plans or land development regulations to reduce the impact of development on the various resources of the IRL.

East Central Florida RPC	2
Treasure Coast RPC	0

FSD-8 - Enact legislation allowing the use of state revolving trust fund monies for non-point source control projects, such as freshwater and stormwater discharge management.

Florida Legislature	4
IRLNEP+	
Interest groups	

FSD-9 - Investigate the potential of strengthening existing stormwater or freshwater discharge management programs.

FDEP	3
East Central Florida RPC	0
Treasure Coast RPC	0

FSD-10 - Encourage the proper use of fertilizers, herbicides, and pesticides.

Univ. of Florida IFAS's Florida Yards & Neighborhoods (FYN)	1
---	---

FSD-11 - Educate residents and property owners about the impacts of freshwater and stormwater discharges on the Indian River Lagoon and what they can do to reduce these impacts.

SJRWMD	2
SFWMD	2

FSD-12 - Undertake a review of the plan of reclamation, standard operating procedures and project works of each large drainage system. Develop strategies to reduce discharges into the Indian River Lagoon.

Melbourne- Tillman WCD	4
Fellsmere WCD	3
Fort Pierce Farms WCD	3
North St. Lucie River WCD	4
Indian River Farms WCD	4
Sebastian River WCD	DNR

FSD-13 - Upgrade existing stormwater systems.

East Central Florida RPC	4
Treasure Coast RPC	4
VOLUSIA COUNTY	4
Edgewater	4
New Smyrna	DNR
Oak Hill	DNR
BREVARD COUNTY	4
Cape Canaveral	4
Cocoa	4
Cocoa Beach	4
Indian River	3
Indian Harbor Beach	4
Malabar	DNR
Melbourne	3
Melbourne Beach	2
Melbourne Village	0
Palm Bay	DNR
Palm Shores	2
Rockledge	4
Satellite Beach	4
Titusville	4
West Melbourne	2
INDIAN RIVER COUNTY	3

Fellsmere	DNR
Indian River Shores	3
Sebastian	2
Vero Beach	2
ST. LUCIE COUNTY	3
Fort Pierce	3
Port St. Lucie	2
St. Lucie Village	3
MARTIN COUNTY	2
Sewall's Point	4
Stuart	4

FSD-14 - Develop appropriate mechanisms to fund and undertake the operation, maintenance and improvement of stormwater management systems.

DCA	0
East Central Florida RPC	4
Treasure Coast RPC	0
VOLUSIA COUNTY	4
Edgewater	4
New Smyrna	DNR
Oak Hill	DNR
BREVARD COUNTY	4
Cape Canaveral	0
Cocoa	3
Cocoa Beach	4
Indialantic	0
Indian Harbor Beach	3
Malabar	DNR
Melbourne	2
Melbourne Beach	0
Melbourne Village	0
Palm Bay	DNR
Palm Shores	0
Rockledge	1
Satellite Beach	4
Titusville	2
West Melbourne	4
INDIAN RIVER COUNTY	2
Fellsmere	DNR
Indian River Shores	2
Sebastian	2
Vero Beach	1
ST. LUCIE COUNTY	2
Fort Pierce	0
Port St. Lucie	2
St. Lucie Village	0
MARTIN COUNTY	4
Sewall's Point	2
Stuart	4

Marina and Boat Impacts

MB-1 - Develop and implement an incentive program promoting the implementation of improved marina operating practices. Explore the feasibility and need for developing a marina operating permit.

FDEP	4
------	---

MB-2 - Complete and implement boat facility siting plans.

VOLUSIA COUNTY	4
Edgewater	4
New Smyrna	DNR
Oak Hill	DNR
BREVARD COUNTY	4
Cape Canaveral	1
Cocoa	1
Cocoa Beach	1
Indialantic	0
Indian Harbor Beach	1
Malabar	DNR
Melbourne	2
Melbourne Beach	0
Melbourne Village	0
Palm Bay	DNR
Palm Shores	0
Rockledge	1
Satellite Beach	2
Titusville	0
West Melbourne	0
INDIAN RIVER COUNTY	4
Fellsmere	DNR
Indian River Shores	0
Sebastian	0
Vero Beach	0
ST. LUCIE COUNTY	2
Fort Pierce	4
Port St. Lucie	0
St. Lucie Village	0
MARTIN COUNTY	1
Sewall's Point	0
Stuart	2

MB-3 - Increase protection of IRL resources from oil spills.

FDEP	4
USFWS	4

MB-4 - Reduce the impact of in-water hull-cleaning activities.

Sea Grant	0
-----------	---

MB-5 - Require mandatory education for owners and operators of boats and personal watercraft.

FDEP	U
------	---

MB-6 - Improve enforcement of boating safety and resource protection regulations through an improved Florida Marine Patrol presence.

FDEP reports that the level of FMP officers is insufficient to effectively enforce boating safety and resource protection, and no changes are anticipated in the level of funding for officers from the legislature.

MB-7 - Minimize impacts of waste discharges and marine sanitation devices (MSDs) on the public health and IRL resources.

FDEP	2
East Central Florida RPC	4
Treasure Coast RPC	0
VOLUSIA COUNTY	2
Edgewater	0
New Smyrna	DNR
Oak Hill	DNR
BREVARD COUNTY	2
Cape Canaveral	0
Cocoa	0
Cocoa Beach	0
Indialantic	0
Indian Harbor Beach	2
Malabar	DNR
Melbourne	0
Melbourne Beach	0
Melbourne Village	U
Palm Bay	DNR
Palm Shores	4
Rockledge	0
Satellite Beach	U
Titusville	2
West Melbourne	0
INDIAN RIVER COUNTY	4
Fellsmere	DNR
Indian River Shores	0
Sebastian	0
Vero Beach	2

ST. LUCIE COUNTY	0
Fort Pierce	2
Port St. Lucie	0
St. Lucie Village	0
MARTIN COUNTY	0
Sewall's Point	0
Stuart	4

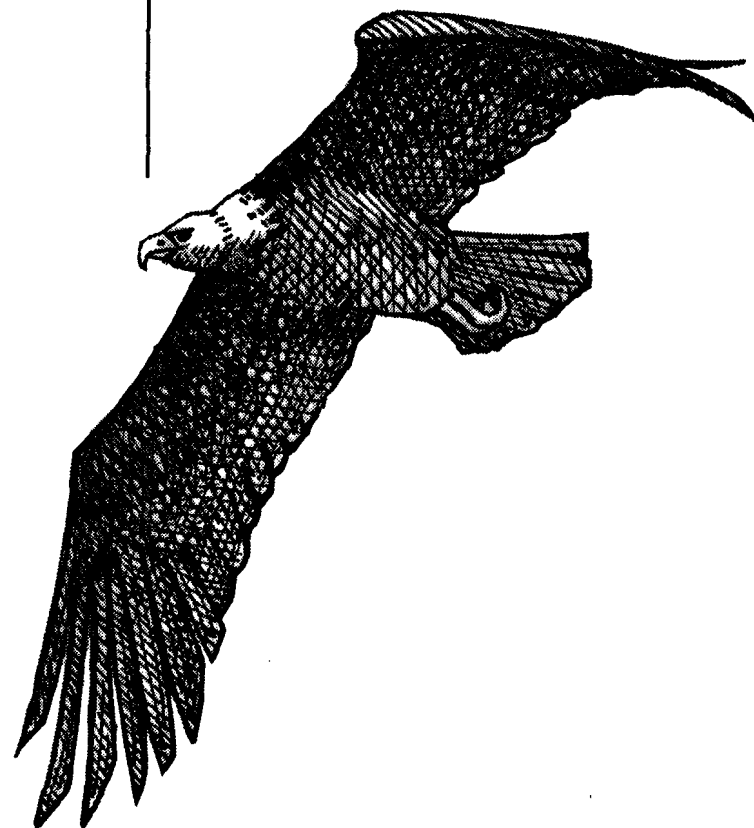
MB-8 - Establish resource protection zones in the IRL.

FDEP	2
East Central Florida RPC	2
Treasure Coast RPC	0
VOLUSIA COUNTY	0
Edgewater	0
New Smyrna	DNR
Oak Hill	DNR
BREVARD COUNTY	4
Cape Canaveral	2
Cocoa	2
Cocoa Beach	0
Indianalantic	2
Indian Harbor Beach	0
Malabar	DNR
Melbourne	0
Melbourne Beach	0
Melbourne Village	0
Palm Bay	DNR
Palm Shores	0
Rockledge	2
Satellite Beach	2
Titusville	2
West Melbourne	0
INDIAN RIVER COUNTY	2
Fellsmere	DNR
Indian River Shores	0
Sebastian	0
Vero Beach	0
ST. LUCIE COUNTY	0
Fort Pierce	0
Port St. Lucie	0
St. Lucie Village	0
MARTIN COUNTY	4
Sewall's Point	0
Stuart	2

Atmospheric Deposition

AD- 1 Determine the impacts of atmospheric deposition of pollutants on water quality and resources in the IRL.

USEPA	0
-------	---



Primary responsible agencies ranked: FDEP, RPCs, IRLNEP+, Volusia, Brevard, Indian River, St. Lucie and Martin counties. Please refer to this section's ranking and summarization text for the ranking information.

CCMP Action	Agency Activities (i.e. masterplan)	Obstacles & Solutions	Successes Stories & Partnership Opportunities
<p>PS-1 Ensure compliance with the Indian River Lagoon Act (Chapter 90-262, Laws of Florida). (FDEP, RPCs, IRLNEP+, counties)</p>	<p><i>How many WWTPs lagoon-wide have permitted "wet weather" discharges? What is the total reported volume lagoon-wide from these "wet weather" discharges?</i></p> <p>FDEP: 26 WWTPs have permitted wet weather discharge, with a total volume of 2.55 mgd.</p> <p><i>How often are WWTPs in the IRL region inspected by FDEP to ensure compliance with rules and permit conditions?</i></p> <p>FDEP: Bi-annual.</p> <p><i>How many applications for new or expanded industrial discharges have been approved?</i></p> <p>FDEP: 1.</p> <p><i>How many WWTP exceptions or variances to the IRL Act have been granted?</i></p> <p>FDEP: Six were requested and 6 were granted exceptions or variances.</p> <p><i>Have you made efforts to monitor and/or prevent changes to the IRL Act that would reduce the Act's effectiveness?</i></p> <p>FDEP: No. Not aware of any attempts to change the IRL Act.</p> <p><i>In response to the requirements of the IRL act, in 1991 FDEP identified 152 package WWTPs ("threat facilities") as a threat to the water quality of the IRL. Has FDEP 'Water Quality Threats Report' been updated since 1991?</i></p>		

CCMP Action

Agency Activities
(i.e. masterplan)

Obstacles & Solutions

Successes Stories &
Partnership Opportunities

FDEP: Yes.

Has the number of "threat facilities" increased or decreased since 1991?

FDEP: Decreased.

Have new 'threat facilities' been constructed since 1991?

FDEP: No.

Have model goals, objectives, or policies supporting the implementation of the IRL Act been developed for inclusion in regional and local government comprehensive growth management plans?

ECFRPC: Yes. SRPP policy 4.9.

TCRPC: Yes.

Volusia County: Yes.

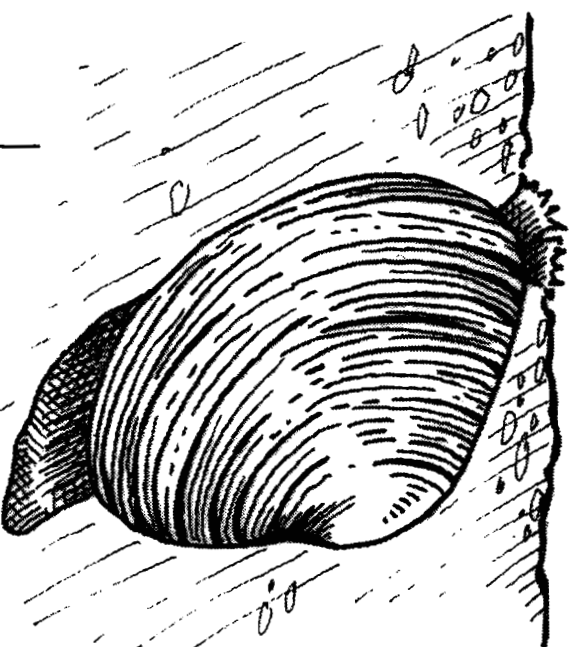
Edgewater: Yes.

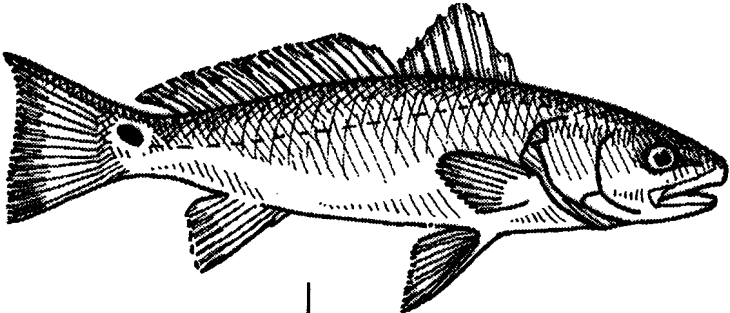
New Smyrna Beach : Did not respond to survey.

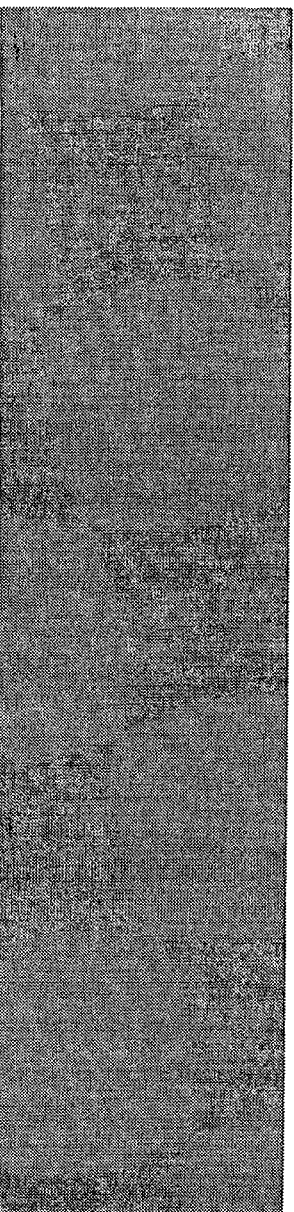
Oak Hill: Did not respond to survey.

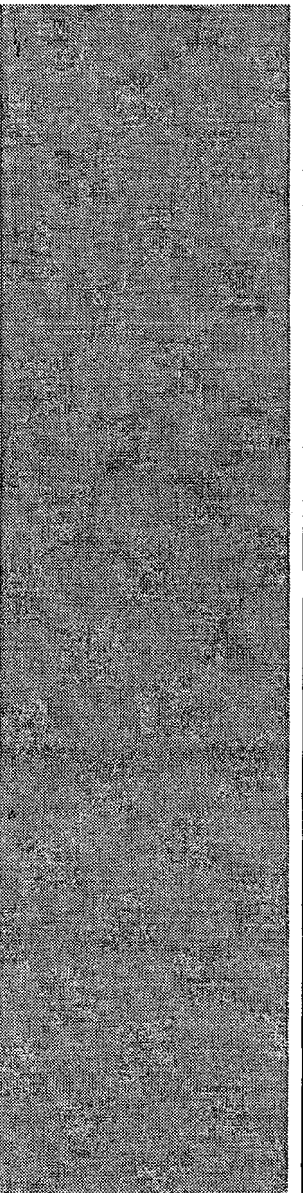
Brevard County: No.

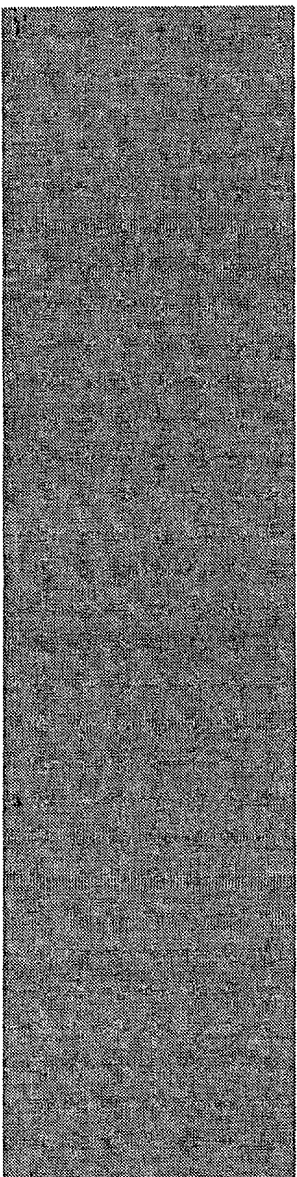
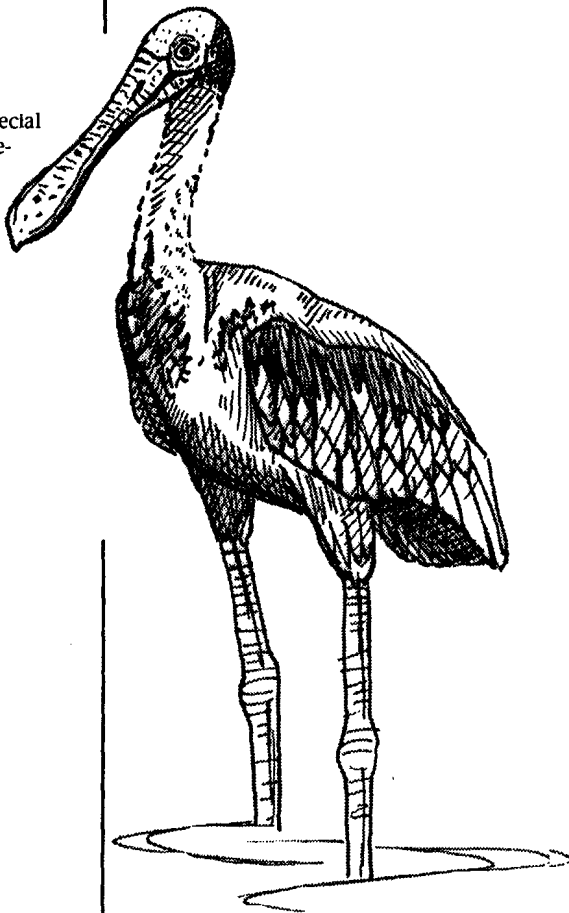
FDEP: IRL Act did not delegate authority to FDEP to enforce compliance, particularly in the case of connection of threat facilities to regional sanitary sewer systems. In situations where the threat facilities are in compliance with FDEP rules, we can only encourage regional systems to provide sewer lines for connection and convince owners to connect. To date, no actions have been taken to overcome this. However, legislative action may be required to adequately address this issue.

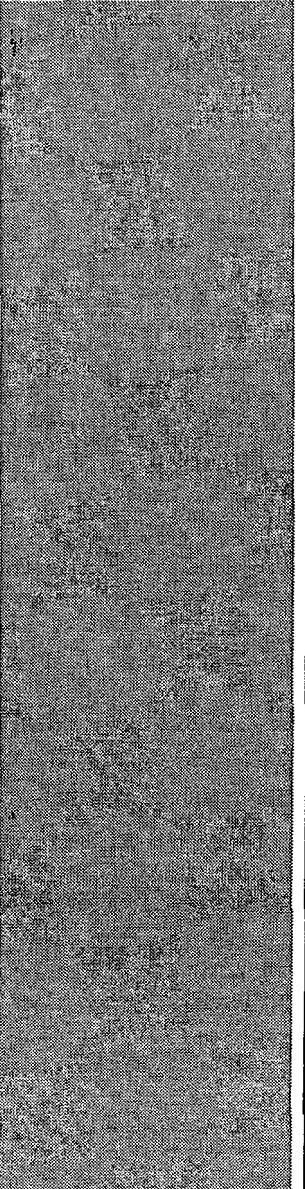


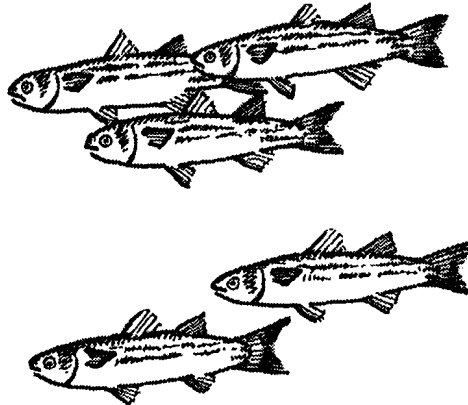
CCMP Action	Agency Activities (i.e. masterplan)	Obstacles & Solutions	Successes Stories & Partnership Opportunities
	<p>Cape Canaveral: Yes.</p> <p>Cocoa: Yes.</p> <p>Cocoa Beach: Yes.</p> <p>Indialantic: Not applicable.</p> <p>Indian Harbor Beach: Not applicable.</p> <p>Malabar: Did not respond to survey.</p> <p>Melbourne: No, although we are in compliance.</p> <p>Melbourne Beach: Not applicable.</p> <p>Melbourne Village: No.</p> <p>Palm Bay: Did not respond to survey.</p> <p>Palm Shores: Yes.</p> <p>Rockledge: Yes.</p> <p>Satellite Beach: Yes.</p> <p>Titusville: No.</p> <p>West Melbourne: Yes.</p> <p>Indian River County: Yes.</p> <p>Fellsmere: Did not respond to survey.</p> <p>Indian River Shores: Yes.</p> <p>Sebastian: Yes.</p> <p>Vero Beach: No.</p>	<p>Cocoa Beach: Actions will be given to comprehensive plan consultants and LPA to incorporate into current comprehensive plan update. Many of the concepts are in the draft although exact IRLCCMP language is not incorporated to date.</p>	
		<p>Vero Beach: Our plan was completed prior to the Act and has not been amended relative to compliance.</p>	

CCMP Action	Agency Activities (i.e. masterplan)	Obstacles & Solutions	Successes Stories & Partnership Opportunities
	<p>St. Lucie County: Yes.</p> <p>Fort Pierce: Yes.</p> <p>Port St. Lucie: No response.</p> <p>St. Lucie Village: No.</p> <p>Martin County: Yes.</p> <p>Sewall's Point: Yes.</p> <p>Stuart: Yes, refers to the IRL Act and SWIM Plan.</p> <p><i>Pursuant to the IRL Act, have plans been developed to connect "threat" facilities to centralized collection systems?</i></p> <p>Volusia County: Yes, New Smyrna Beach and Sugar Hill Mobile Home Park were identified as "threat" facilities and plans have been developed to connect. The County is in the process of permitting a SE Regional Wastewater Treatment Facility in Oak Hill. This would close out 2, possibly 3 package plants. However, those plants are not on the "threat" list. New Smyrna Beach also has plans for a wastewater treatment facility.</p> <p>Edgewater: Not applicable. No threat facilities.</p> <p>New Smyrna Beach: Did not respond to survey.</p> <p>Oak Hill: Did not respond to survey.</p> <p>Brevard County: No. There have been 28 "threat" facilities identified, but no plans have been developed to connect them to a centralized collection system.</p> <p>Cape Canaveral: Not applicable. No threat facilities.</p> <p>Cocoa: Not applicable. No threat facilities.</p> <p>Cocoa Beach: Not applicable. No threat facilities.</p> <p>Indian River: Not applicable. No threat facilities.</p>	<p>Brevard County: Since the County cannot require connection to regional wastewater facilities, it has not developed a specific, formal plan.</p>	

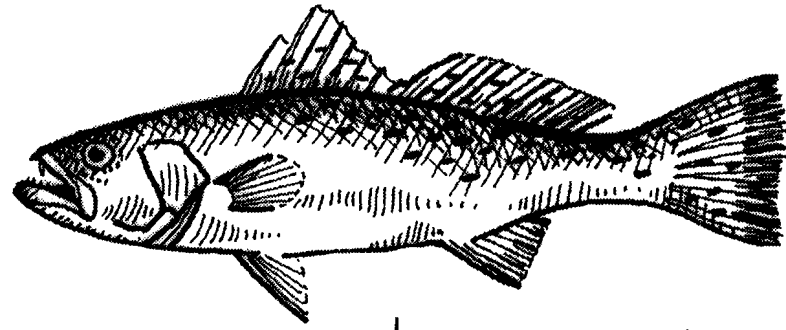
CCMP Action	Agency Activities (i.e. masterplan)	Obstacles & Solutions	Successes Stories & Partnership Opportunities
	<p>Indian Harbor Beach: Not applicable. No threat facilities.</p> <p>Malabar: Did not respond to survey.</p> <p>Melbourne: One Beachside Plant was identified as a "threat" facility. City was compliant, per discussion with SJRWMD personnel.</p>	<p>Melbourne: Reverse Osmosis (R.O.) concentrate is classified as an industrial wastewater. Therefore, our proposed discharge can be seen to conflict the IRL act. Discharge of R.O. concentrate is a perplexing issue. On one hand, there is great concern about discharge to surface water, in this case to the IRL. On the other hand, the CCMP also includes identifying alternatives to deep well disposal. Our goal is to continue to provide an adequate supply, of high quality water to meet existing and projected demand in our service area.</p>	
	<p>Melbourne Beach: Not applicable. No threat facilities.</p> <p>Melbourne Village: Not applicable. No wastewater system.</p> <p>Palm Bay: Did not respond to survey.</p> <p>Palm Shores: No.</p> <p>Rockledge: No.</p> <p>Satellite Beach: Not applicable. No threat facilities.</p> <p>Titusville: No response.</p> <p>West Melbourne: Not applicable. No threat facilities.</p> <p>Indian River County: "Threat" facilities have been identified and plans are being developed to connect.</p> <p>Fellsmere: Did not respond to survey.</p> <p>Indian River Shores: Not applicable. No threat facilities.</p> <p>Sebastian: Not applicable. No threat facilities.</p> <p>Vero Beach: Not applicable. No threat facilities.</p> <p>St. Lucie County: "Threat" facilities have been identified and</p>		

CCMP Action	Agency Activities (i.e. masterplan)	Obstacles & Solutions	Successes Stories & Partnership Opportunities
	<p>plans are being developed to connect.</p> <p>Fort Pierce: Not applicable.</p> <p>Port St. Lucie: No response.</p> <p>St. Lucie Village: Not applicable. No threat facilities.</p> <p>Martin County: "Threat" facilities have been identified and plans are being developed to connect.</p> <p>Sewall's Point: "Threat" facilities have been identified and plans are being developed to connect.</p> <p>Stuart: No.</p>	<p>Stuart: Lack of public support for special assessment districts for central waste-water utilities remains an obstacle. There should be more effort toward general public education and information given to affected groups.</p>	
	<p><i>How many of these "threat" facilities have been connected and how many have not?</i></p> <p>Volusia County: Refer to the City of New Smyrna Beach.</p> <p>New Smyrna Beach: Did not respond to survey.</p> <p>Brevard County: Ten "threat" facilities have been connected (nine to "non-threat" facilities, one to a "threat" facility and 18 remain in service).</p> <p>Cocoa Beach: No response.</p> <p>Melbourne: One "threat" facility has been connected. No "threat" facilities remain.</p> <p>Titusville: No response.</p> <p>Indian River County: 64 threat facilities have been connected. One remaining package plant is scheduled to be decommissioned within 6 months.</p>		

CCMP Action	Agency Activities (i.e. masterplan)	Obstacles & Solutions	Successes Stories & Partnership Opportunities
	<p>St. Lucie County: 21 threat facilities have been connected to centralized collection systems. 2 have not been connected.</p> <p>Port St. Lucie: No response.</p> <p>Martin County: Two threat facilities have been connected to centralized collection systems. Four have not been connected.</p> <p>Sewall's Point: Two threat facilities have been connected to centralized collection systems. No "threat" facilities remain</p> <p><i>Has a schedule for connecting the remaining "threat" facilities to centralized connection systems been included in your comprehensive growth management plan?</i></p> <p>Volusia County: Refer to the City of New Smyrna Beach.</p> <p>New Smyrna Beach: Did not respond to survey.</p> <p>Brevard County: No.</p>	<p>Martin County: Most of the identified plants (WWTP) that still discharge to the IRL are under jurisdiction of local municipality and therefore outside control of the County. Local municipalities need to be encouraged to connect these systems to a central collection</p> <p>Brevard County: Lack of funding is an impediment to all corrective measures. Studies such as the USEPA funded effort to model the effects of septic tanks on the lagoon are needed to evaluate whether sewerage is more cost effective than other corrective actions. Completion of septic tank modeling effort (see above). Additional information the impacts of septic systems, percolation ponds etc., on groundwater and surface waters. There is no clear understanding of the impacts from septic tanks on the waters of the lagoon. Costs of retrofitting areas with central sewers are high, but the cost effectiveness of sewerage compared to other actions, such as stormwater improvements, is not known. FDEP has not required threat facilities to connect to non-threat facilities. Absent compelling environ-</p>	

CCMP Action	Agency Activities (i.e. masterplan)	Obstacles & Solutions	Successes Stories & Partnership Opportunities
<p>PS-2 Prevent changes to the IRL Act that would reduce its effectiveness. (FDEP, RPCs, IRLNEP+, counties)</p> <p>PS-3 Reduce or eliminate industrial discharges to the IRL. (FDEP, RPCs)</p>	<p>St. Lucie County: Yes.</p> <p>Port St. Lucie: No response.</p> <p>Martin County: No.</p> <p>Sewall's Point: No.</p> <p>Stuart: Yes, city has stormwater utility in place with master plan and is addressing all points of discharge.</p> <p><i>Have you made efforts to monitor and/or prevent changes to the IRL Act that would reduce the Act's effectiveness?</i></p> <p>FDEP: No. Not aware of any attempts to change the IRL Act.</p> <p><i>Has research been conducted investigating the impact of discharge from Reverse Osmosis water treatment plants on the resources of the IRL or other estuaries?</i></p> <p>FDEP: Yes.</p> <p><i>What is the total number of WWTPs discharging to the IRL? What is the total (mgd) of wastewater discharged to the IRL by WWTPs lagoon-wide projected for '98?</i></p> <p>FDEP: There are 31 WWTPs discharging into the IRL, with a total of 1,731.004 mgd in wastewater projected.</p>	<p>mental justification and/or regulatory requirements, facility improvements are unlikely.</p> <p>Martin County: Most of the identified plants (WWTPs) that still discharge to the IRL are under jurisdiction of local municipalities and therefore are outside the control of the county. Local municipalities need to be encouraged to connect these systems to a central collection system.</p>	 <p>FDEP: An ionic balance study, known as the Mickley Study, resulted in the development of protocols to identify toxicity due to factors other than ionic imbalance.</p>

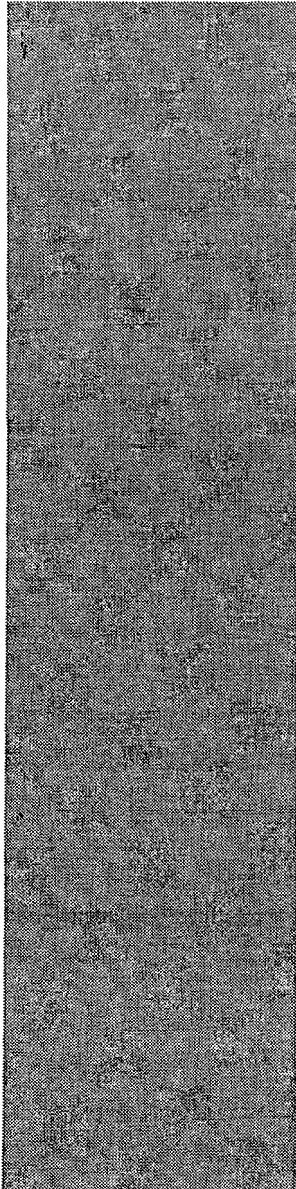
CCMP Action	Agency Activities (i.e. masterplan)	Obstacles & Solutions	Successes Stories & Partnership Opportunities
<p>PS-4 Investigate and recommend funding alternatives for upgrading of Wastewater Treatment Plants (WWTPs). (FDEP)</p> <p>PS-5 Investigate alternatives to deep-well disposal of domestic wastewater and industrial effluents. (FDEP)</p>	<p><i>Have efforts been made to reduce or eliminate industrial discharges into the IRL?</i></p> <p>FDEP: Yes.</p> <p><i>Have policies been developed supporting the prohibition or limitation of industrial discharges for inclusion in regional or local government comprehensive growth management plans?</i></p> <p>East Central Florida RPC: Yes.</p> <p>Treasure Coast RPC: Yes.</p> <p><i>How many applications for new or expanded industrial discharges have been approved?</i></p> <p>FDEP: 1</p> <p><i>Have funding alternatives to upgrade WWTPs been researched?</i></p> <p>FDEP: Yes.</p> <p><i>Have any funds to upgrade WWTPs been secured?</i></p> <p>FDEP: Yes.</p> <p><i>For those WWTPs using deep-well injection, have any alternatives to effluent disposal been identified or developed which do not result in a discharge to the lagoon or cause negative environmental impacts?</i></p> <p>FDEP: 35 WWTPs are discharging effluent through deep-well injection. Alternatives are being developed to prevent dis-</p>	<p>FDEP: Lack economically feasible alternative to UIC. Legislative action to overcome bar-</p>	<p>FDEP: About 100 threat facilities have been regionalized.</p> <p>(NOTE: In addition to the primary agencies, all lagoon counties have developed policies in their comprehensive plans to limit or prohibit industrial discharges.)</p>

CCMP Action	Agency Activities (i.e. masterplan)	Obstacles & Solutions	Successes Stories & Partnership Opportunities
	<p>charge. UIC is only used when there is no other alternative available.</p> <p><i>For facilities using deep-well disposal, what is the percentage of reuse versus deep-well injection (reuse/deep-well)?</i></p> <p>FDEP: SED 8%; CD 0.5-2%.</p> <p><i>Have any facilities using deep-well disposal abandoned or significantly reduced this method of disposal?</i></p> <p>FDEP: No.</p>	<p>riers.</p> 	

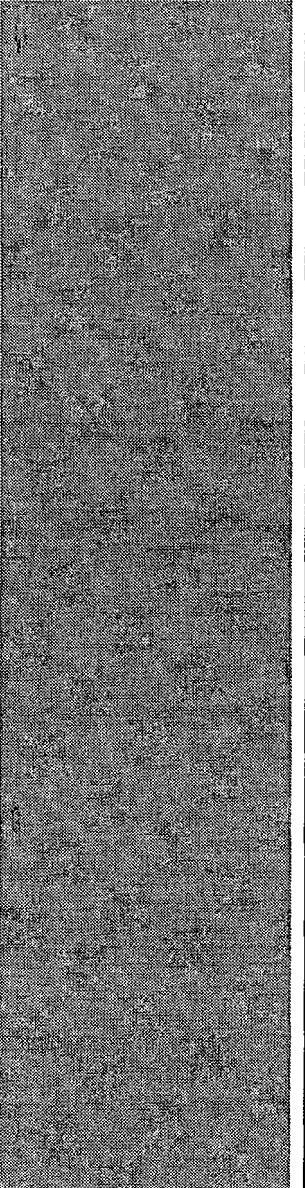
Primary responsible agencies ranked: FDEP, RPCs, IRLNEP+, Volusia, Brevard, Indian River, St. Lucie and Martin counties. Please refer to this section's ranking and summarization text for the ranking information.

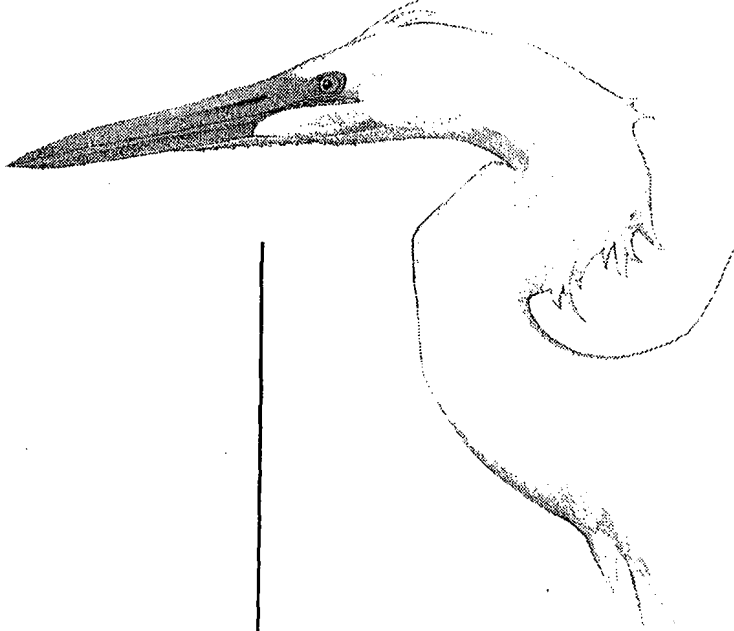
CCMP Action	Agency Activities (i.e. masterplan)	Obstacles & Solutions	Successes Stories & Partnership Opportunities
<p>OSDS-1 Complete or continue projects related to OSDS in the 1994 SWIM plan update and the IRL Act. (RPCs, counties, FDHRS and CPHUs)</p>	<p><i>Does your agency/jurisdiction provide assistance or incentives for homeowners to implement programs such as connection of septic tank areas to central sewer, removal of leaking or abandoned heating fuel oil tanks or similar environmental enhancement retrofit or upgrade projects?</i></p> <p>ECFRPC: Yes. We encourage such actions through our SRPP policies. The RPC also staffs the region's Local Emergency Planning Committee whose program includes training and public information on hazardous materials handling in Brevard County.</p> <p>TCRPC: Yes. The RPC works with local governments and private developers to make them aware of existing programs, this occurs through community design charities and activities associated with the Eastward Ho! Program. Assistance is indirect.</p> <p>FDEP: Yes. FDEP provides low interest loans through the SRF for planning, designing, and constructing stormwater and wastewater projects. Projects eligible for SRF loans include new construction and improvements to sewer systems, sewage pump stations, sewage treatment facilities and reclaimed water reuse facilities.</p> <p>Volusia County: Yes. Limited CBDG funds have been used in the past to assist with on-site/private costs for qualified applicants. The Soil & Water Conservation District has a program to remove unused oil from heating fuel oil tanks free of cost to the owner.</p> <p>Brevard County: No.</p> <p>Indian River County: No.</p> <p>St. Lucie County: Yes. The County operates a storage facility for household generated hazardous waste and participates in the state sponsored "Amnesty Days" program. The County also provides assistance in the form of information regarding the proper storage and disposal of hazardous waste materials.</p>	<p>ECFRPC: Cost to individual homeowners to connect to community systems can be prohibitive. As a regional planning organization, we are not able to provide direct assistance or incentives.</p> <p>TCRPC: Lack of funding.</p> <p>Brevard County: Existing sewer customers do not subsidize costs of connecting future customers.</p> <p>Indian River County: Lack of a dedicated funding source.</p>	

CCMP Action	Agency Activities (i.e. masterplan)	Obstacles & Solutions	Successes Stories & Partnership Opportunities
	<p>Martin County: Yes.</p> <p><i>Have funding sources to address 'problem areas' and to centralize sewer connections been identified?</i></p> <p>ECFRPC: No.</p> <p>TCRPC: Yes. Programs sponsored by USEPA and FDEP.</p> <p><i>Have policies been developed and/or implemented to address identified on-site sewage disposal system problem areas in the IRL region?</i></p> <p>ECFRPC: Yes. SRPP policy 4.6,4.9.</p> <p>TCRPC: Yes. SRPP Policy 6.33.1.</p> <p><i>Pursuant to the IRL Act, studies were performed by counties of septic usage throughout the IRL basin. As a result of this or other studies, are there identified OSDS (septic tank) "problems" within your jurisdiction?</i></p> <p>Volusia County: Yes.</p> <p>Brevard County: Yes.</p> <p>Indian River County: Yes.</p> <p>St. Lucie County: No.</p> <p>Martin County: Yes.</p> <p><i>Have you developed plans to connect these identified "problem" areas to centralized connection systems?</i></p> <p>Volusia County: Yes.</p> <p>Brevard County: No.</p>	<p>Volusia County: South Waterfront Park and Indian Harbor Estates have potential problems.</p>	<p>Martin County: The county provides direct low cost loans and cost share.</p>

CCMP Action	Agency Activities (i.e. masterplan)	Obstacles & Solutions	Successes Stories & Partnership Opportunities
	Indian River County: Yes.		
	St. Lucie County: Yes.		St. Lucie County: Ordinance 1-7.6-40 provides for mandatory hookups for existing on-site sewage disposal systems on Hutchinson Island to central sewerage systems.
	Martin County: Yes.		
	<i>Are plans to connect "problem" areas to central sewer included in your comprehensive growth management plan?</i>		
	Volusia County: Yes.		Volusia County Council is presently considering bids for the regional system. Construction period is projected to be 15 months.
	Brevard County: No.		
	Indian River County: Yes, 2010.		
	St. Lucie County: Yes.		
	Martin County: No.	Martin County: The Comprehensive Plan does not directly address these problem areas. Plans will be implemented within the next 10 years.	
	<i>Have funding sources to address 'problem areas' and centralize sewer connections been identified?</i>		
	Volusia County: Yes.		Volusia County: State Revolving Fund (SRF) loan funding project.
	Brevard County: Yes.		Brevard County: If sewerage is to occur, the current funding sources are from the connecting property owners assessed through MSBU's or deferred payments.
	Indian River County: No.		

CCMP Action	Agency Activities (i.e. masterplan)	Obstacles & Solutions	Successes Stories & Partnership Opportunities
<p>OSDS-2 Develop and implement a program to inspect OSDS. (EDHRS / CPHUS, RPCs)</p>	<p>St. Lucie County: Yes.</p> <p>Martin County: Yes.</p> <p><i>Is your jurisdiction undertaking enforcement actions in OSDS problem areas?</i></p> <p>Volusia County: Yes. The Health Department issues standard citations and notice of violations of FL Statutes and Administration Rules.</p> <p>Brevard County: Yes. Brevard County Code Enforcement is utilized to expedite the abatement of sanitary nuisances, primarily failing OSDS, by requiring repair and/or replacement of known failures typically reported as complaints.</p> <p>Indian River County: Yes. Repairs/upgrades to existing OSDSs and commercial/industrial uses and residential subdivisions must connect to centralized service when lines are extended within 1/4 mile of the site.</p> <p>St. Lucie County: Yes.</p> <p>Martin County: No.</p> <p><i>Have model goals, objectives or policies been developed supporting regular inspection of OSDS in the IRL region for inclusion in regional or local government comprehensive growth management plans?</i></p> <p>ECFRPC: No.</p> <p>TCRPC: No.</p>	<p>TCRPC: Lack of funding. Legislative direction for a specific agency or body is needed to accomplish the tasks.</p>	<p>St. Lucie County: Federal funding and special districts for assessment purposes funded the North and South Hutchinson Wastewater Treatment and Refuse Facilities.</p> <p>Martin County: The County has requested joint funding from FDEP and through special appropriations monies for the St. Lucie River.</p>

CCMP Action	Agency Activities (i.e. masterplan)	Obstacles & Solutions	Successes Stories & Partnership Opportunities
	<i>Does your jurisdiction have an established program to regularly inspect all types of OSDs?</i>		
	Volusia County: No.	<p>Volusia County: The Health Department should inspect these OSDs's, but does not at this time. Also, requirement for connection to septic systems is supported by a state law, which no agency is responsible for enforcing. The Health Department has removed itself from enforcement and leaves it to the utility provider.</p> <p>The County should draft a minimum standard to require connection to proper septic systems. The Health Department needs to be brought back into the enforcement loop. This is a problem throughout Florida.</p> <p>Legislators need to support funding to perform surveys of septic systems and DNA testing of surface water in the IRL.</p>	
	Brevard County: No.	<p>Brevard County: Currently there are no plans to implement a program to regularly inspect all types of OSDs.</p> <p>Limitations associated with funding, staff availability, regulatory issues, public support, and scientific documentation.</p> <p>Funding is needed to support the staff necessary to provide regular or periodic inspections; and to provide an OSDS study examining their impact on the IRL. There is not enough scientific data to sway the public's opinion to accept the costs associated with the IRL.</p> <p>More information is needed to justify the costs of converting areas on septic tanks to sewers. Absent evidence of a true threat, conversions will not occur. Aerobic systems receive annual inspection.</p>	
	Indian River County: Yes.	Indian River County: Lack of financial resources and staff. SJRWMD must provide grant funding.	
	St. Lucie County: No.	St. Lucie County: None at this time, only complaints of problem areas are inspected.	

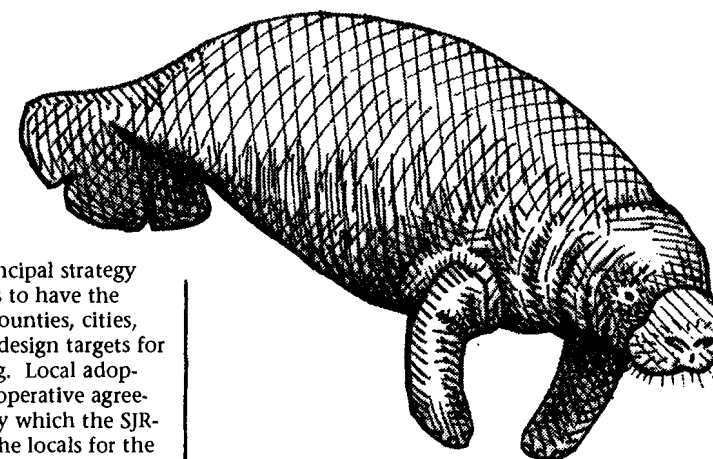
CCMP Action	Agency Activities (i.e. masterplan)	Obstacles & Solutions	Successes Stories & Partnership Opportunities
<p>OSDS-3 Undertake further studies of OSDSs in the IRL region to quantify the impact of OSDS on the lagoon and further refine the extent of "problem" and "potential problem" areas. (USEPA)</p>	<p>Martin County: No.</p> <p><i>Are these programs included or referenced in your comprehensive growth management plan?</i></p> <p>Volusia County: No.</p> <p>Brevard County: Not applicable.</p> <p>Indian River County: Yes.</p> <p>St. Lucie County: No.</p> <p>Martin County: No.</p> <p><i>Have you conducted OSDS-Nutrient Loading Studies to quantify the impacts of OSDSs to the water quality and resources of the IRL?</i></p> <p>USEPA: Yes. There have been some studies initiated, more are planned. USEPA funds studies to be implemented by IRL-NEP. A national pilot study started years ago and was halted during government shut-down and has recently been initiated again.</p>	<p>Staff and funding limitations.</p>	

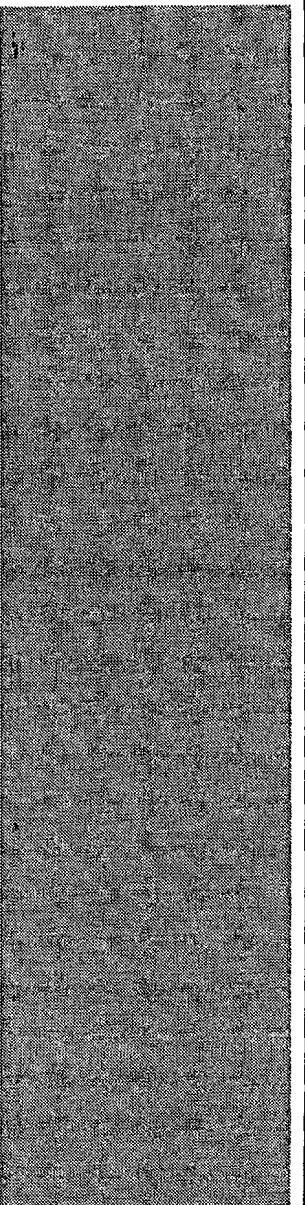
Primary responsible agencies ranked: WMDs, USEPA, FDEP, RPCs, NRCS, U-F IFAS's FYN Program, WCDs, ACOE, FDOT, DCA, Fl. Legislative Reps., IRLNEP+, interest groups, all five counties and all cities. Please refer to this section's ranking and summarization text for the ranking.

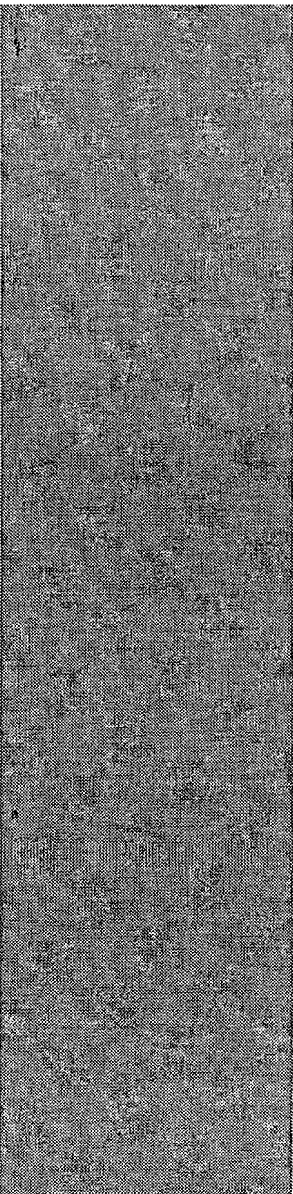
CCMP Action	Agency Activities (i.e. masterplan)	Obstacles & Solutions	Successes Stories & Partnership Opportunities
<p>FSD-1 Complete or continue the diagnostic, management or feasibility projects related to freshwater or stormwater discharges found in the 1994 IRL-SWIM Plan update. (WMDs)</p>	<p><i>Have the freshwater and stormwater discharge projects in the 1994 Surface Water Improvement and Management Program (SWIM) been implemented (Turkey Creek Watershed Management Plan, Sebastian Creek Watershed Management Plan, St. Lucie County Management Project, Martin County Management Project, St. Lucie Estuary Watershed Plan)?</i></p> <p>SJRWMD: Yes. SJRWMD is responsible for the Turkey Creek and Sebastian River Management plans, SFWMD the remainder.</p>	<p>SJRWMD: The plan elements have been initiated. Major land acquisitions are necessary to implement stormwater improvements in the City of Sebastian and Sebastian and Fellsmere WCDs. Thus far, these acquisitions have not occurred (but are being pursued). In spite of efforts, one major obstacle has and continues to hinder the District and local government efforts: the cost of acquiring sites for the construction of treatment facilities. The placement of such facilities is governed by drainage patterns, land use and size requirements. Such sites are difficult to locate. Some of the time, insufficient funds exist to acquire the needed land. Even when suitable sites are located and funding is not an issue, the price demanded by the land owners often exceeds regulation-based price thresholds imposed on state and local governments. In some cases, the land owner simply does not wish to sell. This problem has created serious setbacks in implementing plans for the City of Sebastian and the Town of Malabar, but has been of lesser hindrance to plans for the City of Palm Bay. Increased funding for site acquisition will help in some cases, but the issue of asking price exceeding the limits permitted by law needs special attention.</p>	<p>SJRWMD: The Turkey Creek plan has been under implementation since 1992/93 when SJRWMD contracted with the City of Palm Bay to initiate their municipal stormwater management plan. The municipal stormwater plans have been developed and now the SJRWMD and municipalities are working on land purchases and detailed construction designs necessary for stormwater treatment facility emplacement. Construction for the C-1 re-diversion project is underway, following a major land acquisition effort (the last 3 years). The de-mucking of Turkey Cr. will begin this fiscal year and be completed by 2001. The Sebastian River plan was initiated in the late 1980's with the plugging of the western portion of the Fellsmere Canal and the hydrologic severing of the large western half of Fellsmere WCD from the IRL basin. This was followed in the early 90's with the construction of major elements of the Upper Basin project (C-54 retention area and certain structures) that improved storage and conveyance of drainage down the Upper St. Johns River and away from St. Sebastian River and the Lagoon. Though implementation of the Turkey Creek and St. Sebastian River watershed management plans are ongoing, progress has been made and efforts are continuing in both sub-basins to reduce the amount of stormwater runoff entering these tributaries. To date, projects aimed at reducing urbanized pollutant loads and discharge rates include: City of Palm Bay; the Town of Malabar; the City of Sebastian; and</p>

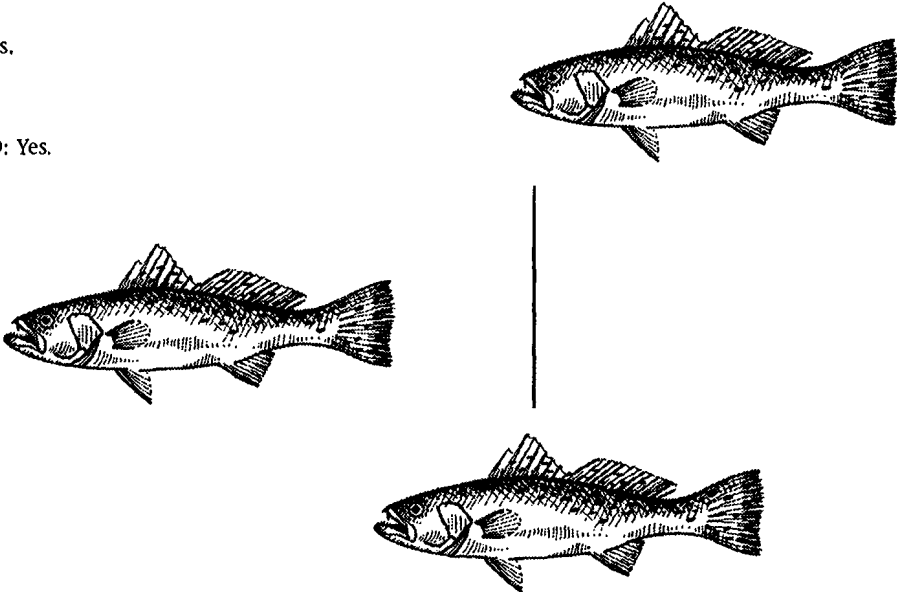
CCMP Action	Agency Activities (i.e. masterplan)	Obstacles & Solutions	Successes Stories & Partnership Opportunities
<p>FSD-2 Implement the NPDES non-point source (stormwater) permitting program throughout the Indian River Lagoon region. (USEPA and FDEP)</p>	<p>SFWMD: Yes.</p> <p><i>Has the authority for implementing NPDES program in Florida been delegated from USEPA to FDEP?</i></p> <p>USEPA: Partially.</p> <p><i>Have any counties within the IRL basin been nominated for inclusion in the NPDES program?</i></p> <p>USEPA: No.</p> <p><i>(PLEASE NOTE: In support of this action, several counties and cities have developed or are developing master stormwater management plans in anticipation of the NPDES permitting process.)</i></p>	<p>SFWMD: The only one not completed is the Floresta Pines SW retrofit. Problems with time and financial constraints experienced by St. Lucie County prevented the project from getting built.</p> <p>USEPA: Some responsibilities have been delegated, more are expected to be delegated to FDEP. Major programs are now at state level. USEPA stormwater oversees Clean Water Act policies.</p>	<p>in particular the major watershed C-1 Canal Rediversion Project. Plans are also being developed to reduce runoff volume and pollutant loads from agricultural areas. These include the acquisition of land and construction of regional detention facilities at Berry Groves & Graves Brothers with contributing drainage areas of 7,400 acres and 8,800 acres respectively.</p>

CCMP Action	Agency Activities (i.e. masterplan)	Obstacles & Solutions	Successes Stories & Partnership Opportunities
FSD-3 Develop and implement pollutant load reduction goals (PLRGs) for all areas of the Indian River Lagoon. (WMDs and RPCs)	<p><i>Have PLRGs been developed for watersheds throughout the lagoon? If yes, which basins and what is the schedule for their completion? If no, what are the obstacles preventing the development?</i></p> <p>SJRWMD: Yes/No.</p> <p>SFWMD: Yes/No.</p> <p><i>Has a schedule been determined for the development and implementation of PLRGs?</i></p> <p>SJRWMD: Yes. A development schedule, not an implementation schedule.</p> <p>SFWMD: Yes. A more detailed schedule and timeline is being developed as part of the 1999 IRL SWIM plan update.</p> <p><i>Have rules or policies needed to implement PLRGs been developed?</i></p> <p>SJRWMD: Yes/No.</p>	<p>SJRWMD: Time is needed to develop a calibrated/verified Pollutant Load Reduction (PLR) Model for the IRL. The PLR Model is scheduled for completion by 2002, after which it will be applied on a segment-by-segment basis or by sub-basin in a priority fashion. The Central IRL (South of Titusville to Sebastian Inlet including the southern Banana River) will be addressed first. PLRGs for nutrients, suspended solids and toxics are being worked on.</p> <p>SFWMD: Approximate completion date is 2003.</p> <p>SJRWMD: Presently, the principal strategy for PLRG implementation is to have the local, responsible entities (counties, cities, WCDs, etc.) adopt them as design targets for stormwater facility planning. Local adoption can be achieved via cooperative agreements with the SJRWMD, by which the SJRWMD will cost-share with the locals for the planning and construction of stormwater</p>	<p>SJRWMD: Because of immediate concerns and project design needs in the Turkey Creek and Sebastian River sub-basins, those watersheds have been assigned preliminary PLRGs.</p> <p>SFWMD: In the St. Lucie River watershed, a freshwater PLRG has been established.</p>

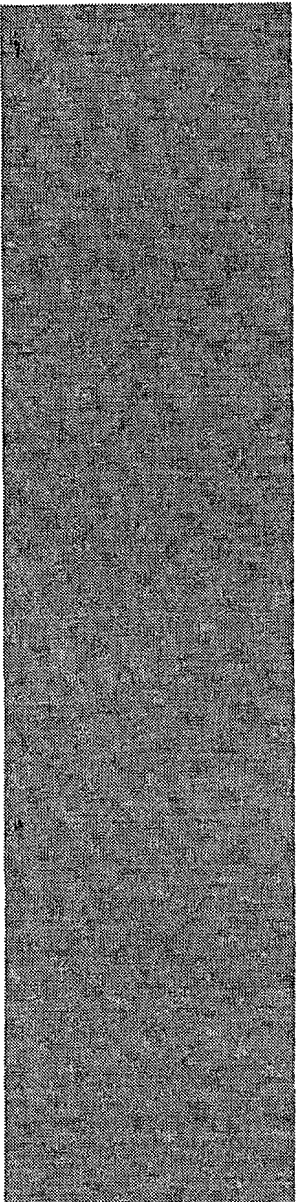


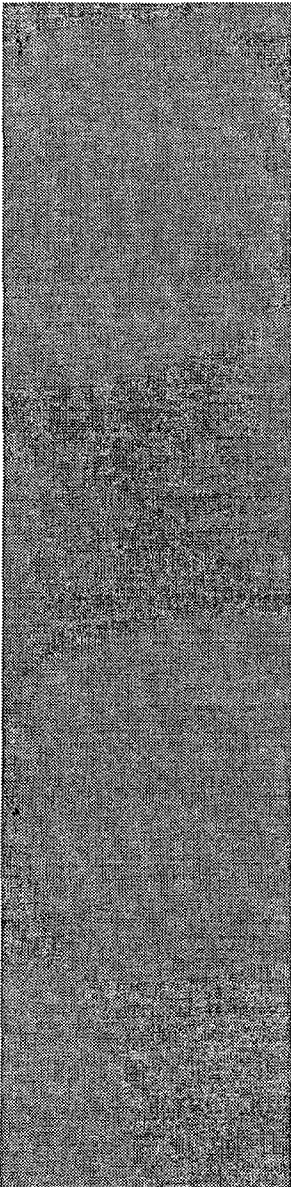
CCMP Action	Agency Activities (i.e. masterplan)	Obstacles & Solutions	Successes Stories & Partnership Opportunities
	<p>SFWMD: Yes/No.</p> <p><i>Have model goals, objectives or policies supporting the development and implementation of pollutant load reduction goals for the IRL been developed for inclusion in regional and local government comprehensive growth management plans?</i></p> <p>ECFRPC: Yes.</p> <p>TCRPC: No.</p> <p>DCA: Not by this department, however, individual local governments are submitting amendments to this effect.</p> <p><i>Has your agency or jurisdiction undertaken any research or pilot projects to develop and test new or revised BMPs?</i></p>	<p>drainage and treatment projects, both small-scale and regional in scale. This is not a formal policy per se, and certainly not part of any rulemaking, but a strategy that is working in those sub-basins where the locals are interested in cost-sharing to remediate their storm flooding while addressing stormwater quality treatment to help achieve PLRGs. In its comments on proposed amendments to local government comprehensive plans, the District discusses PLRGs and encourages local governments to amend or add policies to their plans providing for coordination with the District on the development and implementation of PLRGs. Also, the District notes cooperative efforts with local governments, involving such activities as stormwater master planning, load reduction target setting and development of stormwater BMPs, are one means of implementing PLRGs. More formal policies or rules may need to be considered for areas where such cooperative programs are not possible.</p> <p>SFWMD: Some have, others are presently being developed.</p>	<p>ECFRPC: SRPP 4.9-4.11, 4.30.</p>

CCMP Action	Agency Activities (i.e. masterplan)	Obstacles & Solutions	Successes Stories & Partnership Opportunities
	FDEP: Yes.	<p>FDEP: Lack of funding, especially the SWIM program. To establish PLRGs, field studies need to be conducted to obtain data for model input. To ensure scientific validity, detailed research proposals must be developed and funded.</p>	<p>FDEP has funded research and pilot projects focusing on dry retention, filters, baffle boxes, and agricultural BMPs. Details can be found at: www.DEF.state.fl.us/water/Slerp/Nonpoint_Stormwater</p>
	<p>SJRWMD: Yes. The SJR Water Management Plan (1994) includes a policy to evaluate the effectiveness of currently accepted BMPs and, where necessary, encourage the development of new BMPs.</p>		<p>SJRWMD has sampled water quality in selected types of stormwater management systems, including systems in the IRL basin, over a period of years and is in the process of compiling and analyzing the sampling results. Those results will be published in a technical report including recommendations. Also the District is starting a new sampling program that will focus on stormwater management systems with innovative designs and cover retrofits of existing systems as well as systems serving new development. A number of local governments in the IRL basin have received funding under the District's Stormwater Management Projects Cost-Share Program for stormwater management projects that demonstrate BMPs through construction or implementation projects which include innovative enhancements or technology (e.g., City of Cape Canaveral, City of Rockledge, City of Vero Beach, and Indian River County). The District contracted a study that was performed by Harper & Herr (1994) titled "Evaluation of Pollutant Loadings and Best Management Practices for Discharges from Primary Water Control Districts in Indian River County." The District is also currently involved in a cooperative effort with IFAS (Institute of Food and Agricultural Sciences) and the SFWMD in demonstrating fertilization and irrigation BMPs at selected farm sites within Indian River County. The BMPs focus on fertilizer application, tilling and irrigation practices that reduce nutrient loads to nearby waterways via both surface runoff and groundwater leaching. There are future plans to work with IFAS, SFWMD, and FDEP in conducting</p>

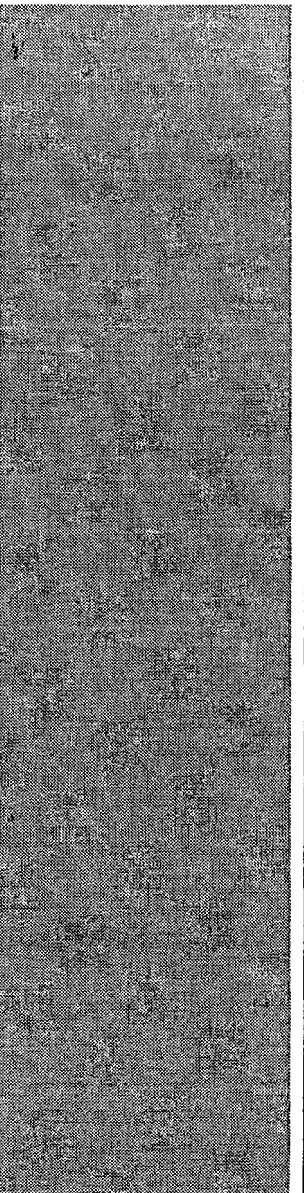
CCMP Action	Agency Activities (i.e. masterplan)	Obstacles & Solutions	Successes Stories & Partnership Opportunities
<p>FSD-4 Develop and implement new or improved best management practices (BMPs) for management of freshwater discharges or stormwater management. (WMDs, NRCS, FDEP, counties and cities)</p>	<p>SFWMD: Yes.</p> <p>NRCS: No.</p> <p><i>Has your agency or jurisdiction implemented any new or revised BMPs that were found to reduce pollutant loadings or freshwater flows?</i></p> <p>FDEP: Yes.</p> <p>SJRWMD: Yes.</p>		<p>a study to assess the degree and mechanisms of current pollutant loadings from agricultural lands, especially citrus, and how it relates to agricultural practices. The study is planned to take place within the water control districts which discharge to the St. Sebastian River, Vero canals and the St. Lucie River. The study would look at a wide range of pollutants including nutrients, metals and pesticides.</p> <p>SFWMD: We are currently working with IFAS on agricultural BMPs for nutrients and toxics. We also work with and support the Florida Yards and Neighborhoods and Mobil Irrigation labs.</p> <p>FDEP helps to develop BMPs, and then provides this information to industries, either through publications and/or training.</p> <p>SJRWMD's IRL Program has participated in several projects involving the installation of "baffle boxes" or sediment traps in a number of locations throughout the watershed, where more conventional treatment systems were not practical. Many of these baffle boxes were combined in a "treatment train" with other space-saving BMPs such as exfiltration trenches, skimmers and grassy swales. Monitoring of these BMPs indicates they are trapping a significant amount of sediments which would otherwise be discharged into the IRL. Pilot projects have also been instituted to assess the effectiveness of stormwater inlet inserts that are designed to capture floating debris and petroleum products; as well as a project to determine the effectiveness of the newest</p>

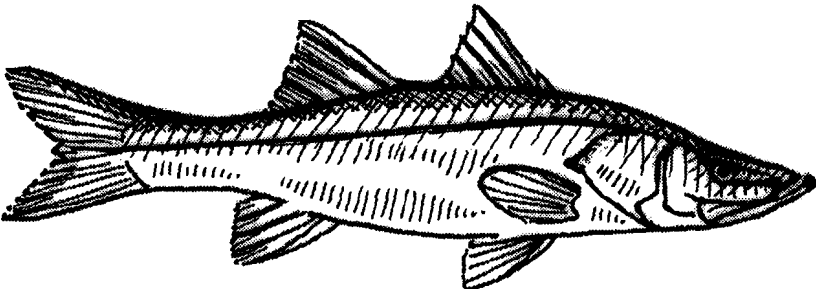
CCMP Action	Agency Activities (i.e. masterplan)	Obstacles & Solutions	Successes Stories & Partnership Opportunities
	<p>SFWMD: Yes.</p> <p>NRCS: No.</p> <p><i>Since '96, has your agency undertaken any research or pilot projects to develop and test new or revised BMPs?</i></p> <p>Volusia County: No.</p> <p>Edgewater: Yes.</p> <p>New Smyrna Beach: Did not respond to survey.</p> <p>Oak Hill: Did not respond to survey.</p> <p>Brevard County: Yes.</p>	<p>Volusia County: Lack of staff and funds.</p>	<p>generation of street sweepers that remove fine particulates and sediments from roadways before they are flushed into the IRL.</p> <p>SFWMD: We are studying and implementing changes in the regulation schedule of Lake Okeechobee and the canals that carry fresh water to the St. Lucie. We are working on the IRL feasibility study with the ACOE. We are looking into regulatory changes to help improve the quantity, timing and quality of local basin runoff. We are implementing changes in the way we deal with floating aquatic weeds upstream of our structures leading to the St. Lucie.</p> <p>Edgewater: Florida Shores Subdivision.</p> <p>Brevard County has been the leader in the search for new and innovative treatment methods, and has received some \$700,000 in grant funding to install and evaluate BMPs. Brevard County installed the first baffle box sediment removal device in East Central Florida in 1992. Based on experience from the installation, cleaning, and monitoring of this demonstration project, the design has since been modified. In order to further refine box designs, the County funded a hydraulic scale model study at Florida Institute of Technology to evaluate different design configurations. As a result of this study and installation of (30) additional boxes, the designs have been refined and</p>

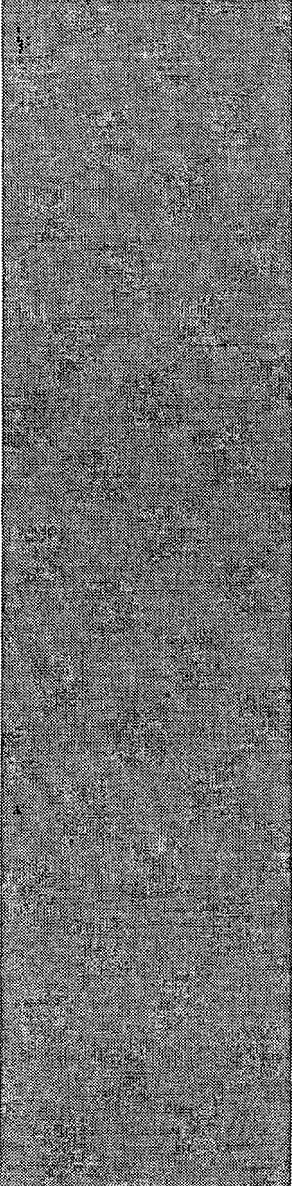
CCMP Action	Agency Activities (i.e. masterplan)	Obstacles & Solutions	Successes Stories & Partnership Opportunities
			<p>changed. The County's Surface Water Improvement program continues to install and evaluate different baffle box configurations. Brevard County has installed, evaluated and assisted in development of three different innovative stormwater inlet sediment collection devices. Moreover, several variations of oil absorbent devices have been tested in baffle boxes and inlets. Staff is currently working with a local manufacturer to develop more effective oil removal system for the different devices. To date 140 sediment removal devices have been installed in areas where no treatment previously existed and little or no land was available for other BMPs.</p> <p>The County is monitoring an on-line wet detention pond created from a canal with the addition of several weirs to retain sediment; staff is currently evaluating a representative section of exfiltration pipe (perforated pipe), which disperses stormwater through the soil for filtration and removal of pollutants.</p> <p>The County has installed and is monitoring a unique Australian designed sediment removal device, which utilizes centrifugal force to concentrate and remove sediment, as well as capture trash debris. The County has also permitted and is constructing an Alum Injection Stormwater Treatment System. Alum treatment has a long history of use in drinking water treatment. Alum Injection Systems have been successfully used in Orlando metro area to remove stormwater pollutants prior to discharge to freshwater lakes. Brevard County's treatment system will be the first application where the final discharge is to a brackish/saltwater environment. This system will be monitored as a demonstration project. Staff of the Surface Water Improvement Program are also conducting independent research to document the rate and extent that nutrients from grass clippings leach into stormwater, to aid in scheduling the cleaning of sediment and debris collection</p>

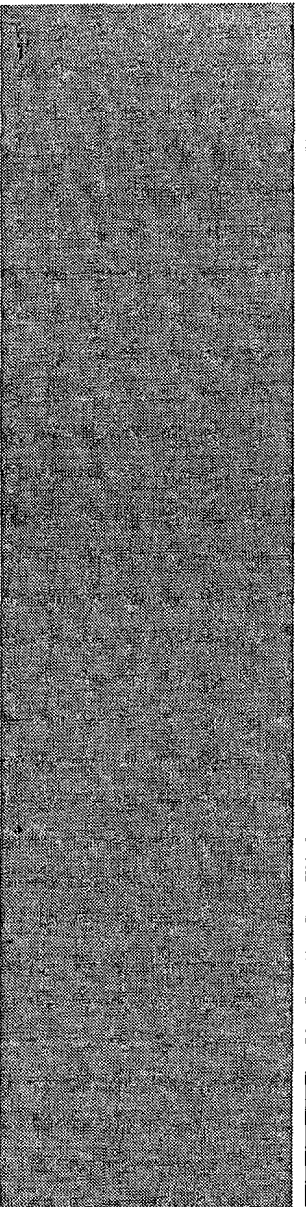
CCMP Action	Agency Activities (i.e. masterplan)	Obstacles & Solutions	Successes Stories & Partnership Opportunities
	Cape Canaveral: Yes.		devices as well as estimations of pollutant load reductions.
	Cocoa: Unknown.		Cape Canaveral: Wastewater plant upgraded to advanced treatment. Construction of city-wide reuse water program.
	Cocoa Beach: Yes.		Cocoa Beach: The City has dredged 6 canals of stormwater muck sediments, installed 8 debris collector baskets, created one small regional retention area and created approximately 400 linear feet of easement swales along residential streets. Larger regional projects will start upon completion of our master plan.
	Indialantic: No.		
	Indian Harbor Beach: No.		
	Malabar: Did not respond to survey.		
	Melbourne: Yes, baffle boxes.		
	Melbourne Beach: Yes.		
	Melbourne Village: No.		
	Palm Bay: Did not respond to survey.		
	Palm Shores: No.		
	Rockledge: Yes.		
	Satellite Beach: Yes.		
	Titusville: Yes.		
	West Melbourne: No.		
	Indian River County: Yes.		
	Fellsmere: Did not respond to survey.		
	Indian River Shores: No.		Rockledge: 3 baffle boxes installed and 3 planned for future
			Satellite Beach: Baffle box on main trunk line. Exfiltration on flood-prone street.

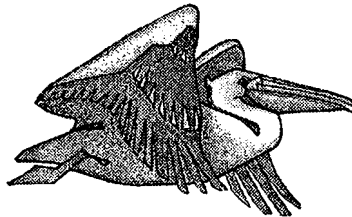
CCMP Action	Agency Activities (i.e. masterplan)	Obstacles & Solutions	Successes Stories & Partnership Opportunities
<p>FSD-5 Develop a comprehensive drainage map of the Indian River Lagoon basin (WMDs, WCDs, counties and cities)</p>	<p>Sebastian: No, except Main Street baffle boxes.</p> <p>Vero Beach: No.</p> <p>St. Lucie County: Yes.</p> <p>Fort Pierce: No.</p> <p>Port St. Lucie: Yes.</p> <p>St. Lucie Village: Yes.</p> <p>Martin County: No.</p> <p>Sewall's Point: No.</p> <p>Stuart: No.</p> <p><i>Has information developed by local governments on local drainage basins/sub-basins been incorporated into existing large-scale drainage basin maps?</i></p> <p>SJRWMD: Yes and No.</p>	<p>SJRWMD: There has not been a general, concerted effort on the part of the locals to update drainage maps and/or provide them to the SJRWMD by a certain date.</p>	<p>St. Lucie County: Pilot projects for canal retrofit involving installation of weir type structures for sediment reduction and sediment /baffle boxes installed on outfalls along Indian River Drive.</p> <p>St. Lucie Village: We installed two central control structures in two of our major ditch systems to provide some detention prior to discharging to IRL (1997).</p> <p>SJRWMD: As the SJRWMD moves into priority sub-basins to plan stormwater projects, the SJRWMD and local jurisdictions work together to develop the most current drainage maps at the level of detail necessary. At this time, it appears to be more cost-effective to prepare such maps as they are needed for planning and construction design. Proposals to develop stormwater master plans, which can serve as a data source for large-scale drainage basin maps, are specifically encouraged under the District's Stormwater Management Projects Cost-Share Program administered through the Office of Policy and Planning. The City</p>

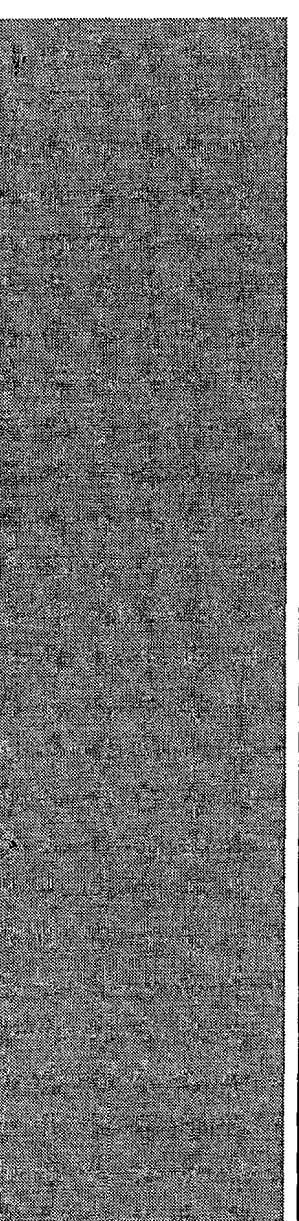
CCMP Action	Agency Activities (i.e. masterplan)	Obstacles & Solutions	Successes Stories & Partnership Opportunities
	<p>SFWMD: Yes.</p>		<p>of Cocoa Beach is one of a number of local governments in the District that has received funding under the program for stormwater master planning. Also, the District provided Brevard County \$50,000 for mapping all water bodies and drainage-related facilities in the county and will assist with quality assurance of the maps. Collection of this information is the first step in developing a county-wide stormwater master plan.</p> <p>In addition, the District encourages stormwater master planning in its comments on proposed amendments to local government comprehensive plans submitted as a part of the Chapter 163, F.S., review process. No obstacles, just a change in strategy, i.e., develop maps when needed.</p>
	<p><i>Have muck deposits in your jurisdiction been identified?</i></p> <p>SJRWMD: Yes.</p>		<p>SJRWMD: The general location and extent of muck deposits were determined by research funded by the IRL SWIM Program in the late 1980s. The general character and composition of many of these muck deposits were examined in the early 1990s through the joint funding of the NEP and SWIM Programs. The District's IRL Program has initiated a \$70,000 project to conduct a detailed characterization of the muck deposits found in the southern Banana River, Eau Gallie River, and St. Sebastian River to include bathymetric surveys, reports of the location, extent, depth and volume of deposits, and the physical and chemical make-up of the muck with estimated removal costs and spoil site construction costs.</p>
	<p>SFWMD: Yes.</p>		<p>SFWMD: They were mapped in 1988.</p>

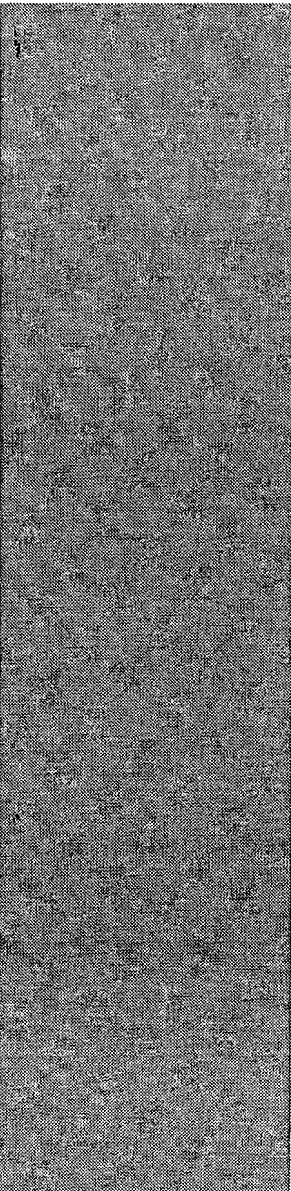
CCMP Action	Agency Activities (i.e. masterplan)	Obstacles & Solutions	Successes Stories & Partnership Opportunities
<p>FSD-6 Reduce the impacts of muck (ooze) on the Indian River Lagoon. (WMD)</p>	<p><i>Have these muck deposits been characterized and a priority for removal or management been established?</i></p> <p>SJRWMD: Yes.</p>  <p><i>Have any plans been developed for removal of muck?</i></p> <p>SFWMD: Yes. A project this year is being developed to characterize, identify and update maps of sediments in the estuary. Out of this will come information to help us manage and prioritize areas for muck removal.</p>		<p>SJRWMD: As reported in the response above, some muck deposits have been generally characterized with more detailed characterization occurring under the current \$70,000 project which will provide the rationale for prioritizing the deposits. Additional chemical and physical characterization work was accomplished as part of the post- Crane Creek muck dredging project once the muck material was removed and dried in the settling basin. The major muck deposits identified by the SJRWMD IRL-wide survey conducted in 1989/90 have been generally characterized physically and chemically. The larger deposits in the IRL have been prioritized. The Intracoastal Waterway (ICW) is one major deposit that is identified; its removal will be the joint responsibility of the U.S. Army Corps of Engineers and Florida Inland Navigation District. Other major deposits are found in tributary creek mouths and canals (Turkey Creek, Crane Creek, Eau Gallie, St. Sebastian, etc.) and these will be the joint responsibility of local jurisdictions, SJRWMD, FIND, and the Corps of Engineers where a federal project is involved. A third type of deposit is found in deep holes like causeway borrow pits, natural deep holes or holes of unknown origin. This third type still needs to be addressed, but only if de-mucking these areas would significantly benefit the Lagoon following the demucking of the larger deposits in the ICW and the tributaries.</p>

CCMP Action	Agency Activities (i.e. masterplan)	Obstacles & Solutions	Successes Stories & Partnership Opportunities
	<p>SJRWMD: Yes.</p> <p>SFWMD: Yes. Taylor Creek is the first tributary to the IRL in our District where a muck removal project plan is in the works. Removal has not yet begun.</p> <p><i>(PLEASE NOTE: A supporting agency, the Army Corps of Engineers identified activities taking place.)</i></p> <p>ACOE: Currently, there is a huge amount of public support for the IRL. ACOE is in the process of applying for a Water Quality Certificate to dredge the northern most 5 miles of the lagoon. ACOE is currently working on the environmental assessments for several Dredged Material Management Areas (DMMA) in Brevard, Indian River, and St. Lucie Counties. These DMMA's will contain the dredged material once removed from the lagoon. ACOE is working with SJRWMD, and FIND on the DMMA projects. All permits, certificates or other documents required for the dredging of the muck are being acquired and processed.</p>	<p>SJRWMD: Inadequate funding at all levels of government for characterization, plan design and construction is a limiting factor in muck removal. Availability of sufficient land in accessible locations for construction of spoil disposal sites may also be a problem at several locations.</p> <p>ACOE: Cost and disposal of dredging muck within the St. Lucie Estuary pose severe hurdles. Since muck covers a high percentage of bottom area and is highly mobile, previously dredged areas may be recovered with muck from undredged areas. The Corps of Engineers Waterways Experiment Station (WES) has raised some questions as to the immediate and long-term benefits of muck excavation. It is desired that the long term benefits be quantified, as the sources of the muck are difficult to identify. There are also some regulatory permitting issues to be resolved. Lack of funding is also a concern. Regarding muck removal: 1) Some areas may be high in contaminants; consequently, this condition can pose difficulty in finding dredged material management areas. 2) The volume of muck in the IRL, specifically, at</p>	<p>SJRWMD: Through the cooperative efforts of the District's IRL Program, FIND and local governments, plans for muck removal were developed and implemented for Crane Creek, and a muck removal plan is currently being undertaken in Turkey Creek. Also as described in questions above, the characterization of muck in the southern Banana River, Eau Gallie, and St. Sebastian Rivers will develop plans for removal of these deposits. The District is also working in cooperation with the ACOE and FIND to secure federal funding for the maintenance dredging of the ICW channel, where a majority of muck deposits are located in the IRL.</p>

CCMP Action	Agency Activities (i.e. masterplan)	Obstacles & Solutions	Successes Stories & Partnership Opportunities
		the Brevard County, Indian River County, and in connecting channels such as the North Fork of the St. Lucie Estuary, may present a disposal problem. For example, approximately 2.5 million cubic yard feet of muck would have to be removed in order to excavate the WES-recommended 2-3 feet of the material from the estuary. The cost to dredge, dewater, and dispose of SLE muck sediment with a clamshell mechanical dredge could likely be cost-prohibitive. 3) Regulatory permits would be required from the ACOE, FDEP and SJRWMD. Since the concern may be raised over the issuance of permits in the south end of the lagoon.	
	Brevard County: Yes.	Brevard County: Inadequate scientific data exists supporting water quality benefits and cost benefit of maintenance dredging without source control. The Brevard County Stormwater Utility has, therefore, concentrated on implementation of source control projects.	Brevard County has initiated canal dredging/muck removal projects.
	Cocoa Beach: Yes.	Cocoa Beach: Unfortunately, the monies do not exist for a comprehensive removal of all muck. Only the worst canals will be addressed. Options to approach this more comprehensively are being investigated.	Cocoa Beach has removed 15,000 cubic yards of muck since 1996. The original dredge list targeted only navigational concerns. As stormwater developed and the sediment was characterized, a high percentage of the sediments was found to consist of muck/storm-related sediments. So now the dredging is funded by both the Stormwater Utility and the General Fund. The General Fund funds the first five feet (for navigational benefit) and the Stormwater Utility funds any muck sediments dredged from below this datum. An ERP exists for this dredging, it is not just "maintenance dredging". This permit expires in 2003.
	<p><i>Since 1996, how many yards of muck have been removed?</i></p> <p>SJRWMD: 104,100 cubic yards.</p>		SJRWMD Demucking Projects Completed to date (1/99): Canal Street Cove, New Smyrna Beach: 1,100 cubic yards; Crane Creek,

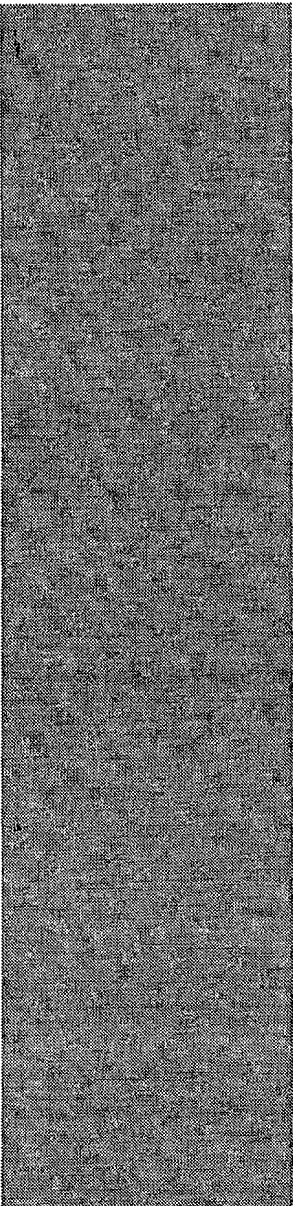
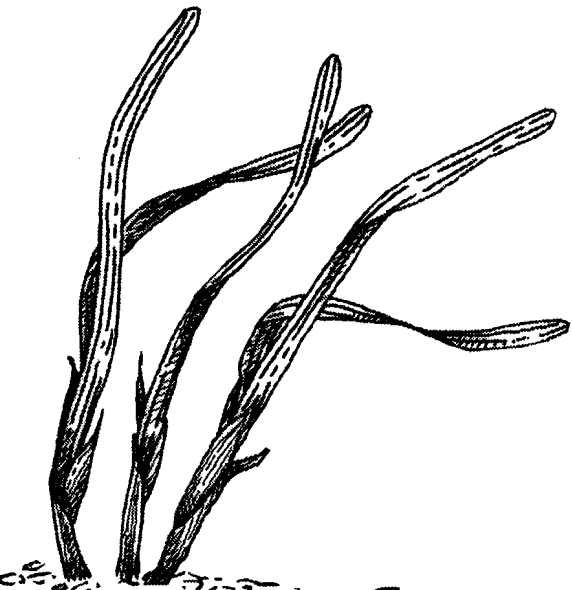
CCMP Action	Agency Activities (i.e. masterplan)	Obstacles & Solutions	Successes Stories & Partnership Opportunities
<p>FSD-7 Amend local government comprehensive plans or land development regulations to reduce the impact of development on the various resources of the IRL. (RPCs)</p>	<p>SFWMD: None.</p> <p><i>Have model policies supporting the development and implementation of resource protection zones in the IRL been developed for inclusion in regional and local growth management plans?</i></p> <p>SJRWMD: Yes.</p>	 <p>SJRWMD: Despite the development of these ordinances over a year ago, they have not yet been implemented by the Town. This and the reluctance of other local governments to adopt such ordinances is still an obstacle to overcome. This may only occur if support for such tougher regulations is garnered through grass roots movements and public support.</p>	<p>Melbourne: 103,000 cubic yards; Projections for Turkey Creek are 360,000 cubic yards in 1999-2002.</p> <p>SJRWMD: The Office of Policy and Planning maintains a catalog of natural resource ordinances, including model ordinances, for local governments covering such areas as shoreline protection, floodplain management, stormwater management and wetlands protection. This catalog is distributed to local governments. Also, the Office of Policy and Planning provides technical assistance to local governments in ordinance development. The IRLNEP funded a model standards project in 1996, which identified priority actions to assist local governments in adopting or updating their policies and growth management plans for consistency with the CCMP. This project addressed point source discharges, on-site sewage disposal, freshwater and stormwater discharges, marina and boating impacts, wetlands, and impoundments. A copy of these model ordinances have been provided to local governments throughout the IRL region for their use. The District assisted the Town of Malabar in the development of local ordinances to address: 1) treatment of stormwater runoff from single family homes not part of a larger planned development, 2) limiting encroachment into flood plains by such single family homes and providing compensation for any lost flood storage, and 3) providing treatment for new unpaved roads. These ordinances were developed with the goal of "catching what falls through the cracks" of current state regulations in order</p>

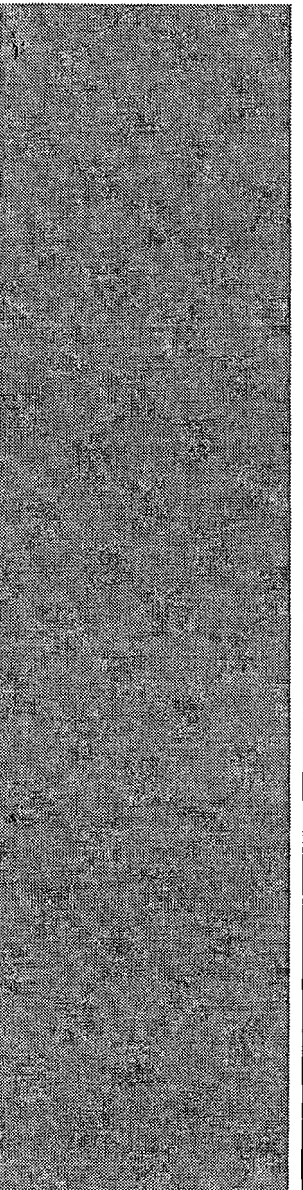
CCMP Action	Agency Activities (i.e. masterplan)	Obstacles & Solutions	Successes Stories & Partnership Opportunities
	SFWMD: Yes.		to prevent further water quality degradation and flooding.
	ECFRPC: Yes.		SFWMD: Model ordinances are adopted all the time by local governments. It's the old "let's not reinvent the wheel" scenario.
	TCRPC: No.		Specifically, many communities in the UEC have developed water conservation ordinances designed to prevent the waste of potable water.
	<i>Have model resource-based policies or land development regulations been developed for use by local governments in the IRL region?</i>		ECFRPC: SRPP 4.17-4.19, 4.21, 4.26-4.32.
	ECFRPC: No.		
	TCRPC: No.		
	<i>Has your agency or jurisdiction reviewed local comprehensive plans for consistency with the CCMP?</i>		
	SJRWMD: Yes.		

CCMP Action	Agency Activities (i.e. masterplan)	Obstacles & Solutions	Successes Stories & Partnership Opportunities
	<p>SFWMD: Yes.</p>		<p>dependent and aquatic species) through the comprehensive plan and providing guidance within the plan for the content of local land development regulations. Also, the District uses its comments as a means of advising local governments of District staff contacts for additional information or technical assistance and data available through the District, such as GIS maps and technical reports relating to water resources. Since the CCMP was completed in 1996, there has been a significant level of review activity as local governments in the IRL basin have completed evaluation and appraisal reports on their comprehensive plans and proceeded with often extensive amendments to their plans based on the reports. Also, it should be noted that the Office of Policy and Planning is in the process of revising its comprehensive plan amendment review process to promote, among other things, early (i.e., pre-amendment) involvement between the District and local governments on planning issues. An important aspect of early involvement is data sharing to help local governments make informed decisions regarding water resources.</p>
	<p><i>Have ordinances or land development regulations been developed and passed implementing these goals/objectives/policies?</i></p>		
	<p>Brevard County: Yes.</p>		<p>Brevard County Stormwater Criteria which exceeded SJRWMD requirements was implemented in 1993. These criteria are currently being reviewed to determine sufficiency.</p>
	<p>Cape Canaveral: Yes.</p>		<p>Cape Canaveral: Adopted SJRWMD drainage requirements.</p>
	<p>Cocoa Beach: No.</p>	<p>Cocoa Beach: Setbacks and buffers exist but they do not have the language of "resource based" and are not written in the form of</p>	

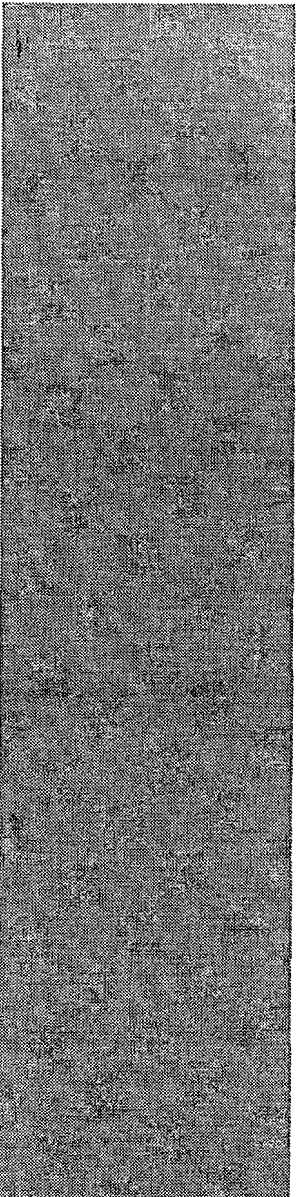
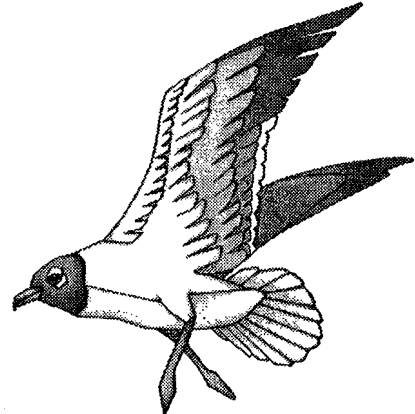
CCMP Action	Agency Activities (i.e. masterplan)	Obstacles & Solutions	Successes Stories & Partnership Opportunities
<p>FSD-8 Enact legislation allowing the use of state revolving trust fund monies for non-point source control projects, such as freshwater and stormwater discharge management. (FL Legislature, IRLNEP, Interest Groups)</p> <p>FSD-9 Investigate the potential of strengthening existing stormwater or freshwater discharge management programs. (FDEP, APCs)</p>	<p>Indlantic: No. Town is almost built-out.</p> <p>Indian Harbor Beach: No. All developed.</p> <p><i>(PLEASE NOTE: This action has been implemented. Legislature authorized FDEP to use 10% of State Revolving Funds (SRF) for stormwater projects. Rule-making completed, and loans are expected to be generated later this year. Also provided local IRL governments with over \$2 million in Section 319 grants for stormwater retrofitting projects. No counties or cities have applied for these state revolving funds for stormwater projects.)</i></p> <p><i>Have you reviewed and/or evaluated stormwater management programs/regulations for effectiveness?</i></p> <p>FDEP: Yes. FDEP and WMDs continuously review stormwater programs to determine how to improve its effectiveness.</p> <p>ECFRPC: No.</p> <p>TCRPC: No.</p> <p>SJRWMD: Yes. SJRWMD's regulations related to water quality are located in Chapter 40C-42, F.A.C. The regulations are based upon implementing best management practices that are designed to meet specified stormwater pollutant load reductions. The pollutant load reduction goals are 80% for discharges to a Class III water body and 95% for discharges</p>	<p>the IRLCCMP GOPs. LDRs are scheduled to be rewritten in 2000 after the comprehensive plan update has been adopted.</p> <p>FDEP: The biggest deficiency is inspections, both during and after construction</p> <p>SJRWMD: There is not a formal process whereby the District's regulatory program is periodically reviewed.</p>	<p>FDEP: Also, as new research on BMPs is completed, the design criteria are revised periodically to improve treatment effectiveness.</p> <p>SJRWMD: Since the Chapter 40C-42, F.A.C., stormwater rule was implemented by the District in 1986, a great deal of research has been done on stormwater best management practices. Included in this research, were studies that looked at the effectiveness and</p>

CCMP Action	Agency Activities (i.e. masterplan)	Obstacles & Solutions	Successes Stories & Partnership Opportunities
	<p>to special water bodles (Class I, Class II, OFW). The Indian River Lagoon and Banana River Lagoon contain areas designated as Class III, Class II, and OFW.</p> <p>SFWMD: Yes. Under an informal process. Regulatory staff sends surveys to and does presentations for environmental, agriculture and utility groups. They ask for input on the effectiveness of the program. They then evaluate the input in-house and make changes when appropriate.</p> <p><i>(PLEASE NOTE: In addition, several lagoon counties and cities have evaluated or are evaluating their stormwater management programs/regulations for effectiveness.)</i></p> <p><i>Is there a regular schedule for review?</i></p> <p>FDEP: No response.</p> <p>ECFRPC: No. We are not a regulatory or construction oriented agency.</p> <p>TCRPC: No.</p> <p>SJRWMD: No. There is not a regular schedule for review of District rules. However, we believe that the District has revised the rule criteria when appropriate.</p> <p>SFWMD: It is an on-going process.</p> <p><i>Have any activities been undertaken to address identified deficiencies of programs/regulations?</i></p> <p>FDEP: Yes.</p> <p>ECFRPC: No.</p> <p>TCRPC: No.</p>	<p>SJRWMD: The District would not object to a periodic review of District rules. We know of no obstacles preventing regular review.</p>	<p>efficiency of different best management practices. The District has utilized information obtained from these studies as well as the District's permit compliance program to determine when changes are required to stormwater regulations.</p> <p>SFWMD: The types of changes that have been made include streamlining procedures and relocation of staff to area offices to better serve the local parties being affected by the regulations.</p> <p>SJRWMD: Rule revisions have been based on information obtained from monitoring of permitted systems by District compliance staff and information obtained from research projects.</p> <p>FDEP implemented a training program for erosion, sediment, and stormwater inspectors; including curriculum, videos, and in-class training.</p>

CCMP Action	Agency Activities (i.e. masterplan)	Obstacles & Solutions	Successes Stories & Partnership Opportunities
	<p>SJRWMD: Yes.</p> 	<p>SJRWMD: When you begin to address controlling the discharge of pollutants and stormwater discharge volumes from existing, grandfathered development, there is a very significant funding and staff availability problem. Limited funding, particularly for the District's Stormwater Management Projects Cost-Share Program, and limited staff availability are the primary impediments or barriers affecting the ability to support implementation of the CCMP. A lack of dedicated sources of funding for stormwater planning and improvements at the local level also presents a barrier to implementation of stormwater projects. A number of local governments in the IRL basin have established stormwater utilities, but many others have not. The District tries to supplement local funding through its Stormwater Management Projects Cost-Share Program but the amount of funding available under the program is limited. Also, under the District Water Management Plan (1994), local governments are recognized through policy as having primary responsibility for flood protection. This results in an emphasis at the local level on drainage/flooding concerns rather than a combination of drainage/flooding and water quality/natural resource impact concerns. Neither the state nor local governments have been inclined to add to their respective staffing levels in this era of less government and reduced taxes.</p> <p>The location of culverts that discharge stormwater were mapped in 1994-95, but there has been no recent updates. In order to map stormwater drainage systems in Brevard County, all cities within the county are being asked to participate in the mapping effort (see Section 1/Question 2). Unfortunately, most of the cities have not agreed to participate in the county-wide mapping effort as of this date. The mapping and gathering of structural details about stormwater conveyances, the delineation of drainage patterns and boundaries, and a</p>	<p>SJRWMD: As indicated previously, when the District has determined that a specific BMP is not working as intended, the stormwater requirements in the rule have been revised. Major revisions to the stormwater rule were made in 1991 to address problem areas that were discovered by the District's compliance program or identified in research studies of stormwater systems. When a problem has been identified, the Water Management Districts have funded research projects to identify deficiencies in present design methodologies and recommend improvements to existing design methods and rule requirements. In addition, based on new research, a stormwater management system applicants handbook was written in April 1994, to provide additional guidance on design of best management practices for treating stormwater.</p> <p>Numerous research projects related to stormwater have been completed by the Water Management Districts throughout the State. Southwest Florida Water Management District (SWFWMD) sponsors a research conference that meets every other year to discuss research related to stormwater issues. Several of the research studies implemented by SJRWMD and SWFWMD were utilized to determine design criteria found in the District's present Chapter 40C-42 rule and the stormwater applicants handbook. These studies included two research projects implemented by SJRWMD and SWFWMD on dry retention systems. One of the studies entitled "Full Scale Hydrologic Monitoring of Stormwater Retention Ponds and Recommended Hydro-Geotechnical Design Methodologies" included monitoring of several retention ponds located within the Indian River Lagoon basin. Information from this study as well as a study entitled "Stormwater Retention Pond Infiltration Analysis in Unconfined Aquifers" were used to modify the District's rule requirements for dry retention ponds and are the basis for the chapters on dry retention in the</p>

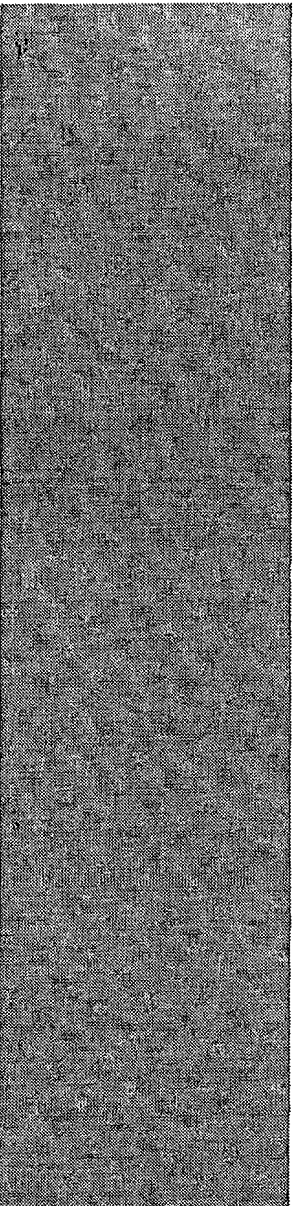
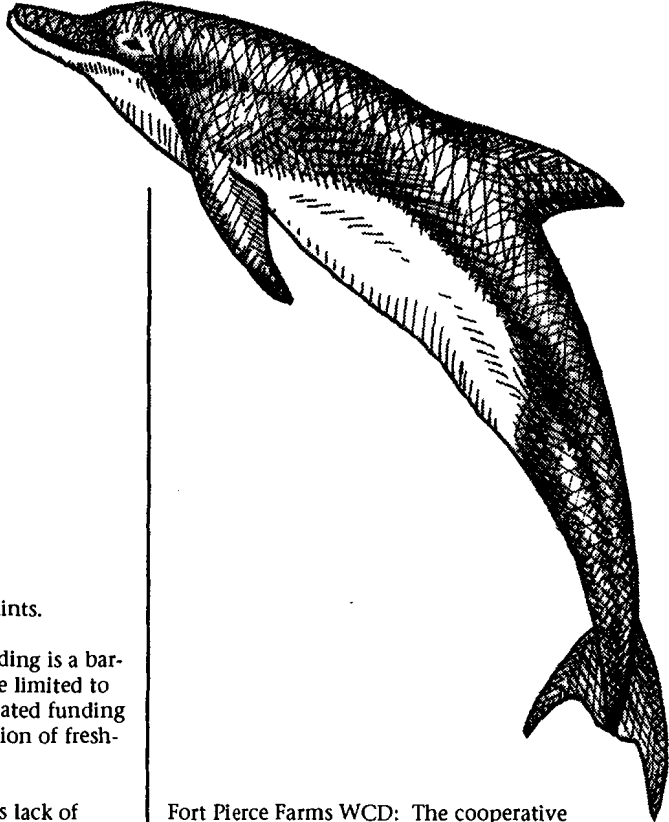
CCMP Action	Agency Activities (i.e. masterplan)	Obstacles & Solutions	Successes Stories & Partnership Opportunities
	<p>SFWMD: Yes, under an informal process. Regulatory staff send surveys to and do presentations for environmental, agriculture and utility groups. They ask for input on the effectiveness of the program. Then they evaluate the input in-house and make changes when appropriate. The types of changes that have been made include streamlining procedures and relocation of staff to area offices to better serve the local parties being effected by the regulations.</p> <p><i>Have these programs/regulations been evaluated for effectiveness on IRL resources, especially seagrasses?</i></p> <p>FDEP: No.</p>	<p>variety of related work is being performed on a project by project basis. This work is being delayed or slowed by two principal reasons: 1) There is a shortage of funding needed for data collection (e.g., photogrammetric mapping), land acquisition, and treatment basin construction, the costs for which extend into the hundreds of millions of dollars. 2) The current project workload consumes 100% of District staff's time (at times exceeding 100%), leaving no room for involvement in additional projects without diminishing the quality of the product or necessitating unwanted delays.</p> <p>SFWMD: A SLR issue team was established in May 1998 and a request for \$65 million over the next five years was presented to the state.</p> <p>Need a dedicated, consistent and higher level of funding for the program.</p> <p>FDEP: Not yet done, the effect of this type</p>	<p>stormwater applicants handbook.</p> <p>Another major revision to the stormwater rule in 1991 addressed the problem of stormwater systems designed with sand filters. Filtration systems were widely used throughout the District in areas with high groundwater tables and poorly drained soils prior to 1991. Because of the high frequency of clogging of the filter systems discovered through the District's permit compliance program, the use of filtration systems as a best management practice were severely restricted in the 1991 rule changes. In addition, the District funded a research project on filtration systems entitled "Treatment Efficiency of Detention with Filtration Systems". The study found numerous problems with filter systems and documented poor pollutant removal efficiencies for filtration systems. The use of sand filters as a best management practice is rarely used today because of the rule revisions in 1991.</p> <p>The District continues to inspect stormwater ponds as part of an ongoing permit compliance program and has an ongoing water quality sampling program of selected stormwater ponds located throughout the District. If additional information becomes available indicating that deficiencies exist in the existing rules, the District will attempt to address these deficiencies through rule revisions or other means.</p>

CCMP Action	Agency Activities (i.e. masterplan)	Obstacles & Solutions	Successes Stories & Partnership Opportunities
	<p>ECFRPC: No.</p> <p>TCRPC: No.</p> <p>SJRWMD: No. No program presently exists for specifically evaluating the effectiveness of District rules within the Indian River Lagoon watershed. As indicated previously, a great deal of information is presently available on the effectiveness of best management practices found in District rules to control the discharge of stormwater pollutants. When PLRG determinations are completed for the Indian River and Banana River Lagoons, this information can be utilized with the PLRGs to determine whether the existing rules are sufficient.</p>	<p>of program is difficult to quantify.</p> <p>SJRWMD: The District is aware of deficiencies in the existing rules in controlling freshwater discharges to estuarine systems such as the Indian River Lagoon. Increases in freshwater discharges are known to adversely impact seagrasses. However, there are numerous obstacles to implementing rule revisions to address the freshwater discharge problem. The obstacles include the need for additional research related to freshwater discharges, problems with designing and constructing stormwater systems which effectively control freshwater discharges in areas with high groundwater tables, and financial liability problems for the District associated with rule changes which may increase the cost of development (existing property rights legislation). Further, the District's current re-diversion project may negate any need for more stringent stormwater rules in the Turkey Creek Basin.</p> <p>The rules address new development and re-development that together comprise but a fraction of the existing development which causes additional freshwater runoff to enter the Lagoon. A Federal program (National Pollutant Discharge Elimination System) calling for retrofitting existing development's stormwater discharges is years away from implementation and is not likely to be delegated to the Districts for implementation. This program could be useful in controlling suspended solids discharges, an impediment to seagrass (submerged aquatic vegetation) and shellfish. Before the District can initiate rule revisions related to controlling freshwater discharges, sufficient information must be available to specifically identify and quantify where freshwater discharges are and existing and future anticipated problem. The District</p>	

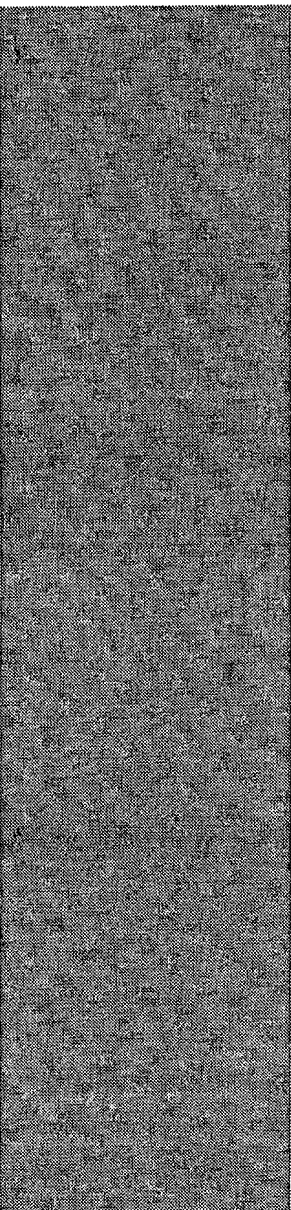
CCMP Action	Agency Activities (i.e. masterplan)	Obstacles & Solutions	Successes Stories & Partnership Opportunities
		<p>must have sufficient information to overcome anticipated rule challenges to any proposed rule revisions related to freshwater discharge control prior to beginning the rule making process. It will be very difficult to control the volume of freshwater discharge in areas with high groundwater tables. A large percentage of the Indian River and Banana River lagoon watersheds contain areas with high groundwater tables. Retention ponds are normally utilized to control the volume of stormwater discharge of new development. The retention systems are designed to store increased volumes of stormwater resulting from new development and percolate the stormwater into the ground. In areas with high groundwater tables, retention and percolation are severely limited affecting the ability of the stormwater system to control freshwater discharges. It will be difficult to write rule language to address volume control for new development in areas with high groundwater conditions.</p> <p>Although the District's IRL Program is not involved in review of all permits and regulations, they are involved in and comment on particular permit applications and projects which pose potential harm or would affect management of seagrasses. For example, IRL staff's membership on the Subcommittee on Managed Marshes provides an avenue for review and comment on proposed projects submitted by agencies or private developers that would impact wetlands and nearby seagrass beds. Other commenting opportunities over the last 2 years include involvement in a FDEP sponsored task force on seagrass impacts from clamming and shellfish leases, review of Brevard County's Pine Island stormwater plan and its potential impact on or benefit to seagrasses, review of a permit application re: expansion of the Canaveral Hospital onto Lagoon seagrass areas, and various permit related mitigation projects.</p>	

CCMP Action	Agency Activities (i.e. masterplan)	Obstacles & Solutions	Successes Stories & Partnership Opportunities
<p>FSD-10 Encourage the proper use of fertilizers, herbicides, and pesticides. (IFAS-FYN Program)</p>	<p>SFWMD: Yes.</p> <p><i>Has the Florida Yards & Neighborhoods program (FYN) been implemented throughout the IRL basin?</i></p> <p>FYN Program: Yes.</p> <p><i>What is the level of funding provided to FYN?</i></p> <p>FYN Program: \$225,000 in grant funding ends 6/2000 (in-kind ~\$400,000 over 2 1/2 years). No continual funding is available.</p> <p><i>Has funding for FYN increased or decreased since 1996?</i></p>	<p>SFWMD: Research work is being done to better quantify the needs of seagrasses and other SAV in the IRL and SLE. The district has recognized that there is a deficiency when it comes to unpermitted agricultural and urban land uses. Although this is not a function of permitting deficiencies, efforts are underway to aid in water quantity, timing and quality treatment of freshwater runoff, which will in turn help seagrass beds. Most individual dock permits that affect seagrasses directly, are taken care of by FDEP, ACOE and the local counties.</p> <p>FYN Program: However, there is a lack of funds and operational supplies for personnel to market and teach program.</p> <p>Need extension staff to encourage program stakeholders to contact County commission, WMD, and State legislator to fund program continuation.</p> <p>Statewide coordination of efforts to obtain funding for existing programs is not a priority for the University of Florida. County commission does not want to spend extra dollars for this program. County staff has no time available to aggressively pursue grant funding or local politics.</p>	

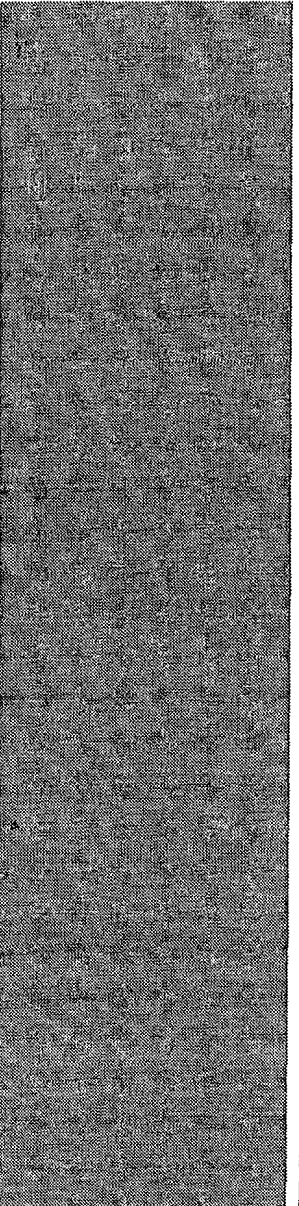
CCMP Action	Agency Activities (i.e. masterplan)	Obstacles & Solutions	Successes Stories & Partnership Opportunities
<p>FSD-11 Educate residents and property owners about the impacts of freshwater and stormwater discharges on the Indian River Lagoon and what they can do to reduce these impacts. (IRLNEP and WMDs)</p> <p>FSD-12 Undertake a review of the plan of reclamation, standard operating procedures and project works of each large drainage system. Develop strategies to reduce discharges into the Indian River Lagoon. (WCDs, WMDs, ACOE)</p>	<p>FYN Program: Decreased.</p> <p><i>How much staff is allocated to FYN?</i></p> <p>FYN Program: In Indian River County, existing staff and grant funded staff being used is 1/6 our full time employees.</p> <p><i>How is the effectiveness of FYN being determined?</i></p> <p>FYN Program: Percent adopting BMPs (ie FYN practices) is measured by pre-test/post-test.</p> <p>(PLEASE NOTE: See PIE - Public Involvement and Education section.)</p> <p><i>Have the reclamation plans of each water control district been reviewed and updated to meet present-day needs and requirements?</i></p> <p>Fellsmere WCD: Yes.</p> <p>Melbourne- Tillman WCD: Yes.</p> <p>Fort Pierce Farms WCD: Yes.</p> <p>North St. Lucie River WCD: Yes.</p> <p>Indian River Farms WCD: Yes. Review is continuously in progress.</p>		

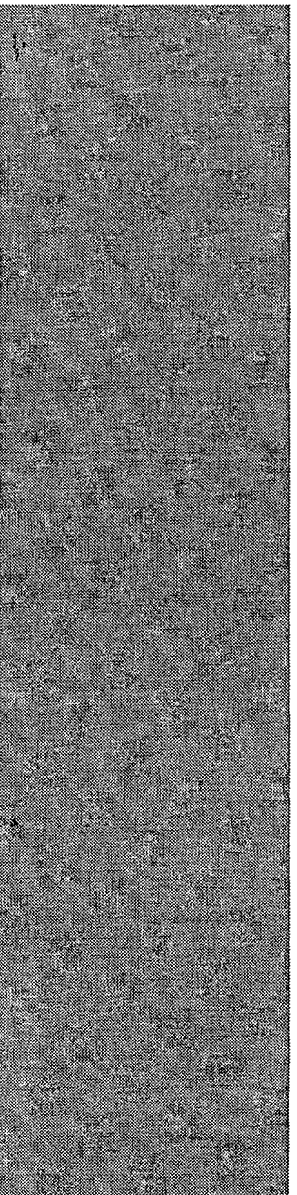
CCMP Action	Agency Activities (i.e. masterplan)	Obstacles & Solutions	Successes Stories & Partnership Opportunities
	<p>Sebastian River WCD: Did not respond to survey.</p> <p><i>How many water control districts or major drainage systems have a master operating procedures manual?</i></p> <p>Fellsmere WCD: Not applicable.</p> <p>Melbourne- Tillman WCD: 1.</p> <p>Fort Pierce Farms WCD: None for the district. North St. Lucie River WCD: 1.</p> <p>Indian River Farms WCD: N/A</p> <p>Sebastian River WCD: Did not respond to survey.</p> <p><i>Has the infrastructure of each water control district (canals, retention/detention/attenuation facilities, etc.) been reviewed and evaluated with the goal of reducing freshwater discharges?</i></p> <p>Fellsmere WCD: Yes.</p> <p>Melbourne Tillman WCD: Yes. Our plan was updated and approved (by permit) by the SJRWMD as part of the ongoing western diversion project in 1990.</p> <p>Fort Pierce Farms WCD: Yes.</p>	<div data-bbox="1400 409 2070 1232" data-kind="parent" data-rs="2"></div> <p>Fellsmere WCD: Budget constraints.</p> <p>Melbourne Tillman WCD: Funding is a barrier as the district operations are limited to user fees. Increased and accelerated funding will reduce time to begin diversion of freshwater from the IRL.</p> <p>Fort Pierce Farms WCD: There is lack of funds to construct physical works to reduce discharge; lack of authority to secure property or expend funds for the construction of those works; regulatory permitting constraints; possible resistance to the expenditure of funds for this purpose; and lack of scientific data to support the construction of such works.</p> <p>The changes involve at least a regional approach to a funding and construction program needed to meet the desired objectives. Actions are needed, but too over-</p>	<p>Fort Pierce Farms WCD: The cooperative effort that is underway for the Ten Mile Creek Project between the Corps, the SFWMD and St. Lucie County is a prototype that should be emulated in addressing the regional need for freshwater storage throughout the IRL area.</p>

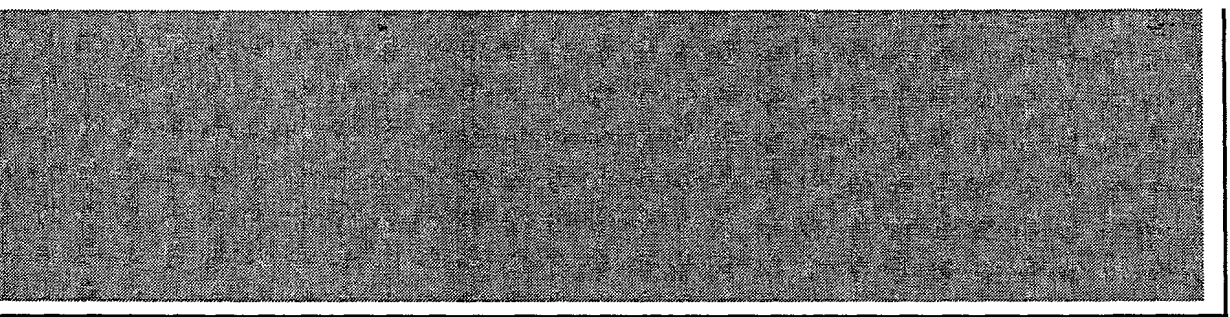
CCMP Action	Agency Activities (i.e. masterplan)	Obstacles & Solutions	Successes Stories & Partnership Opportunities
<p>FSD-13 Upgrade existing stormwater systems. <small>(all counties and cities, FDOT, RPCs)</small></p>	<p>North St. Lucie River WCD: Yes, a portion of state water law was amended in the 1997 legislative session.</p> <p><i>Have policies encouraging retrofitting or upgrading of stormwater systems been included within regional and local comprehensive growth management plans?</i></p> <p>ECFRPC: Yes.</p> <p>TCRPC: Yes.</p> <p>Volusia County: Yes.</p> <p>Edgewater: No response. (Already completed)</p> <p>New Smyrna Beach: Did not respond to survey.</p> <p>Oak Hill: Did not respond to survey.</p> <p>Brevard County: Yes.</p>	<p>whelming for this district to undertake.</p>	<p>ECFRPC: SRPP 4.9, 4.10.</p> <p>TCRPC: SRPP policies 6.5.1.10-6.5.1.12. Also see policies under strategy 6.3.1.</p> <p>Brevard County: Numerous references encouraging stormwater retrofit of older development occur in the Surface Water and Conservation elements of the Comprehensive Plan. In addition, SWIM has developed and implemented a Stormwater Utility Assessment credit program for owners of property and approved and maintained stormwater treatment systems. The policy provides a reduction in stormwater assessments for various levels of owner implemented stormwater treatment. A compliance inspection program of treatment systems is an integral part of this program, with some 4,000-5,000 inspections conducted to date. This is relevant, as proper maintenance of existing treatment facilities is critical for their continued effective operation. SWIM has also developed a program in cooperation with the National Resources Conservation Service, (formerly the Department of Agricultural Soil Conservation Services) to address storm</p>



CCMP Action	Agency Activities (i.e. masterplan)	Obstacles & Solutions	Successes Stories & Partnership Opportunities
	Cape Canaveral: Yes.		water pollution from agricultural sources throughout the County. As a result of this program, conservation plans have been developed and implemented to reduce pollutants from some 156,000 acres of agricultural lands in the County.
	Cocoa: Yes.		
	Cocoa Beach: Yes.		
	Indialantic: Yes.		
	Indian Harbor Beach: Yes.		
	Malabar: Did not respond to survey.		
	Melbourne: Yes.		
	Melbourne Beach: No.		
	Melbourne Village: Not applicable.		
	Palm Bay: Did not respond to survey.		
	Palm Shores: No.		
	Rockledge: Yes.		
	Satellite Beach: Yes.		
	Titusville: Yes.		
	West Melbourne: No.		
	Indian River County: Yes.		
	Fellsmere: Did not respond to survey.		
	Indian River Shores: No.		
	Sebastian: No response.		
	Vero Beach: No.		

CCMP Action	Agency Activities (i.e. masterplan)	Obstacles & Solutions	Successes Stories & Partnership Opportunities
	<p>St. Lucie County: No. They will be addressed in the upcoming revision of the County's Comprehensive Plan.</p> <p>Fort Pierce: No.</p> <p>Port St. Lucie: Yes.</p> <p>St. Lucie Village: No. Comprehensive Plan addresses new development, but not retrofitting.</p> <p>Martin County: Yes.</p> <p>Sewall's Point: Yes.</p> <p>Stuart: Yes.</p> <p><i>Has the existing stormwater drainage system within your jurisdiction been mapped?</i></p> <p>Volusia County: Yes.</p> <p>Edgewater: Yes.</p> <p>New Smyrna Beach: Did not respond to survey.</p> <p>Oak Hill: Did not respond to survey.</p>		
	<p>Brevard County: Yes.</p> <p>Cape Canaveral: Yes.</p> <p>Cocoa: Yes.</p> <p>Cocoa Beach: Yes.</p> <p>Indialantic: Yes</p> <p>Indian Harbor Beach: Yes</p>		<p>Brevard County: Staff has and will continue to define the county-wide drainage network, inventory all structural controls (such as pipes and canals) and delineate basins within the unincorporated areas of the County. To date, some 10,000 structures have been identified, inspected and mapped.</p>

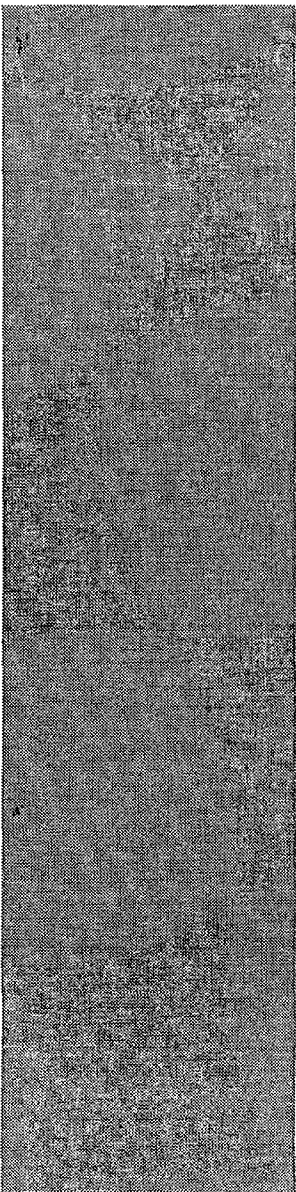
CCMP Action	Agency Activities (i.e. masterplan)	Obstacles & Solutions	Successes Stories & Partnership Opportunities
	Malabar: Did not respond to survey.		
	Melbourne: Currently in the mapping process.		
	Melbourne Beach: Yes.		
	Melbourne Village: No.		
	Palm Bay: Did not respond to survey.		
	Palm Shores: Yes.		
	Rockledge: Yes.		
	Satellite Beach: Yes.		
	Titusville: Yes.		
	West Melbourne: Yes.		
	Indian River County: Yes.		
	Fellsmere: Did not respond to survey.		
	Indian River Shores: Yes.		
	Sebastian: Yes.		
	Vero Beach: Yes.		
	St. Lucie County: Yes.		
	Fort Pierce: Yes.		
	Port St. Lucie: Yes.		
	St. Lucie Village: Yes.		
	Martin County: No.		
	Sewall's Point: Yes.		
	Stuart: Yes.		
	<i>Has your jurisdiction identified stormwater discharges under your control, which directly discharge into the IRL?</i>		

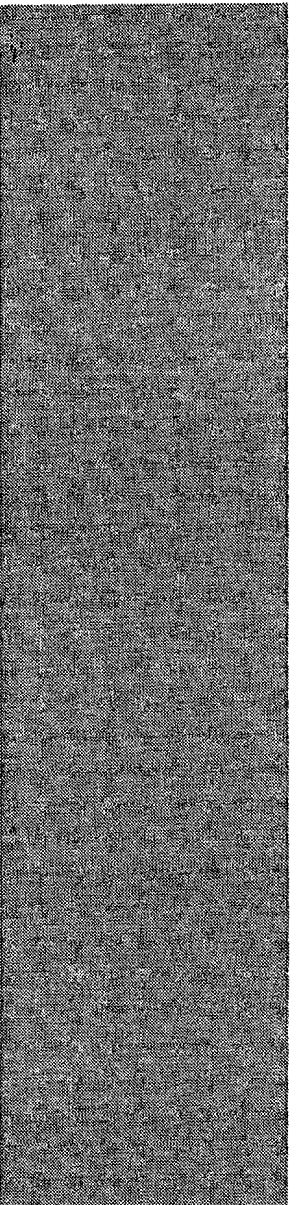
CCMP Action	Agency Activities (i.e. masterplan)	Obstacles & Solutions	Successes Stories & Partnership Opportunities
	<p>Volusia County: Yes.</p> <p>Edgewater: Yes.</p> <p>New Smyrna Beach: Did not respond to survey.</p> <p>Oak Hill: Did not respond to survey.</p> <p>Brevard County: Yes.</p> <p>Cape Canaveral: Yes.</p> <p>Cocoa: Yes.</p> <p>Cocoa Beach: Yes.</p> <p>Indialantic: Yes.</p> <p>Indian Harbor Beach: Yes.</p> <p>Malabar: Did not respond to survey.</p> <p>Melbourne: We have a 1991 inventory of 16 outfall structures and BMP estimate of costs to treat.</p> <p>Melbourne Beach: Yes.</p> <p>Melbourne Village: No, none direct.</p> <p>Palm Bay: Did not respond to survey.</p> <p>Palm Shores: Yes.</p> <p>Rockledge: Yes.</p> <p>Satellite Beach: Yes.</p> <p>Titusville: Yes.</p> <p>West Melbourne: Yes.</p> <p>Indian River County: Yes.</p>		<p>Brevard County: Approximately 2,000 outfalls to the IRL have been mapped and additional information is being developed.</p>

CCMP Action	Agency Activities (i.e. masterplan)	Obstacles & Solutions	Successes Stories & Partnership Opportunities
	<p>Fellsmere: Did not respond to survey.</p> <p>Indian River Shores: Yes.</p> <p>Sebastian: No.</p> <p>Vero Beach: Yes.</p> <p>St. Lucie County: Yes, some but not all.</p> <p>Fort Pierce: Yes.</p> <p>Port St. Lucie: No response.</p> <p>St. Lucie Village: Yes.</p> <p>Martin County: No.</p> <p>Sewall's Point: Yes.</p> <p>Stuart: Yes.</p> <p><i>Does your jurisdiction have a plan for retrofitting older stormwater systems?</i></p> <p>Volusia County: Yes.</p> <p>Edgewater: No, already completed.</p> <p>New Smyrna Beach: Did not respond to survey.</p> <p>Oak Hill: Did not respond to survey.</p> <p>Brevard County: Yes.</p>		<p>Brevard County's Surface Water Improvement Program (SWIM) has "master planned" many areas within the County. The SWIM program has also designed and constructed \$11,103,016 in stormwater retrofit projects that provide pollutant reduction and flood control for areas of the County that previously had little or no treatment. Brevard County has and will continue to provide assistance and recommendations to SPRWMD, NEP, local municipalities and counties throughout the state on</p>

CCMP Action	Agency Activities (i.e. masterplan)	Obstacles & Solutions	Successes Stories & Partnership Opportunities
	<p>Cape Canaveral: Yes.</p> <p>Cocoa: Yes.</p> <p>Cocoa Beach: Yes, in development stage.</p> <p>Indialantic: No.</p> <p>Indian Harbor Beach: Yes.</p> <p>Malabar: Did not respond to survey.</p> <p>Melbourne: No.</p> <p>Melbourne Beach: No.</p> <p>Melbourne Village: No.</p> <p>Palm Bay: Did not respond to survey.</p> <p>Palm Shores: No.</p> <p>Rockledge: Yes.</p> <p>Satellite Beach: Yes.</p> <p>Titusville: Yes.</p> <p>West Melbourne: No.</p> <p>Indian River County: No.</p> <p>Fellsmere: Did not respond to survey.</p> <p>Indian River Shores: Yes.</p> <p>Sebastian: Yes.</p> <p>Vero Beach: No.</p>	<p>Melbourne: To be part of the Stormwater Master Plan.</p>	<p>the selection and implementation of most efficient, cost effective and appropriate stormwater treatment methods. A plan is in place addressing required maintenance for these BMPs to assure that they function properly.</p> 

CCMP Action	Agency Activities (i.e. masterplan)	Obstacles & Solutions	Successes Stories & Partnership Opportunities
	<p>St. Lucie County: Yes. Plans are being developed for some of the systems, but not for all.</p> <p>Fort Pierce: Yes.</p> <p>Port St. Lucie: No response.</p> <p>St. Lucie Village: Yes. We have retrofitted some and identified others that need improvements.</p> <p>Martin County: Yes.</p> <p>Sewall's Point: Yes.</p> <p>Stuart: Yes.</p>		
	<p><i>Has a priority list for upgrading stormwater drainage systems been developed for your jurisdiction?</i></p> <p>Volusia County: Yes, they are on an as needed list.</p> <p>Edgewater: No.</p> <p>New Smyrna Beach: Did not respond to survey.</p> <p>Oak Hill: Did not respond to survey.</p> <p>Brevard County: Yes.</p> <p>Cape Canaveral: No.</p> <p>Cocoa: Yes.</p>		
			<p>Brevard County: North Merritt Island, Port St. John Bay, Crane Creek, Eau Gallie, Micco (Sebastian River), Merritt Island (Newfound Harbor/Sykes Creek), North Brevard, Indianalantic, South Beaches, Horse Creek, Trout Creek.</p> <p>Cocoa: Virginia Park (24 acres), Cocoa Hills (20 acres), US1/Grimes St. (21 acres), IMAGE (SR520) (7 acres), Hughlett Street (8 acres), Varr Avenue (10 acres), US1 south of 520 (12 acres), Dixon Boulevard (7 acres), First Street (3 acres), Peachtree (9 acres), BCC/ Clearlake (48 acres), College Green (18 acres), Oak Street/Brevard (5 acres), US 1 north of Dixon (10 acres), Salem/Rice/Iona (11 acres),</p>

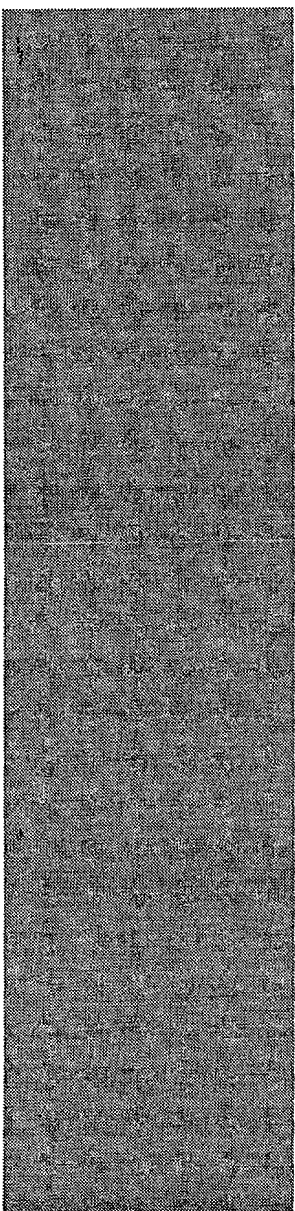
CCMP Action	Agency Activities (i.e. masterplan)	Obstacles & Solutions	Successes Stories & Partnership Opportunities
	<p>Cocoa Beach: Yes.</p> <p>Indianalantic: No.</p> <p>Indian Harbor Beach: No.</p> <p>Malabar: Did not respond to survey.</p> <p>Melbourne: No.</p> <p>Melbourne Beach: No.</p> <p>Melbourne Village: Not applicable.</p> <p>Palm Bay: Did not respond to survey.</p> <p>Palm Shores: Yes. Two creeks, silt removal.</p> <p>Rockledge: Yes.</p>	<p>Melbourne: To be a Stormwater Master plan product.</p>	<p>Crestview/Byrd Pl. (20 acres), Forest Avenue/Police (1 acre).</p> <p>Cocoa Beach: The following is a potential list pending recommendations from Stormwater Master Plan: Downtown area regional water quality improvement; SR520 retention and retrofit, water quality improvement; CMP (corrugated metal pipe) replacement, scheduled completion about five years; Seminole Lane regional wet detention facility; Public Works compound and Minutemen wet detention; Ocean Beach retention improvements; SRA1A retention improvements; Small BMPs (debris collection) for 120 smaller basins throughout the City.</p> <p>Rockledge: North/ South ditch borrow pit for flood control and water quality protection, Enlargement of existing 10 acre lake east of Barton Park, Joint stormwater project with Cocoa and Brevard County, Canal on west side of Barton Park Manor, Huntington Lane Canal regrading, Levitt Park Canal regrading, North/South Ditch widening, Baffle Boxes, Proposed southeast regional facility, Proposed northwest regional facility, proposed west regional facility, Proposed northeast retention area, Proposed Marlin Manor Canal regrading, Proposed Levitt</p>

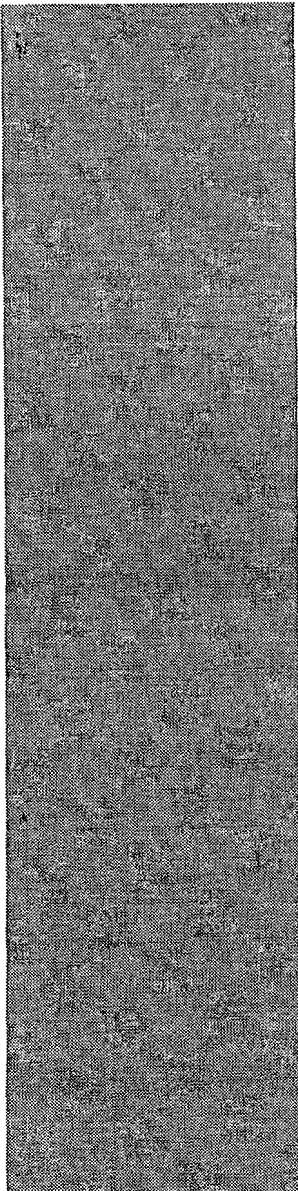

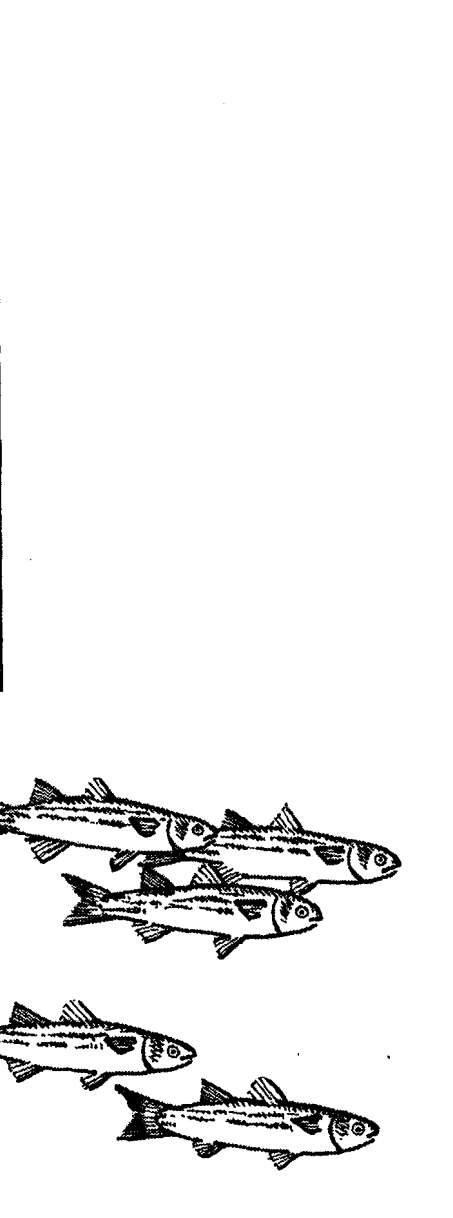
CCMP Action	Agency Activities (i.e. masterplan)	Obstacles & Solutions	Successes Stories & Partnership Opportunities
	<p>Satellite Beach: Yes.</p> <p>Titusville: Yes.</p> <p>West Melbourne: No.</p> <p>Indian River County: Yes.</p> <p>Fellsmere: Did not respond to survey.</p> <p>Indian River Shores: No.</p> <p>Sebastian: No.</p> <p>Vero Beach: No.</p> <p>St. Lucie County: Yes.</p> <p>Fort Pierce: Yes. Moore's Creek Retrofit.</p> <p>Port St. Lucie: Yes.</p> <p>St. Lucie Village: Yes.</p>	<p>Satellite Beach: This list will be updated with the completion of the comprehensive stormwater management plan.</p>	<p>Park Canal replacement.</p> <p>Satellite Beach: Park Avenue, Grant Avenue, DeSoto Parkway, Elm (Rosada-Temple) and Temple (Elm- DeSoto), Carissa (to DeSoto Outfall), Satellite Ditch (Verbenia to County Lift Station), Jamaica (Trinidad- DeSoto), Emerald Isles, Ocean Spray, Temple, Rosada at DeSoto, 42 feet under South Patrick Drive, Pineapple, and Carissa near Ocean Spray, Roosevelt Avenue (South Patrick to a point several hundred feet east of South Patrick), Verbenia (Palmetto- Satellite), Glenwood (various systems off the main trunkline).</p> <p>Indian River County: Roseland area, Gifford area, Rockridge subdivision, Vero Lake Estates subdivision, Oslo Park subdivision, Indian River Drive, Old Dixie Highway corridor, south beach area- west of SR A1A.</p> <p>Fort Pierce: Moore's Creek Retrofit.</p>
		<p>St. Lucie Village: Prioritized improvements were related to repair or replacement of specific structures (i.e. Culverts or ditch cleaning) and did not address retrofitting of stormwater management systems (ie. Provision of detention). A copy of the report was not available when this survey was</p>	

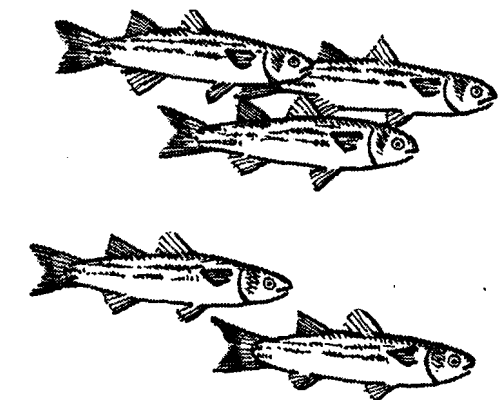
FSD-14
Develop appropriate mechanisms to fund and undertake the operation, maintenance and improvement of stormwater management systems.
(all counties and cities, DCA/RPCs)

CCMP Action	Agency Activities (i.e. masterplan)	Obstacles & Solutions	Successes Stories & Partnership Opportunities
	<p>Cape Canaveral: No.</p> <p>Cocoa: Yes.</p> <p>Cocoa Beach: Yes.</p> <p>Indialantic: No.</p> <p>Indian Harbor Beach: Yes.</p> <p>Malabar: Did not respond to survey.</p> <p>Melbourne: Yes.</p> <p>Melbourne Beach: No.</p> <p>Melbourne Village: Not applicable.</p> <p>Palm Bay: Did not respond to survey.</p> <p>Palm Shores: No.</p> <p>Rockledge: No.</p> <p>Satellite Beach: Yes.</p> <p>Titusville: Yes.</p> <p>West Melbourne: Yes.</p> <p>Indian River County: No.</p>	<p>Cape Canaveral: Currently developing program, capital projects and budget.</p> <p>Rockledge: City council considering Stormwater Utility but has not implemented.</p> <p>Indian River County: The County has not yet established a stormwater utility.</p>	<p>established a Stormwater Management program. A Stormwater Utility was established to provide a dedicated funding source through non ad valorem assessments for program implementation, and construction of retrofit treatment systems in areas where no or standard stormwater treatment exists.</p> <p>Cocoa: Ordinance 2-92, Stormwater Utility Systems, collected monthly with utility bill.</p> <p>Cocoa Beach: Stormwater Utility fee.</p> <p>Indian Harbor Beach: Bond issue.</p> <p>Melbourne: Dedicated revenue source approved by Resolution 1582, approved December 8, 1998, for tax year 2000.</p> <p>Satellite Beach: Stormwater Utility.</p> <p>Titusville: Utility fees.</p>

CCMP Action	Agency Activities (i.e. masterplan)	Obstacles & Solutions	Successes Stories & Partnership Opportunities
	<p>Fellsmere: Did not respond to survey.</p> <p>Indian River Shores: Yes.</p> <p>Sebastian: Yes.</p> <p>Vero Beach: No.</p> <p>St. Lucie County: No.</p> <p>Fort Pierce: No.</p> <p>Port St. Lucie: Yes.</p> <p>St. Lucie Village: No. We have received one grant in the amount of \$100,000 from FDEP, which was utilized to address stormwater management problems.</p> <p>Martin County: Yes.</p> <p>Sewall's Point: No.</p> <p>Stuart: Yes.</p> <p><i>What portion of the stormwater budget is dedicated strictly to water quality improvement projects vs. stormwater projects?</i></p> <p>Volusia County: A significant number of projects have been dedicated to water quality. Most flood control projects also achieve water quality treatment.</p> <p>Edgewater: Not applicable.</p>	<p>St. Lucie County: Dedicated revenue sources are insufficient to fund all of the priority projects that have been identified to date. We are pursuing grant funds.</p> <p>Fort Pierce: City, County, FDOT, and SFWMD funding to partially address problems.</p> <p>St. Lucie Village: No local funds are available at this time and grants are not being actively pursued due to lack of staff.</p>	<p>Indian River Shores: Impact fees and general fund.</p> <p>Sebastian: Discretion sales tax is used for drainage. There is no Stormwater Utility</p> <p>Port St. Lucie: Stormwater Utility.</p> <p>Martin County: County-wide Ad Valorem MSTV.</p> <p>Sewall's Point: General funds being used and suggested for next two years.</p> <p>Stuart: Stormwater utility, one cent sales tax, and grant funding.</p>

CCMP Action	Agency Activities (i.e. masterplan)	Obstacles & Solutions	Successes Stories & Partnership Opportunities
	<p>New Smyrna Beach: Did not respond to survey.</p> <p>Oak Hill: Did not respond to survey.</p> <p>Brevard County: Approximately 50%.</p> <p>Cape Canaveral: Not defined.</p> <p>Cocoa: 30%.</p> <p>Cocoa Beach: Approximately 85%. This includes programs such as mapping, public education, engineering, operations and maintenance, which improves both infrastructure and water quality. Only about 7% of capital monies is applied to large scale capital project prior to the master plan completion, swale construction.</p> <p>Indialantic: Not applicable.</p> <p>Indian Harbor Beach: 25%.</p> <p>Malabar: Did not respond to survey.</p> <p>Melbourne: Not yet determined.</p> <p>Melbourne Beach: Not applicable, no dedicated source.</p> <p>Melbourne Village: Not applicable.-</p> <p>Palm Bay: Did not respond to survey.</p> <p>Palm Shores: No response.</p> <p>Rockledge: Approximately 25%.</p> <p>Satellite Beach: 100%. No stormwater projects without water quality improvements.</p> <p>Titusville: Not applicable.</p> <p>West Melbourne: Unknown.</p> <p>Indian River County: 50%.</p> <p>Fellsmere: Did not respond to survey.</p> <p>Indian River Shores: No response.</p>		<p>Satellite Beach: 100%. No stormwater projects without water quality improvements.</p>

CCMP Action	Agency Activities (i.e. masterplan)	Obstacles & Solutions	Successes Stories & Partnership Opportunities
	<p>Sebastian: 0%. Not strictly dedicated.</p> <p>Vero Beach: >5%.</p> <p>St. Lucie County: 50% of capital improvements projects.</p> <p>Fort Pierce: 0%.</p> <p>Port St. Lucie: No response.</p> <p>St. Lucie Village: Not applicable.</p> <p>Martin County: 60%.</p> <p>Sewall's Point: 50%.</p> <p>Stuart: Unknown.</p>		



WATER & SEDIMENT QUALITY IMPROVEMENT

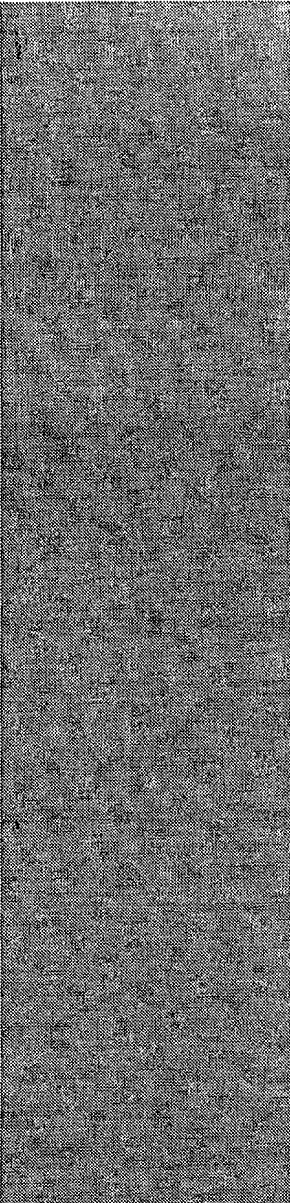

Marina and Boat Impacts

Primary responsible agencies ranked: FDEP, marine industry groups, USFWS, FL Legislature, RPCs, Volusia, Brevard, Indian River, St. Lucie and Martin counties and all cities. Please refer to this section's ranking and summarization text for the ranking information.

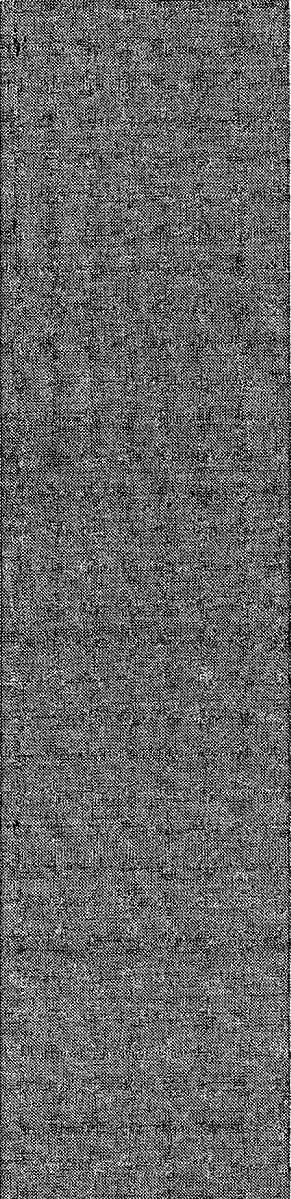
CCMP Action	Agency Activities (i.e. masterplan)	Obstacles & Solutions	Successes Stories & Partnership Opportunities
<p>MB-1 Develop and implement an incentive program promoting the implementation of improved marina operating practices. Explore the feasibility and need for developing a marina operating permit. (FDEP and marine industry groups)</p>	<p><i>Has a Clean Marina Program which would include the IRL been developed?</i></p> <p>FDEP: Yes.</p> <p><i>Has the feasibility of a marina operating permit been considered?</i></p> <p>FDEP: No.</p> <p><i>Have standards for marina operations been developed?</i></p> <p>FDEP: Yes.</p> <p><i>Has your agency developed an incentive program to assist in implementation of improved marina operating practices?</i></p> <p>FDEP: Yes.</p>	<p>FDEP: Barriers to developing incentive programs are funding and staffing. Following that would be natural inclination not to change.</p> <p>Solutions would include: legislative budget requests and grant applications to federal agencies and showing how change can benefit the stakeholders.</p>	<p>FDEP: The CMP will be implemented statewide in March/April 1999. After program is initiated, it is estimated that there will be 100 designated in first months. No marinas have received designation at this time.</p> <p>FDEP: The CMP incentives are: Grants for implementation of BMPs, improved cost efficiency, compliance with environmental regulations, compliance assistance with USEPA stormwater requirements, avoidance or reduction penalties for environmental non-compliance; Improved boating environment; resource toolkit consisting of: workshops, demonstrations, marine industry networking; newsletter and internet resource; legislative and rule updates; CMP symbol/designation.</p>

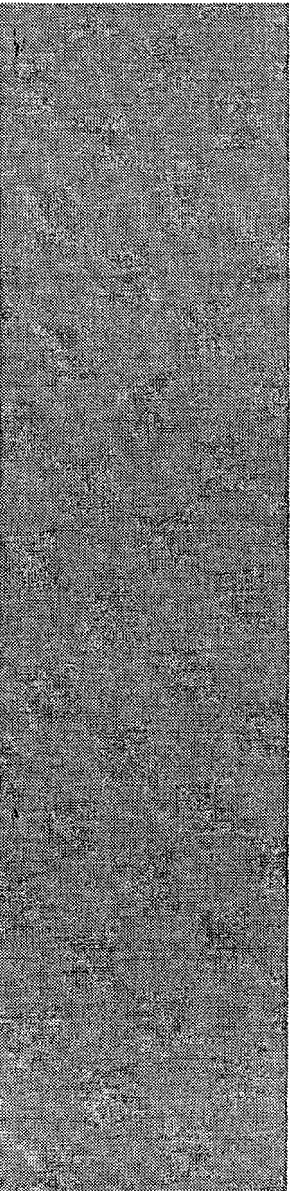
Have Marina Best Management Practices (BMPs) been

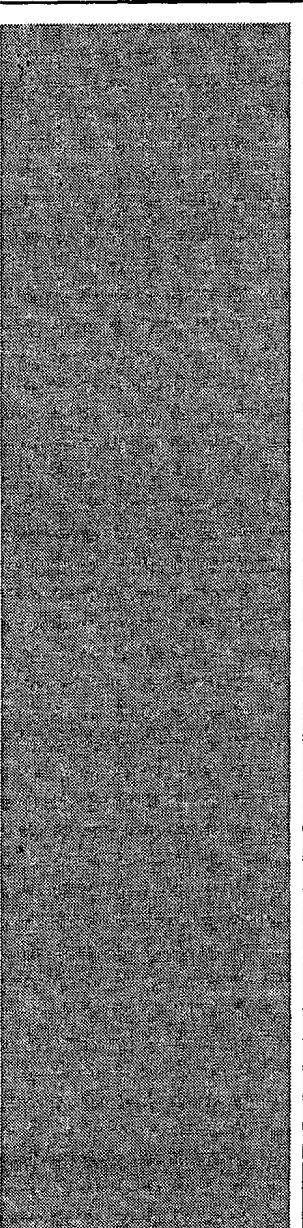
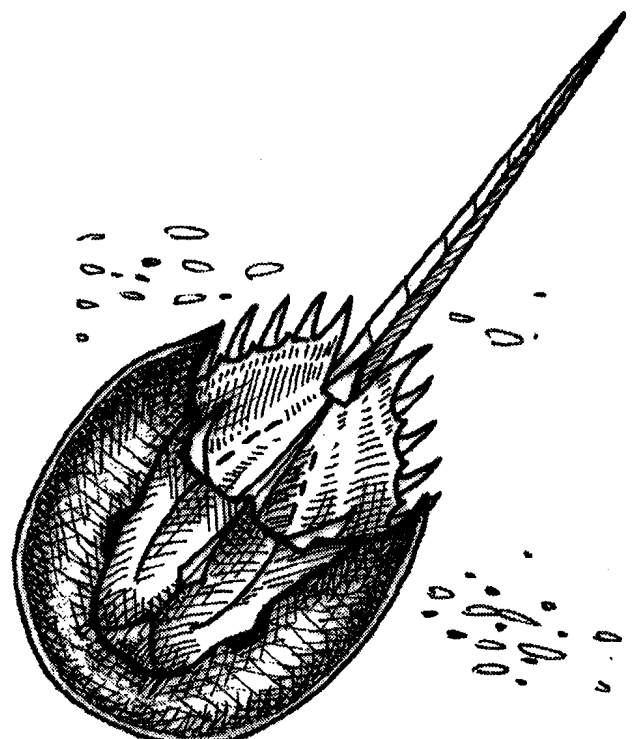
CCMP Action	Agency Activities (i.e. masterplan)	Obstacles & Solutions	Successes Stories & Partnership Opportunities
<p>MB-2 Complete and implement boat facility siting plans. (FDEP and all cities and counties)</p>	<p><i>developed?</i></p> <p>FDEP: Yes.</p> <p><i>Has your jurisdiction or agency developed a Manatee Protection Plan? Has it been approved by FDEP?</i></p> <p>FDEP: See next column.</p> <p>Volusia County: Yes. Plan is presently in the process of being reviewed by FDEP.</p> <p>Edgewater: Yes.</p> <p>New Smyrna Beach: Did not respond to survey.</p> <p>Oak Hill: Did not respond to survey.</p> <p>Brevard County: Yes. Negotiations are underway with FDEP for approval. A draft plan was approved for transmittal to FDEP, but a final draft has not been approved by FDEP or the county.</p> <p>Cape Canaveral: No. Brevard County developed plan and included city.</p>	<p>FDEP: In Brevard, the County Manatee Protection Plan has been rejected by FDEP, but is presently being reevaluated by both FDEP and the Brevard County Commission.</p> <p>Research needed: While the problem of Brazilian pepper invasion and domination of a variety of native habitats is widely recognized, the quantified extent of displacement/replacement of mangrove habitat by Brazilian pepper remains unknown. The associated loss of juvenile fisheries/nursery habitat (mangrove) thus remains unquantified. Such research deserves priority status.</p> <p>Volusia County: Lack of funding and staff. Regulatory barriers. Need a source of funding for additional staff.</p> <p>Brevard County defers to FDEP regarding matters pertaining to waters of the state. Implementation of the Manatee Protection Plan will address some of these issues. Solutions include: final adoption of MPP by FDEP and BOCC with implementation of the state and local regulatory changes.</p>	<p>FDEP: Draft BMPs for marinas, boatyards and boaters available [printed and www]. The Clean Marina Program also resulted in development of BMPs.</p>

CCMP Action	Agency Activities (i.e. masterplan)	Obstacles & Solutions	Successes Stories & Partnership Opportunities
	Cocoa: Yes.		
	Cocoa Beach: No. To our knowledge, the City input in the Manatee Protection Plan is through coordination on the County level. A member of the Waterways Advisory Board attends and tracks the progress of the County plan formation and submittal to the State. When the County creates a plan that the State is comfortable with, the City will then adopt the plan through resolution.		
	Indialantic: No.		
	Indian Harbor Beach: No.		
	Malabar: Did not respond to survey.		
	Melbourne: Yes, cooperating with Brevard County.	Melbourne: Issues with leadership and lack of staff.	
	Melbourne Beach: No response.		
	Melbourne Village: Not applicable.		
	Palm Bay: Did not respond to survey.		
	Palm Shores: Not applicable.	Palm Shores: Lack of funding.	
Rockledge: Yes and No			
Satellite Beach: No.	Satellite Beach: Lack of perceived threat, staff time.		
Titusville: No.			
West Melbourne: No.			
Indian River County: No. The FDEP is in the process of reviewing county's MPP and BSCMP. Plan adoption is expected to occur by the end of 1999.			
Fellsmere: Did not respond to survey.			
Indian River Shores: No response.			
Sebastian: No.			
Vero Beach: No, in process of developing.			
			

CCMP Action	Agency Activities (i.e. masterplan)	Obstacles & Solutions	Successes Stories & Partnership Opportunities
	<p>St. Lucie County: Yes. St Lucie County has adopted plan.</p> <p>Fort Pierce: Yes.</p> <p>Port St. Lucie: No.</p> <p>St Lucie Village: No.</p> <p>Martin County: No.</p> <p>Sewall's Point: No.</p> <p>Stuart: No. Adopted SFWMD and FDEP plans by reference.</p> <p><i>Have goals/objectives/policies supporting the development and implementation of the Manatee Protection Plan been included in your comprehensive growth management plan?</i></p> <p>Volusia County: Yes.</p> <p>Edgewater: Yes, Volusia County Government.</p> <p>New Smyrna Beach: Did not respond to survey.</p> <p>Oak Hill: Did not respond to survey.</p> <p>Brevard County: Yes.</p> <p>Cape Canaveral: No.</p> <p>Cocoa: No.</p> <p>Cocoa Beach: Not sure.</p> <p>Indianalantic: No.</p> <p>Indian Harbor Beach: Yes.</p>	<p>Cocoa Beach: There is language in our comprehensive plan amendment currently underway restricting activities known to threaten the habitat and survival of endangered and threatened species but it does not adopt the MPP or use language of actions in IRLCCMP. If County plan is approved this plan will be adopted by Cocoa Beach.</p>	<p>Brevard County: Coastal Management Element, Water Dependent Uses, Objective 5.</p>

CCMP Action	Agency Activities (i.e. masterplan)	Obstacles & Solutions	Successes Stories & Partnership Opportunities
	Malabar: Did not respond to survey.		
	Melbourne: Yes.		
	Melbourne Beach: No response.		
	Melbourne Village: Not applicable.		
	Palm Bay: Did not respond to survey.		
	Palm Shores: No.		
	Rockledge: No.		
	Satellite Beach: Yes.		
	Titusville: No.		
	West Melbourne: No.		
	Indian River County: Yes.		
	Fellsmere: Did not respond to survey.		
	Indian River Shores: No response.		
	Sebastian: No response.		
	Vero Beach: Not applicable.		
	St. Lucie County: Yes.		
	Fort Pierce: Yes.		
	Port St. Lucie: No.		
	St Lucie Village: No.		
	Martin County: Yes.		
	Sewall's Point: No.		
	Stuart: Yes, by reference.		
			<p>St. Lucie County: Requirements to enact manatee protection regulations is included within the coastal management element. The County elected to follow state guidelines for the protection of manatees.</p>

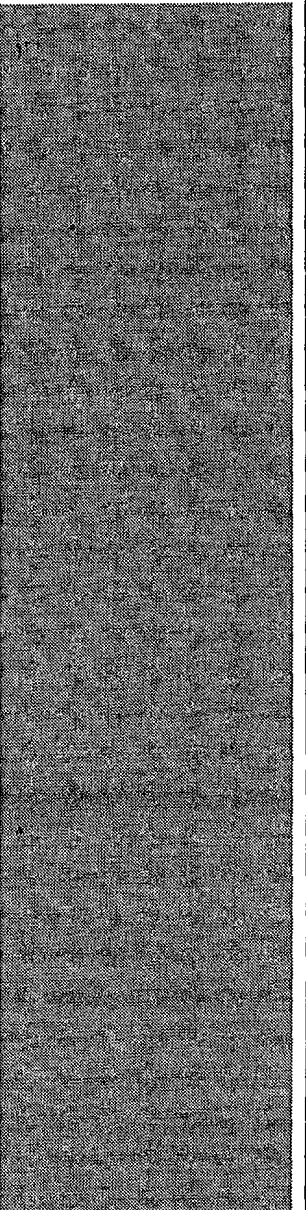
CCMP Action	Agency Activities (i.e. masterplan)	Obstacles & Solutions	Successes Stories & Partnership Opportunities
	<p><i>Have marina siting plans required as part of the Manatee Protection Plan been completed in your jurisdiction?</i></p> <p>ECFRPC: Yes.</p> <p>TCRPC: No. Not sure if there are any scheduled [for development and implementation].</p> <p>Volusia County: Yes.</p> <p>Edgewater: No, Volusia County completed boating use studies and is developing MPP's.</p> <p>New Smyrna Beach: Did not respond to survey.</p> <p>Oak Hill: Did not respond to survey.</p> <p>Brevard County: Yes. They are contained in the MPP; implementation will occur through the FDEP permitting process.</p> <p>Cape Canaveral: No.</p> <p>Cocoa: No.</p> <p>Cocoa Beach: No.</p> <p>Indianlantic: Not applicable.</p> <p>Indian Harbor Beach: No.</p> <p>Malabar: Did not respond to survey.</p>	<p>ECFRPC: We are not an implementing agency, but made this plan available to county and city governments when the plan was released.</p> <p>TCRPC: Getting agreement from all parties involved is an obstacle. TCRPC developed a draft boat facility siting plan for Palm Beach county in 1995. The county is still revising it and has not yet adopted a plan. Solutions would include: persistent coordination and prioritization of these issues.</p> <p>Cape Canaveral: Coordination with Brevard County is needed.</p> <p>Cocoa: Lack of boating facilities and lack of locations for facilities. Attempting to develop commercial boating facility. Better understanding of regulatory process is needed.</p>	

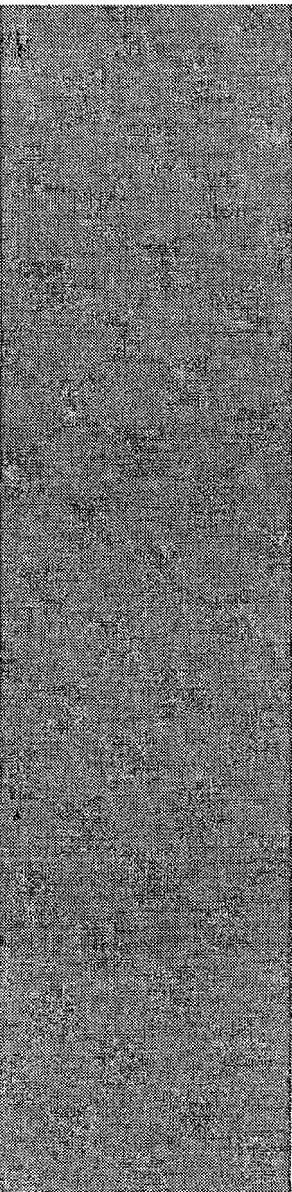
CCMP Action	Agency Activities (i.e. masterplan)	Obstacles & Solutions	Successes Stories & Partnership Opportunities
	<p>Melbourne: No.</p> <p>Melbourne Beach: No response.</p> <p>Melbourne Village: Not applicable.</p> <p>Palm Bay: Did not respond to survey.</p> <p>Palm Shores: Not applicable.</p> <p>Rockledge: No.</p> <p>Satellite Beach: Not applicable, no marinas.</p> <p>Titusville: No.</p> <p>West Melbourne: No.</p> <p>Indian River County: Yes.</p> <p>Fellsmere: Did not respond to survey.</p> <p>Indian River Shores: No.</p> <p>Sebastian: No.</p> <p>Vero Beach: Not applicable.</p> <p>St. Lucie County: No.</p> <p>Fort Pierce: Yes.</p> <p>Port St. Lucie: No response.</p> <p>St Lucie Village: No, there is one small marina in the village, but zoning prohibits construction of new marinas.</p> <p>Martin County: No.</p> <p>Sewall's Point: No.</p> <p>Stuart: Yes, by reference.</p>		

CCMP Action	Agency Activities (i.e. masterplan)	Obstacles & Solutions	Successes Stories & Partnership Opportunities
MB-3 Increase protection of IRL resources from oil spills. (FDEP, USFWS, and FL Legislature)	<p><i>Are new or modified fuel docks required to have designs in place that facilitate fuel spill containment and clean-ups?</i></p> <p>FDEP: Yes.</p> <p><i>Have owners of existing fuel dock facilities been encouraged to upgrade their facilities to ease containment and cleanup of spills?</i></p> <p>FDEP: Yes.</p> <p><i>Has an inventory been completed of environmentally sensitive areas that could be potentially impacted by oil spills?</i></p> <p>FDEP: Yes.</p> <p><i>Have strategies been developed to protect sensitive areas in the event of a nearby spill of petroleum products or other materials?</i></p> <p>FDEP: Yes.</p> <p>USFWS: Yes.</p>	<p>USFWS: The Service's oil spill plan is a national contingency program that could be implemented in the IRL region, if necessary.</p> <p>Indian River County identified the following obstacles: lack of funding to purchase cleanup equipment. Long response time due to geographic isolation and lack of on-water patrol officers. Confusion as to which agency (FMP, USCG or local law enforcement) is responsible for initiating cleanup and pursuing fines and/or criminal action. The USCG, FMP, and IRC Sheriff's Office should adopt a mutual agreement to expedite cleanup of oil spills.</p>	<p>FDEP: Marina Siting Suitability Coastal Estuaries plan completed 1989.</p>

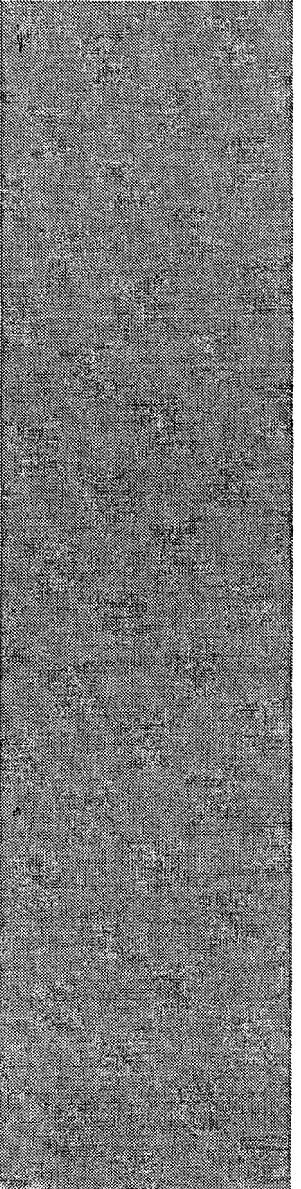
CCMP Action	Agency Activities (i.e. masterplan)	Obstacles & Solutions	Successes Stories & Partnership Opportunities
<p>MB-4 Reduce the impact of in-water hull cleaning activities. (Sea Grant)</p>	<p><i>How many professional hull cleaning services are in operation in the IRL?</i></p> <p>Sea Grant: In Brevard County there are 17 haul-out cleaning services and 2 underwater cleaning services.</p> <p><i>Has a program been developed to certify industries performing in-water hull cleaning services?</i></p> <p>Sea Grant: No, not by Brevard County Sea Grant.</p>		
<p>MB-5 Provide education for owners and operators of boats and personal watercraft. (FDEP)</p>	<p><i>(PLEASE NOTE: See Public Education and Involvement section.)</i></p> <p>Brevard County Sea Grant supports this action by delivering educational programs to the boating public which target natural resource (IRL) awareness. They have held 20 classes with 100 participants. In addition, they have distributed information on Brazilian pepper [2000], zebra mussel [1500], mangroves [2000], boater and angler pledges [2000], seagrasses [500], Manatee [500], fishing regulations [4000].</p>		
<p>MB-6 Improve enforcement of boating safety and resource protection regulations through an improved Florida Marine Patrol presence. (Fl. Legislature)</p>	<p><i>How many Florida Marine Patrol FMP officers are currently assigned to the IRL region?</i></p> <p>FDEP: FDEP supports enforcement through 24 Florida Marine Patrol officers. It is estimated that 40 FMP officers are needed to provide an adequate level of staffing to enforce natural resource protection laws, protect public health and safety and provide needed education.</p>	<p>FDEP: Legislature not expected to increase funding to hire more FMP officers.</p>	

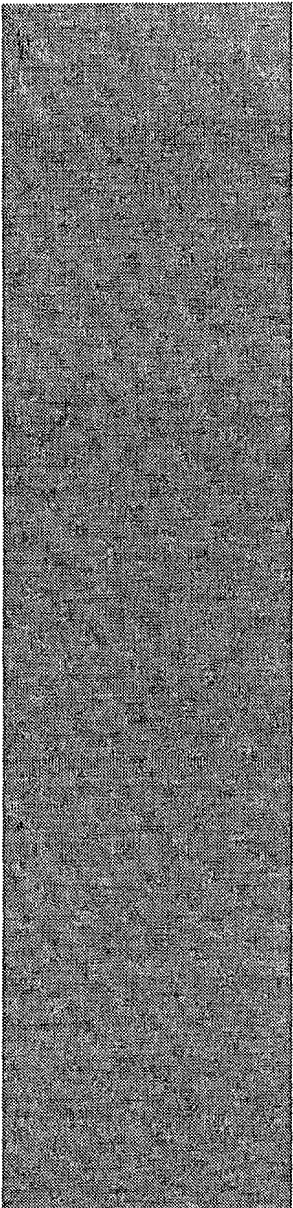
CCMP Action	Agency Activities (i.e. masterplan)	Obstacles & Solutions	Successes Stories & Partnership Opportunities
<p>MB-7 Minimize impacts of waste discharges and marine sanitation devices (MSDs) on the public health and IRL resources. (FDEP, RCGs, all counties and cities)</p>	<p><i>Have sites for marine sanitation devices common pump-out facilities or restrooms for boaters for your jurisdiction been determined?</i></p> <p>FDEP: No.</p> <p><i>Have new MSD, pump-out facilities or restrooms for boaters been constructed in your district?</i></p> <p>FDEP: Yes.</p> <p><i>Have policies been developed and included in comprehensive plans encouraging the development of additional MSD, pump-out or boater restroom facilities?</i></p> <p>ECFRPC: Yes, SRPP 4.9.</p> <p>TCRPC: No.</p> <p>Volusia County: Yes.</p> <p>Edgewater: No.</p> <p>New Smyrna Beach: Did not respond to survey.</p> <p>Oak Hill: Did not respond to survey.</p> <p>Brevard County: Yes.</p> <p>Cape Canaveral: No.</p> <p>Cocoa: No.</p> <p>Cocoa Beach: No.</p> <p>Indianland: No.</p> <p>Indian Harbor Beach: No.</p> <p>Malabar: Did not respond to survey.</p> <p>Melbourne: No.</p>		<p>FDEP: 7 new pump-outs since '94. Additional 7 anticipated.</p>

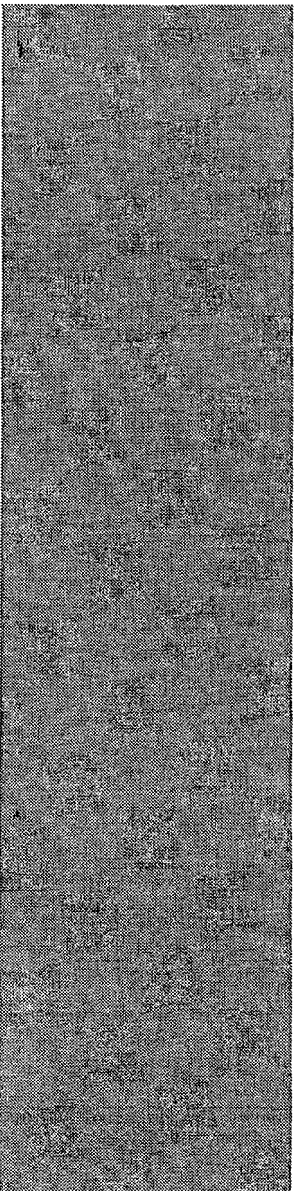
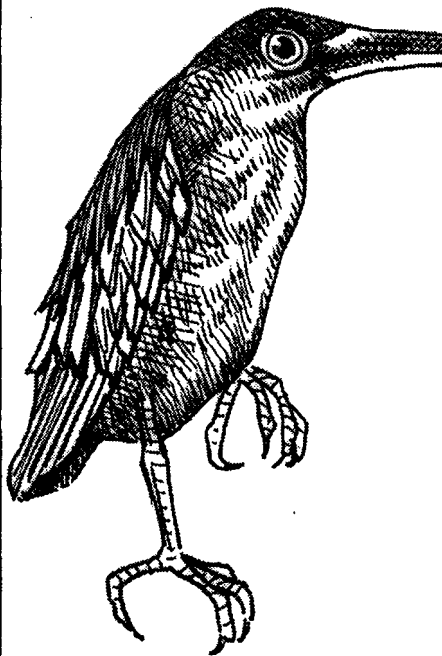
CCMP Action	Agency Activities (i.e. masterplan)	Obstacles & Solutions	Successes Stories & Partnership Opportunities
	Melbourne Beach: No.		
	Melbourne Village: Not applicable.		
	Palm Bay: Did not respond to survey.		
	Palm Shores: Yes.		
	Rockledge: No.		
	Satellite Beach: Not applicable.		
	Titusville: No.		
	West Melbourne: No.		
	Indian River County: Yes.		
	Indian River Shores: No response.		
	Sebastian: No.		
	Vero Beach: No.		
	St. Lucie County: No.		
	Fort Pierce: No.		
	Port St. Lucie: No response.		
	St Lucie Village: No.		
	Martin County: No response.		
	Sewall's Point: No.		
	Stuart: Yes.		
<i>Are there adequate marine sanitation device, pump-out facilities or restrooms to serve boaters in your jurisdiction?</i>			
Volusia County: No.			
Edgewater: No, currently under study.			

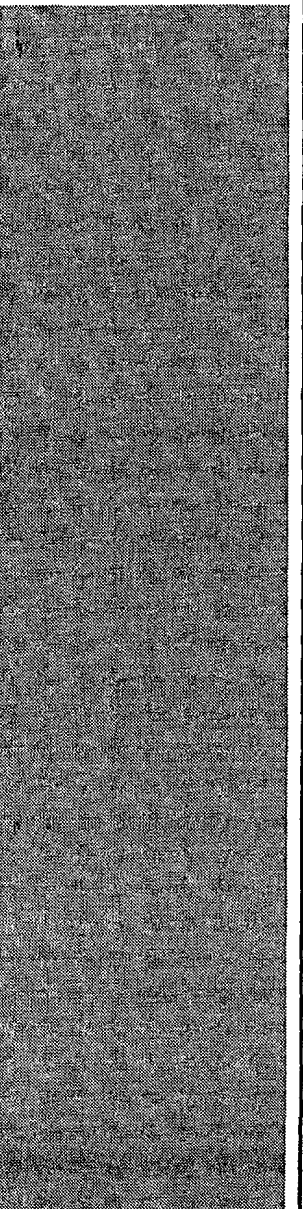
CCMP Action	Agency Activities (i.e. masterplan)	Obstacles & Solutions	Successes Stories & Partnership Opportunities
	New Smyrna Beach: Did not respond to survey.		
	Oak Hill: Did not respond to survey.		
	Brevard County: No.	Brevard County: It will be assessed as part of MMP. Once facility needs are identified, grant applications will be made.	
	Cape Canaveral: No.		
	Cocoa: No.		
	Cocoa Beach: No.		
		Cocoa Beach: There is one pump-out facility in the only marina in town, Orange Cove Marina. This is not open or used by the general public boating community. This pump-out station is volunteer and is probably not routinely used by the live aboard boaters there who rarely move their boats. Marinas are not an allowed use in the current LDRs; would have to be a special exception.	
	Indialantic: No.		
	Indian Harbor Beach: Yes.		
	Malabar: Did not respond to survey.		
	Melbourne: No		
	Melbourne Beach: No response.		
	Melbourne Village: Not applicable.		
	Palm Bay: Did not respond to survey.		
	Palm Shores: Yes.		
	Rockledge: No.		
	Satellite Beach: Not applicable.		
	Titusville: Yes.		
	West Melbourne: No.		
	Indian River County: Yes.		

CCMP Action	Agency Activities (i.e. masterplan)	Obstacles & Solutions	Successes Stories & Partnership Opportunities
<p>MB-8 Establish resource protection zones in the IRL. (FDEP, RPCs, all cities and counties)</p>	<p>Fellsmere: Did not respond to survey. Indian River Shores: No response. Sebastian: No response. Vero Beach: Unknown. St. Lucie County: No.</p> <p>Fort Pierce: Yes. Port St. Lucie: No response. St Lucie Village: No. Martin County: No. None planned yet. Sewall's Point: No. Stuart: Yes.</p> <p><i>Has IRL resource protection zones been established by your agency or in your jurisdiction during the past two years?</i></p> <p>FDEP: No. Volusia County: No. Edgewater: Volusia County Government. New Smyrna Beach: Did not respond to survey. Oak Hill: Did not respond to survey. Brevard County: Yes. Cape Canaveral: Yes. Cocoa: Yes. Cocoa Beach: No.</p>	<p>St. Lucie County: Additional public restrooms are needed at South Causeway Island.</p> <p>Cocoa Beach: To our knowledge and the knowledge of those we've spoken with in</p>	<p>Brevard County: Speed zones near two power plants.</p>

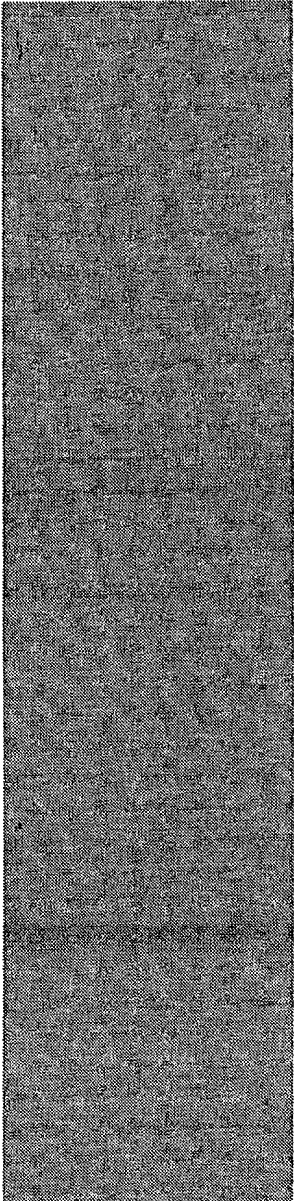
CCMP Action	Agency Activities (i.e. masterplan)	Obstacles & Solutions	Successes Stories & Partnership Opportunities
	<p>Indialantic: Yes.</p> <p>Indian Harbor Beach: No.</p> <p>Malabar: Did not respond to survey.</p> <p>Melbourne: No.</p> <p>Melbourne Beach: No.</p> <p>Melbourne Village: Not applicable.</p> <p>Palm Bay: Did not respond to survey.</p> <p>Palm Shores: No.</p> <p>Rockledge: No.</p> <p>Satellite Beach: Yes.</p>	<p>the Development Services department, no wording exists in our Land Development Regulations (LDRs) that address "resource protection zones." There is no department that deals specifically with natural resources and so this does not get implemented. This would have to be a city directive. Language is being placed in our comprehensive plan that calls for greater resource protection and monitoring. Our LDRs are planned for next year and will reflect the new comprehensive plan GOPs. Hopefully at that time more of a program approach will be taken. Direct language from the IRLCCMP has not been incorporated at this time. Need more contact from the State to elected officials and City Administration at this point. Their platter is full so they need constant reminder from the State. Staff internally can help but the State's involvement is crucial. This could be in the form of elected officials joint IRL seminar.</p> <p>Satellite Beach: Lack of public support. Need incorporation of protection into City's Comprehensive Plan and public education. Also need county implementation and lead on Issues.</p>	

CCMP Action	Agency Activities (i.e. masterplan)	Obstacles & Solutions	Successes Stories & Partnership Opportunities
	<p>Titusville: No.</p> <p>West Melbourne: No.</p> <p>Indian River County: No, but evaluations have been conducted to determine the need.</p> <p>Fellsmere: Did not respond to survey.</p> <p>Indian River Shores: No response.</p> <p>Sebastian: No.</p> <p>Vero Beach: No, none known.</p> <p>St. Lucie County: No.</p> <p>Fort Pierce: No.</p> <p>Port St. Lucie: No response.</p> <p>St Lucie Village: No.</p> <p>Martin County: Yes.</p>	<p>Sebastian: No staff or expertise to perform duties and lack of funding to hire/contract out..</p> <p>Vero Beach: Lack of staff and funding.</p> <p>St. Lucie County: Lack of funding and staff availability.</p> <p>St. Lucie Village: Lack of staff and funding.</p> <p>Martin County: Some issues with riparian rights may hinder efforts. Regulatory discharges from Lake Okeechobee are perceived as a much greater threat to protect the resource than boats, docks, and related uses. Implementation of the ACOE restudy is needed to eliminate large impacts on the estuary. This would allow focus to be directed at local level impacts. Changes that could be made include: full funding and implementation of the ACOE restudy.</p> <p>Sewall's Point: Lack of staff and funding.</p>	
	<p>Sewall's Point: No.</p> <p>Stuart: Yes. Anchorage project underway.</p>		
	<p><i>Has an assessment of boating impacts on IRL resources, such as seagrass, shoreline and wildlife been conducted?</i></p>		

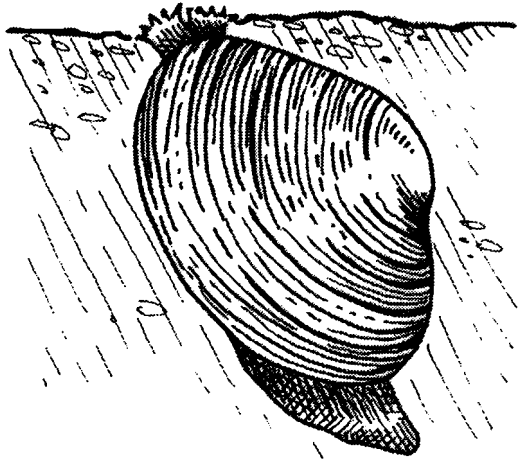
CCMP Action	Agency Activities (i.e. masterplan)	Obstacles & Solutions	Successes Stories & Partnership Opportunities
	FDEP: Yes.		
	Volusia County: No.		
	Edgewater: Yes, Volusia County Government.		
	New Smyrna Beach: Did not respond to survey.		
	Oak Hill: Did not respond to survey.		
	Brevard County: Yes.		
	Cape Canaveral: No.		
	Cocoa: No.		
	Cocoa Beach: No.		
		Cocoa Beach: To our knowledge the only assessments that have been performed are at state level. The City is under the impression that the resource tracking of the lagoon is under the level of the state. The boating is extensive however in Cocoa Beach, although still not to the levels of the Port of Melbourne. Cocoa Beach has a comprehensive network of designated marked channels and signage in areas of shoaling and sea-grass beds. Boating is not allowed outside the designated channels in these sensitive areas. Inspection and enforcement is generally under the City's Police Marine Patrol, but is not strictly enforced. The comprehensive plan update speaks of coordinating with the FDEP on this issue. Cocoa Beach also has a Thousand Island Management Plan that gives guidance for recreation, maintenance and improvement. The program measures are not actively being enforced although most recreation is passive and very little major problems occur in this realm other than Brazilian pepper and Australian pines not being managed properly. No one has taken ownership of these actions.	
	Indlantic: No.		
	Indlan Harbor Beach: No.		
			Brevard County: In specific areas, by SJRWMD/IRLNEP, FDEP Aquatic Preserve and Brevard County, MPP, and Crucial Habitat Determinations.
			

CCMP Action	Agency Activities (i.e. masterplan)	Obstacles & Solutions	Successes Stories & Partnership Opportunities
	Malabar: Did not respond to survey.		
	Melbourne: No.		
	Melbourne Beach: No.		
	Melbourne Village: Not applicable.		
	Palm Bay: Did not respond to survey.		
	Palm Shores: No.		
	Rockledge: Yes		
	Satellite Beach: No.		
	Titusville: Yes		
	West Melbourne: No.		
	Indian River County: Yes.		
	Fellsmere: Did not respond to survey.		
	Indian River Shores: No.		
	Sebastian: No.		
	Vero Beach: No, none known.		
	St. Lucie County: No.		
	Fort Pierce: No.		
	Port St. Lucie: No.		
	St Lucie Village: No.		
	Martin County: Yes.		
	Sewall's Point: No.		
	Stuart: Did not respond to survey.		
	<i>Do you have or are you currently developing a plan to</i>		

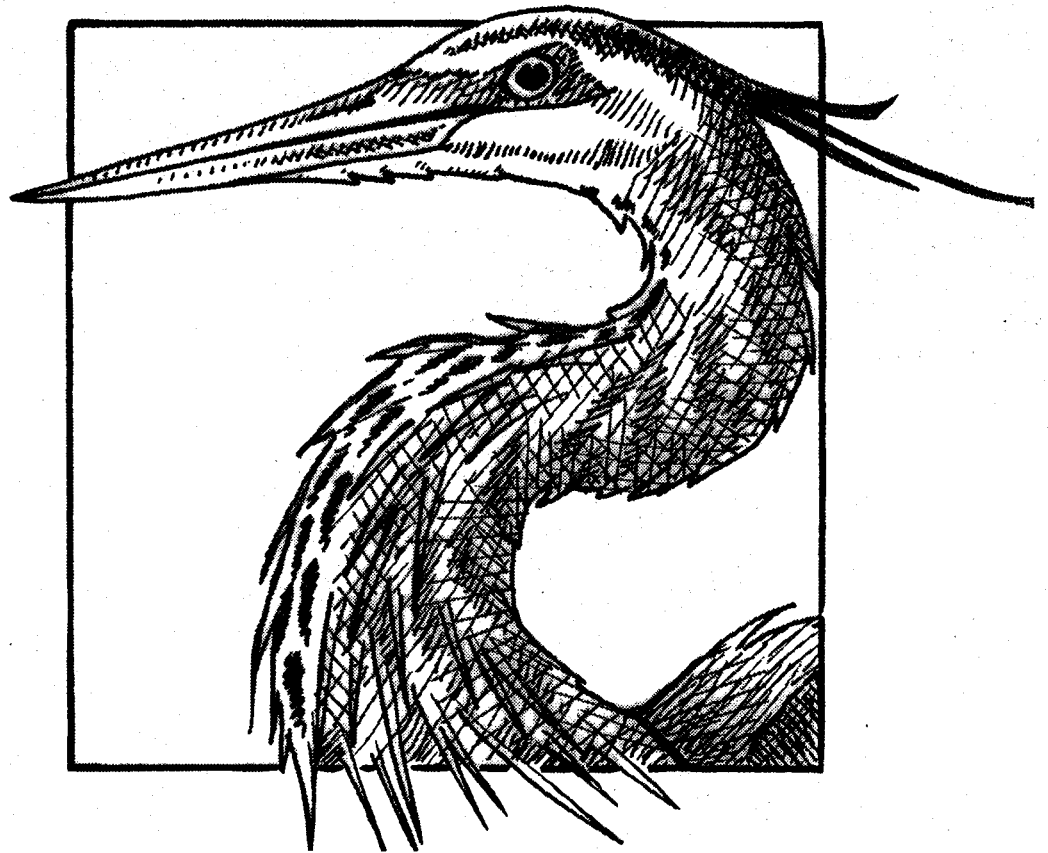
[illegible]

CCMP Action	Agency Activities (i.e. masterplan)	Obstacles & Solutions	Successes Stories & Partnership Opportunities
	Melbourne Village: Not applicable.		
	Palm Bay: Did not respond to survey.		
	Palm Shores: Yes.		
	Rockledge: No.		
	Satellite Beach: No.		
	Titusville: No.		
	West Melbourne: No.		
	Indian River County: Yes.		
	Fellsmere: Did not respond to survey.		
	Indian River Shores: No response.		
	Sebastian: No.		
	Vero Beach: No.		
	St. Lucie County: Yes.		
	Fort Pierce: Not applicable.		
	Port St. Lucie: No.		
	St Lucie Village: No.		
	Martin County: Yes.		
	Sewall's Point: No.		
	Stuart: Did not respond to survey.		

Primary responsible agency: USEPA. Please refer to this section's ranking and summarization text for the ranking information.

CCMP Action	Agency Activities (i.e. masterplan)	Obstacles & Solutions	Successes Stories & Partnership Opportunities
<p>AD-1 Determine the impacts of atmospheric deposition of pollutants on the water quality and resources of the IRL. (USEPA)</p>	<p><i>Are studies contemplated, underway or completed which assess the impacts of atmospheric deposition of pollutants on the IRL?</i></p> <p>USEPA: No.</p> <p><i>Have you set priorities for addressing atmospheric deposition of pollutants?</i></p> <p>USEPA: Yes, low priority.</p>	<p>USEPA: We don't have a handle on easy stuff, and with limited resources we need to address more solvable issues. Limited time resources, staff. Need a lot more money, staff, regulatory tools, tiered system, atmospheric deposition on low rung.</p>	

LIVING RESOURCES
SECTION



To evaluate the progress toward implementing recommended actions in the Living Resources Section, we rated progress as follows:

4 – Implemented: (75-100% complete); 3 – Substantial Progress: (50-74% complete); 2 – Moderate Progress: (49-25% complete); 1 – Minimal Progress: (up to 24% complete); 0 – No Progress: (0% complete); U – Unknown Progress; DNR – Did Not Respond to survey

Biodiversity Research and Management

BD-1 - Coordinate biodiversity activities within the IRL region. (See LA-1, LA-2, ETS-3)

USFWS	0
East Central Florida RPC	0
Treasure Coast RPC	0

BD-2 - Continue the acquisition of environmentally sensitive lands to preserve, protect, and restore the biological diversity, integrity, and productivity of the Indian River Lagoon region.

SJRWMD	4
SFWMD	4
VOLUSIA COUNTY	4
Edgewater	0
New Smyrna	DNR
Oak Hill	DNR
BREVARD COUNTY	4
Cape Canaveral	2
Cocoa	1
Cocoa Beach	2
Indialantic	0
Indian Harbor Beach	0
Malabar	DNR
Melbourne	0
Melbourne Beach	0
Melbourne Village	0
Palm Bay	DNR
Palm Shores	0
Rockledge	2
Satellite Beach	1
Titusville	0
West Melbourne	2
INDIAN RIVER COUNTY	4
Fellsmere	DNR
Indian River Shores	0
Sebastian	0
Vero Beach	0
ST. LUCIE COUNTY	4
Fort Pierce	0
Port St. Lucie	0
St. Lucie Village	1

MARTIN COUNTY	3
Sewall's Point	0
Stuart	3

BD-3 - Control or eradicate invasive exotic (non-native) fauna and flora in the Indian River Lagoon.

IRL Biodiversity Committee
Although an official biodiversity committee has not yet been formed, FDEP, WMDs, USFWS and several counties and cities participate in the eradication of invasive exotics and industry and public education efforts.

Seagrass

SG-1 - Implement a program of restoration and management activities needed to maintain, protect and restore the seagrass/ Submerged Aquatic Vegetation (SAV) community of the Indian River Lagoon.

SJRWMD	3
--------	---

Wetlands Restoration and Preservation

W-1 - Improve implementation of wetlands protection programs.

FDEP	0
SJRWMD	0
SFWMD	0
VOLUSIA COUNTY	4
Edgewater	4
New Smyrna	DNR
Oak Hill	DNR
BREVARD COUNTY	4
Cape Canaveral	4
Cocoa	4
Cocoa Beach	4
Indialantic	4
Indian Harbor Beach	0
Malabar	DNR

Melbourne	4
Melbourne Beach	U
Melbourne Village	0
Palm Bay	DNR
Palm Shores	4
Rockledge	4
Satellite Beach	4
Titusville	4
West Melbourne	4
INDIAN RIVER COUNTY	4
Fellsmere	DNR
Indian River Shores	4
Sebastian	0
Vero Beach	4
ST. LUCIE COUNTY	4
Fort Pierce	4
Port St. Lucie	0
St. Lucie Village	0
MARTIN COUNTY	4
Sewall's Point	4
Stuart	4

W-2 - Undertake a regular review of wetlands protection rules and regulations.

FDEP	0
SJRWMD	0
SFWMD	0
ACOE	0
DCA	4
East Central Florida RPC	0
Treasure Coast RPC	0
VOLUSIA COUNTY	4
Edgewater	0
New Smyrna	DNR
Oak Hill	DNR
BREVARD COUNTY	0
Cape Canaveral	4
Cocoa	0
Cocoa Beach	U
Indialantic	4
Indian Harbor Beach	4
Malabar	DNR
Melbourne	0
Melbourne Beach	U

Melbourne Village	U
Palm Bay	DNR
Palm Shores	0
Rockledge	0
Satellite Beach	0
Titusville	0
West Melbourne	4
INDIAN RIVER COUNTY	4
Fellsmere	DNR
Indian River Shores	0
Sebastian	0
Vero Beach	0
ST. LUCIE COUNTY	0
Fort Pierce	0
Port St. Lucie	4
St. Lucie Village	0
MARTIN COUNTY	4
Sewall's Point	0
Stuart	0

W-3 - Establish wetlands or shoreline setback or buffers.

SJRWMD	0
SFWMD	0
East Central Florida RPC	4
Treasure Coast RPC	4
VOLUSIA COUNTY	4
Edgewater	U
New Smyrna	DNR
Oak Hill	DNR
BREVARD COUNTY	4
Cape Canaveral	4
Cocoa	0
Cocoa Beach	4
Indianalantic	0
Indian Harbor Beach	0
Malabar	DNR
Melbourne	0
Melbourne Beach	0
Melbourne Village	0
Palm Bay	DNR
Palm Shores	4
Rockledge	0
Satellite Beach	0
Titusville	0
West Melbourne	0
INDIAN RIVER COUNTY	4
Fellsmere	DNR
Indian River Shores	U
Sebastian	0
Vero Beach	0

ST. LUCIE COUNTY	4
Fort Pierce	U
Port St. Lucie	U
St. Lucie Village	0
MARTIN COUNTY	4
Sewall's Point	4
Stuart	4

W-4 - Acquire ownership and control of wetlands. (See Actions LA-1, LA-2 and ETS-3).

IRLLAWG	U
---------	---

W-5 - Reconnect impounded wetlands to the IRL. (See Actions IM-2.)

SJRWMD	4
SFWMD	4
Brevard County MCD	4
St. Lucie County MCD	3
Indian River County MCD	3
Martin County MCD	2

W-6 - Restore wetlands and shorelines.

FDEP	4
SJRWMD	4
SFWMD	4

W-7 - Remove trash and litter from wetlands and shorelines.

While no agency is named as "primary" for this action, the SJRWMD and several counties and cities participate in shoreline clean-up efforts.

Impounded Marsh Restoration and Management

IM-1 - Complete or continue diagnostic, management or feasibility projects related to marshes impounded for mosquito control found in the 1994 SWIM Plan.

IM-2 - Continue acquisition of privately owned impounded marshes or obtain conservation easements allowing restoration of their natural functions (see Action W-5).

SJRWMD	4
SFWMD	4
Brevard County MCD	4

St. Lucie County MCD	3
Indian River County MCD	3
Martin County MCD	2

In addition to the primary agencies, IRL counties are also involved in the acquisition and reconnection of impounded marshes.

Land Acquisition

LA-1 - Develop a coordinated strategy to identify, classify, acquire and manage environmentally sensitive lands throughout the Indian River Lagoon.

IRLLAWG	U
---------	---

LA-2 - Acquire ownership or management of wetlands adjacent to the IRL.

SJRWMD	4
SFWMD	4
Brevard County MCD	4
St. Lucie County MCD	4
Indian River MCD	4
Martin County MCD	4
VOLUSIA COUNTY	4
Edgewater	0
New Smyrna	DNR
Oak Hill	DNR
BREVARD COUNTY	4
Cape Canaveral	3
Cocoa	2
Cocoa Beach	4
Indianalantic	0
Indian Harbor Beach	0
Malabar	DNR
Melbourne	0
Melbourne Beach	0
Melbourne Village	0
Palm Bay	DNR
Palm Shores	0
Rockledge	3
Satellite Beach	2
Titusville	0
West Melbourne	2
INDIAN RIVER COUNTY	4
Fellsmere	DNR
Indian River Shores	0
Sebastian	0
Vero Beach	0

ST. LUCIE COUNTY	4
Fort Pierce	0
Port St. Lucie	0
St. Lucie Village	1
MARTIN COUNTY	4
Sewall's Point	0
Stuart	3

Endangered and Threatened Species

ETS-1 - Develop, update, or refine management recovery plans for the endangered species, threatened species, and species of special concern found in the Indian River Lagoon region.

USFWS	2
GFC	4

ETS-2 - Improve enforcement of regulations protecting endangered, threatened, or species of special concern within the Indian River Lagoon region.

USFWS	0
GFC	4

ETS-3 - Protect critical habitats of endangered, threatened, or species of special concern found within the Indian River Lagoon region through land acquisition.

IRLLAWG	3
---------	---

FDEP, the Game Commission, as well as local governments participate in the acquisition and management of critical habitats.

ETS-4 - Undertake studies of wildlife diseases occurring in the Indian River Lagoon region, which may be caused by human activities.

USFWS	0
-------	---

Fisheries

F-1 - Improve management of fisheries in the IRL.

FDEP	4
------	---

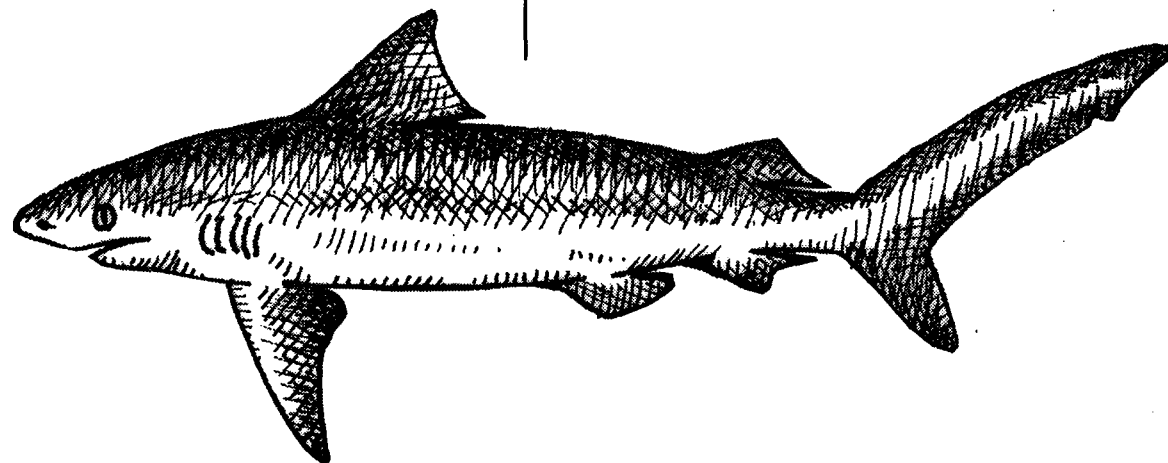
F-2 - Develop a coordinated fisheries research agenda to

improve the present knowledge of fisheries in the Indian River Lagoon.

FDEP	4
------	---

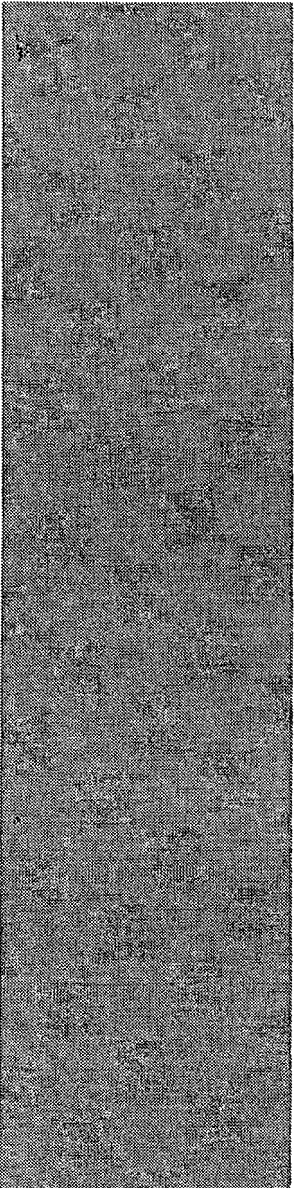
F-3 - Develop and implement a coordinated fisheries management strategy specific to the Indian River Lagoon.

FDEP	4
------	---



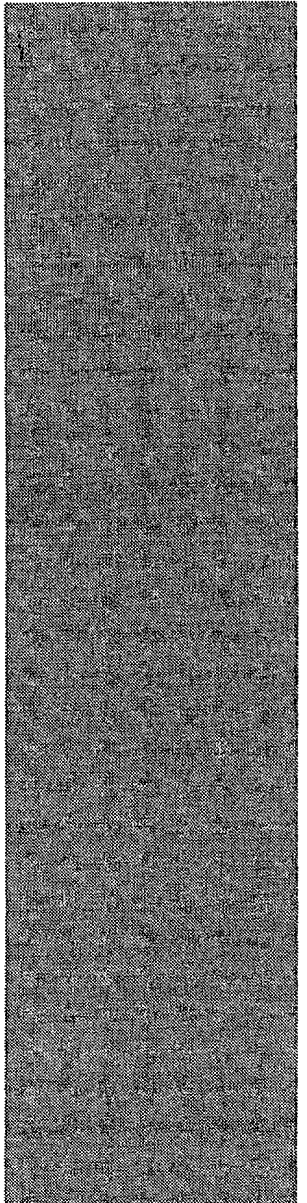
Primary responsible agencies: USFWS, WMDs, all counties and cities, IRLAWG, and the IRL Biodiversity Committee (not yet formed). Please refer to this section's ranking and summarization text for the ranking information.

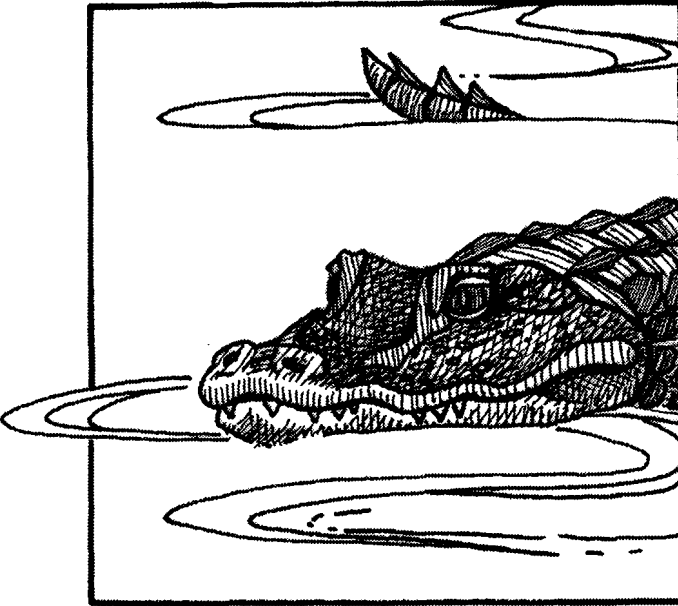
CCMP Action	Agency Activities (i.e. masterplan)	Obstacles & Solutions	Successes Stories & Partnership Opportunities
BD-1 Coordinate biodiversity activities within the IRL region. (USFWS, RPC)	<p><i>Are you aware of any group or organization coordinating management of biodiversity in the IRL region?</i></p> <p>USFWS: Yes, but this group has not formed yet. The Service is the lead agency, representatives are listed in CCMP [for organizations coordinating management of IRL biodiversity].</p> <p>ECFRPC: Yes. IRLNEP. Interaction with this group is infrequent, as issues arise.</p> <p>TCRPC : No. (The RPC promotes protection of the natural communities and water quality. Biodiversity is a function of these features.)</p> <p>FDEP: Yes. Although there does not seem to be a comprehensive effort to address biodiversity as a whole, there are multi organizational groups looking at specific species, such as the West Indian Manatee, green turtle, loggerhead turtle and a number of bird species.</p>	<p>FDEP: Funding, staff availability, regulatory/institutional barriers, lack of public support, and lack of scientific document are obstacles/barriers. Habitat protection efforts through regulatory processes may be considered the most important barrier. Seagrass impacts and marine turtle nesting beach impacts focus primarily on minimization, which almost always means a loss of habitat. Cumulative impacts through this process may become insurmountable for species recovery. Internal agency and legislative support is required to change this process.</p> <p>Lack of political will and support for full implementation, along with limited staff and funding for a broad based monitoring and enforcement; lack of legislative support for county development of Manatee Protection Plans as a mandate; lack of an adequate number of state law enforcement officers and lack of legislative support for an increase in the number of officers.</p> <p>Solutions include: strengthening of protection for manatee habitat including watershed and seagrass protection through the development of strong administrative rules or state legislation; a focused assessment of speed zone and education effort effective-</p>	<p>FDEP: Recovery plans for the West Indian Manatee, green turtle, loggerhead turtle and a number of bird species have been developed and the Bureau of Protected Species Management is directly involved with the implementation of the manatee and sea turtle plans.</p> <p>To increase the effectiveness of manatee protection, USFWS, GFC, FDEP Marine Resources and Law Enforcement, and local law enforcement agencies have been working together for some time. Watercraft speed zones have been placed throughout the IRL to manage manatee deaths attributed to watercraft strikes. All levels of law enforcement work to enforce these. Additionally, education campaigns (PSAs and brochure distribution) have focused on educating the public on the importance of protecting this species.</p>

CCMP Action	Agency Activities (i.e. masterplan)	Obstacles & Solutions	Successes Stories & Partnership Opportunities
	<p>SJRWMD: Yes. The USFWS recently completed the Multi-Species Recovery Plan for the Threatened and Endangered Species of South Florida.</p>	<p>ness, along with improved enforcement of existing regulations; a mandate from the legislature for the development and implementation of county Manatee protection plans; annual interagency coordination with specific tasks dispensed and documentation of objectives accomplished.</p> <p>SJRWMD: Lack of funding and staff availability represents the primary obstacles to full coordination of biodiversity activities. Lack of public and elected officials understanding of biodiversity issues and the impacts from development and growth on biodiversity also represent barriers.</p> <p>Solutions include: increased staff for coordination of biodiversity management issues at the USFWS, and expansion of the Multi-Species Recovery Plan for the Threatened and Endangered Species of South Florida to cover the entire IRL region north to Ponce DeLeon Inlet would improve effectiveness/ implementation.</p>	<p>SJRWMD: The USFWS Multi-Species Recovery Plan for the Threatened and Endangered Species of South Florida includes a major portion of the IRL region. The District's IRL Program provided data and information used in the development of the plan and provided review and comments of the final document. What agencies or organizations are members? USFWS, SFWMD, GFC, IRC, FNAI, FL Museum of Natural History, Everglades Research Group, Conway Conservation, MGG/RSMAS, USACOE, SJRWMD, Archbold Biological Station, academia, county governments.</p> <p>Actions being taken include: the development of an IRL Species Inventory in cooperation with the Smithsonian Marine Station at Link Port. This inventory is an electronic, on-line database accessible to a broad array of users, and provides a comprehensive, annotated, user-friendly inventory of species found within the IRL region. This unique management and research tool will serve as a model for other regions in Florida and throughout the national and international coastal zones. The format for this inventory includes information on life history, habitat requirements, ecology, economic importance and geographic range, as well as species distribution within the estuary.</p>
	<p>SFWMD: No. Not biodiversity in particular, although the concept falls under other programs.</p> <p>ACOE: Yes. The Corps consults with the U.S. Fish & Wildlife Service on Endangered Species and coordinates with the SJRWMD on all efforts in the IRL.</p>	<p>SFWMD: Possibly by making it more of a focus in the region.</p>	<p>ACOE: The state of Florida has programs to acquire sensitive and important lands. The Corps is currently conducting the IRL Restoration Feasibility Study to help protect the St. Lucie Estuary and IRL Agencies</p>

CCMP Action	Agency Activities (i.e. masterplan)	Obstacles & Solutions	Successes Stories & Partnership Opportunities
<p>BD-2 Continue the acquisition of environmentally sensitive lands to preserve, protect, and restore the biological diversity, integrity, and productivity of the Indian River Lagoon region. (WMDs, all counties and cities, and IRLAWG)</p> <p>BD-3 Control or eradicate invasive exotic (non-native) fauna and flora in the Indian River Lagoon. (IRL Biodiversity Committee, not yet formed)</p>	<p><i>(See LA-1, LA-2, ETS-3 for related actions.)</i></p> <p><i>Have vital habitats or particular areas within the IRL that are critical to the maintenance of key species been identified and protected?</i></p> <p>FDEP: Yes. The Sustainable Fisheries Act now requires that all federal fisheries management plans include a description of essential fisheries habitat. Where appropriate, this will include IRL nursery areas.</p> <p>GFC: Yes. Land acquisition programs, habitat stewardship on private lands, and regulatory protection through state and federal dredge and fill permit process and local government land use regulations.</p> <p><i>Is your agency or jurisdiction involved in controlling invasive exotics?</i></p> <p>FDEP: Yes. The Department of Environmental Protection is charged with the control of aquatic and upland invasive exotic plant species under Chapter 369, Florida Statutes.</p> <p>SJRWMD: Yes. The District's IRL Program has participated in, promoted and funded efforts to control and eradicate exotic</p>	<p>FDEP: Identified not protected.</p>	<p>involved in these coordinated efforts are the Corps, SJRWMD, SFWMD, and FDEP.</p> <p>FDEP: The Bureau of Invasive Plant Management, Coastal and Aquatic Managed Areas, and Recreation and Parks each participate in exotic plant control to some degree. IPM has established work groups in different areas of the state to identify and prioritize exotic plant control projects. The Treasure Coast Invasive Plant Task Force has prioritized \$400,000 worth of projects in 1997-98. CAMA has dedicated staff and funding to exotic removal on existing buffer preserves and spoil islands throughout the lagoon basin. Recreation and Parks does regular maintenance and eradication on state parks.</p> <p>SJRWMD: The first step in this process was begun in the Spring of 1998 with the forma-</p>

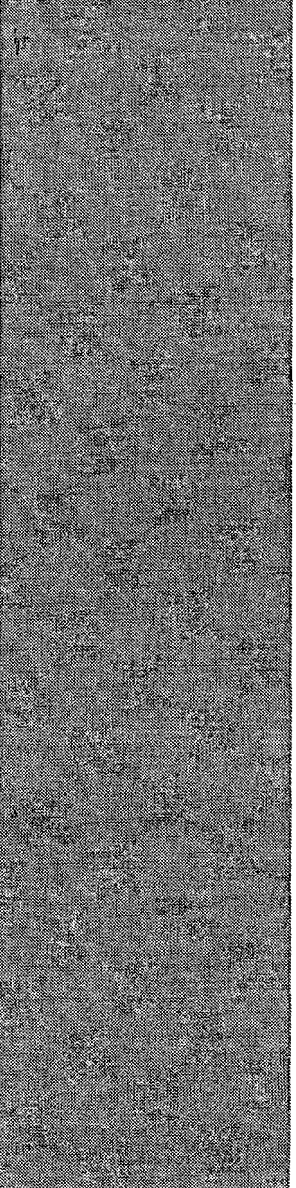
CCMP Action	Agency Activities (i.e. masterplan)	Obstacles & Solutions	Successes Stories & Partnership Opportunities
	<p>vegetation in the IRL region. These efforts include participation in various "Pepper-Buster" organizations as well as participation in FDEP's Bureau of Invasive Plant Management efforts to establish working groups in the region. In addition, the District has provided funding to local governments for exotic removal projects.</p> <p>The District's Division of Land Management targets the list of Invasive Exotics. All species are targeted directly. Treatments are prioritized considering the extent of the infestations, growth/expansion potential, and the presence of an effective control measure. Overriding these priorities, the District's first concerns are public safety and flood control.</p> <p>List of exotics targeted are: Air Potato, Australian Pine, Bahia grass, Brazilian Pepper, Camphor, Chinaberry, Chinese Tallow, Christmas Senna, Cogon Grass, Coral Ardesia, Eucalyptus camaidulensis, Hyacinths, Hydrilla, Indian Rosewood, Lygodium, Melaleuca, Mimosa, Paper Mulberry, Rosary Pea, Torpedo Grass, Tropical Soda Apple, Waterlettuce, Wild Taro, Wisteria.</p> <p>SFWMD: Yes. Direct involvement with exotic plant control, including, but not limited to Brazilian Pepper, Meleleuca, floating aquatics, Old World climbing fern.</p> <p>USFWS: Yes. Provide funding support for exotic vegetation removal from the Service's South Florida Coastal Ecosystem Program to restore or enhance habitat.</p> <p><i>(PLEASE NOTE: In addition, several counties and municipalities are directly or indirectly involved in controlling invasive exotics.)</i> For example, Brevard County through Comprehensive Plan and Policy: Parks and Recreation, EEL's Natural Resources Management Office, Mosquito Control, Surface Water Improvements, and Brevard County Extension Service. (Both programmatic and policies, directly and indirectly.)</p>	<p>Obstacles and solutions given by counties and municipalities include:</p> <p>FDEP's Exotic Program is providing funds for specific projects. Seeking outside funding to increase staff and determine accuracy of existing natural communities' data would be helpful.</p> <p>Need to develop local ordinances or state rules that prohibit planting of invasive exotics.</p> <p>Lack of public support by vacant landowners and lack of educating the public are obstacles.</p> <p>Elimination or control of exotics is implemented on an "opportunity" basis.</p>	<p>tion of some fifteen area working groups. Invited to join these groups were the managers of public lands considered to be natural areas. The District has six of these groups located inside its boundaries to which we offer our staff's expertise and participation. Of these six groups, two are within the IRL region to help coordinate efforts to assess and control exotic plant species. The District is currently contracting with the University of Florida, IFAS, Center for Aquatic and Invasive Plants to research control technologies for several invasive species directly affecting our region.</p>

CCMP Action	Agency Activities (i.e. masterplan)	Obstacles & Solutions	Successes Stories & Partnership Opportunities
		<p>Need prioritization of removal/ elimination.</p> <p>Exotics are removed sporadically when their growth impedes a City stormwater facility but the Public Works department does not include exotic removal as a regular program. An exotics removal program is committed to our comprehensive plan update so hopefully future progress will be made in this area.</p> <p>Need for increased public awareness.</p> <p>Lack of a full-time Environmental Lands Manager and lack of a dedicated source of funding to manage environmental lands in Indian River County are obstacles. The County plans to hire a full-time Environmental Lands Manager by 2000.</p> <p>Nursery growers generally oppose adding other nuisance exotic plants to County's list of prohibited plants (e.g. carrotwood tree). Target areas should be designated for exotics removal, and exotics removal should be directed toward these areas.</p> <p>Funding and staff constraints.</p> <p>State managed lands are often a priority for any available funds. St. Lucie County manages over 5,000 acres of natural areas, many located on North and South Hutchinson Island and in need of exotic or invasive species removal. The County applies for exotic removal funding through the SWIM and IRL license plate program. Additional legislative support is needed to provide additional funding for the removal of exotic and invasive plant species. Need to provide public funding for the removal of exotics and invasive species on private lands that are adjacent to public lands or that are a threat to natural areas.</p> <p>An internet page dedicated to the transmittal of reports, studies, and updates on activi-</p>	

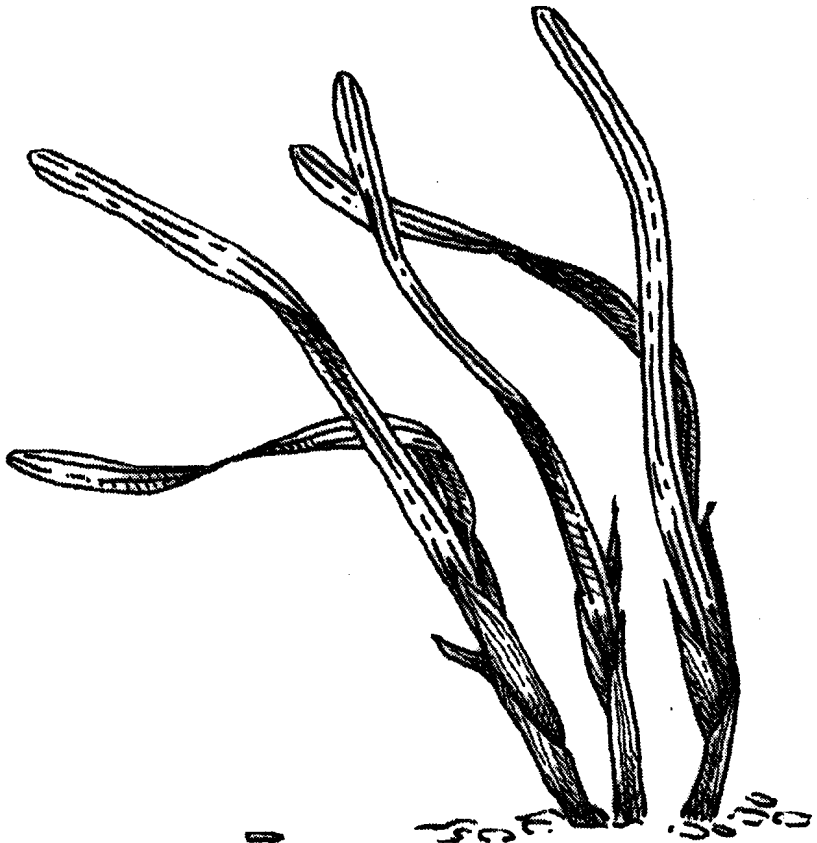
CCMP Action	Agency Activities (i.e. masterplan)	Obstacles & Solutions	Successes Stories & Partnership Opportunities
		<p>ties in the IRI. would asslst local staff and further coordination.</p> <p>Lack of funding and legal barriers exist toward controlling exotics on private lands. Martin County is attempting to increase funding for exotic removal from County right-of-ways and in County owned lands. The County has recently added a staff person to conduct land management activities. Cost sharing with private property owners to remove exotics would be helpful.</p>	

Primary responsible agencies: WMDs. Please refer to this section's ranking and summarization text for the ranking information.

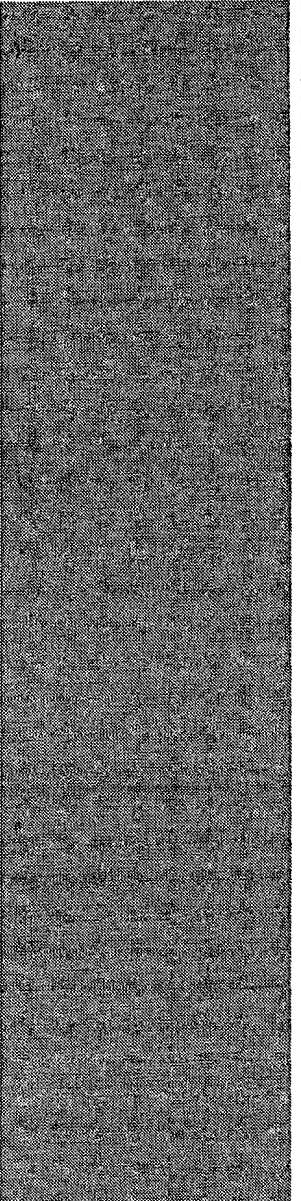
CCMP Action	Agency Activities (i.e. masterplan)	Obstacles & Solutions	Successes Stories & Partnership Opportunities
SG-1 Implement a program of restoration and management activities needed to maintain, protect and restore the seagrass/ Submerged Aquatic Vegetation (SAV) community of the Indian River Lagoon. (WMDs)	<p><i>Has the Seagrass Protection and Restoration Diagnostics Plan been implemented for the IRL?</i></p> <p>SJRWMD: Yes.</p> <p>SFWMD: Yes.</p> <p><i>Have conditions needed for healthy seagrass communities in the IRL been determined?</i></p> <p>SJRWMD: Yes.</p> <p>SFWMD: Work continues in this area through research and monitoring.</p> <p>PLRGs address water quality and are based on healthy seagrass requirements. Martin County is considering estab-</p>	<p>SJRWMD: There are no state standards that really provide the necessary protection for seagrass; therefore, there is a real need for more stringent standards specific to this resource.</p> <p>Seagrass coverage targets are being developed which will help in the development of PLRGs. The PLRGs will also be related to water quality concentration or level standards specific to seagrasses.</p> <p>The District's IRL Program has submitted budget requests over the past 3 years to reclassify the temporary GIS position as permanent. SFWMD and SJRWMD have sought a renewable 3-party agreement with NASA or NOAA for seagrass mapping, but federal administrative problems have negated this arrangement thus far.</p> <p>Need a change in administrative procedures allowing NASA or NOAA to establish the seagrass mapping project as a priority and to allow contractual cost-share arrangements with the District and SFWMD. Need commitment to a permanent full-time GIS position.</p>	

CCMP Action	Agency Activities (i.e. masterplan)	Obstacles & Solutions	Successes Stories & Partnership Opportunities
	lishing its own more stringent water quality standards.		
	<p data-bbox="443 398 940 422"><i>What are the overall trends of seagrass coverage?</i></p> <p data-bbox="443 472 611 497">SJRWMD: Stable.</p> <p data-bbox="443 976 1003 1050">SFWMD: It varies, but overall the coverage has decreased from historical levels in the St. Lucie Estuary and the Southern IRL.</p>		<p data-bbox="1556 472 1988 546">SJRWMD: Southern half of Mosquito Lagoon – stable. (Oak Hill - south) (over the past 50+ years)</p> <p data-bbox="1556 571 1988 645">Northern third of Banana River Lagoon - stable (north of SR. 528) (over the past 50+ years)</p> <p data-bbox="1556 670 1988 728">Indian River Lagoon north of Titusville - stable (north of railroad causeway)</p> <p data-bbox="1556 753 1988 802">Melbourne area - increasing (SR 192 south to Turkey Creek)</p> <p data-bbox="1556 827 1988 877">Sebastian area - stable (Grant Farm Island to Pelican Island)</p> <p data-bbox="1556 901 1988 951">Vero Beach area - unknown (too variable to determine trend).</p>

Primary responsible agencies: ACOE, USFWS, FDEP, WMDs, DCA, all counties and cities, RPCs, NMFS, FI Legislature, private/public partnerships and interest groups . Please refer to this section's ranking and summarization text for the ranking information.

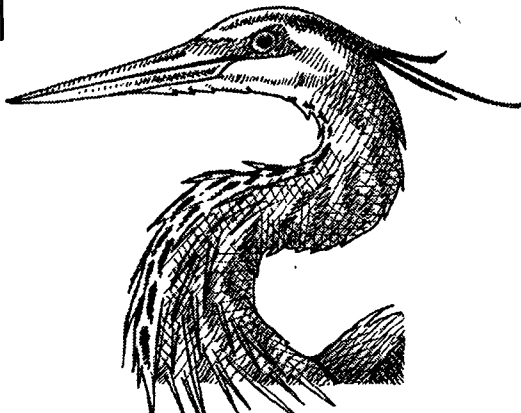
CCMP Action	Agency Activities (i.e. masterplan)	Obstacles & Solutions	Successes Stories & Partnership Opportunities
<p>W-1 Improve implementation of wetlands protection programs. (ACOE, USFWS, FDEP, WMDs, DCA, all counties and cities, RPCs, and NMFS)</p>	<p><i>Are there wetlands protection requirements within your jurisdiction?</i></p> <p>Volusia County: Yes. Article XI Wetland Alteration Permits of the Volusia County Land Development Code.</p> <p>Edgewater: Yes. Chapter 20 Code of Ordinances.</p> <p>New Smyrna Beach: Did not respond to survey.</p> <p>Oak Hill: Did not respond to survey.</p> <p>Brevard County: Yes. Wetland Protection Ordinance and Comprehensive Plan.</p> <p>Cape Canaveral: Yes. SJRWMD, City land development code regulations.</p> <p>Cocoa: Yes.</p> <p>Cocoa Beach: Yes. LDR contains a "wetlands protection" ordinance.</p> <p>Indianalantic: Yes. Listed in Land Development Regulations.</p> <p>Indian Harbor Beach: Yes. State laws.</p> <p>Malabar: Did not respond to survey.</p> <p>Melbourne: Yes.</p> <p>Melbourne Beach: Not a wetland area.</p> <p>Melbourne Village: No response.</p> <p>Palm Bay: Did not respond to survey.</p> <p>Palm Shores: Yes. Comprehensive plan and SJRWMD/ FDEP requirements.</p> <p>Rockledge: Yes. Permits for alterations required by WMD and ACOE.</p>		

CCMP Action	Agency Activities (i.e. masterplan)	Obstacles & Solutions	Successes Stories & Partnership Opportunities
	<p>Satellite Beach: Yes. Comprehensive plan.</p> <p>Titusville: Yes.</p> <p>West Melbourne: Yes.</p> <p>Indian River County: Yes. The County Comprehensive Plan contains a Comprehensive Wetlands Management Program (CWMP) & County code chapter 928 addresses wetlands protection.</p> <p>Indian River Shores: Yes. Land Development Code/Ordinances.</p> <p>Fellsmere: Did not respond to survey.</p> <p>Sebastian: No.</p> <p>Vero Beach: Yes, State FDEP imposes wetlands protection.</p> <p>St. Lucie County: Yes. The County enforces wetland regulations through its Land Development Code, Environmental Resource Standards. The County does not conduct wetland permitting activities. Development proposals are reviewed for compliance with the County wetland protection standards and compliance with federal and state agencies permitting requirements.</p> <p>Fort Pierce: Yes.</p> <p>Port St. Lucie: No response.</p> <p>St. Lucie Village: No, defer wetlands protection responsibility to FDEP in our review of development.</p> <p>Martin County: Yes. County has very strict comp plan and ordinances for protection of wetlands.</p> <p>Sewall's Point: Yes.</p> <p>Stuart: Yes. LDRs- setbacks, exotic removal, L/T maintenance.</p> <p><i>Are there any programs within your jurisdiction to implement the wetlands protection requirements?</i></p>		

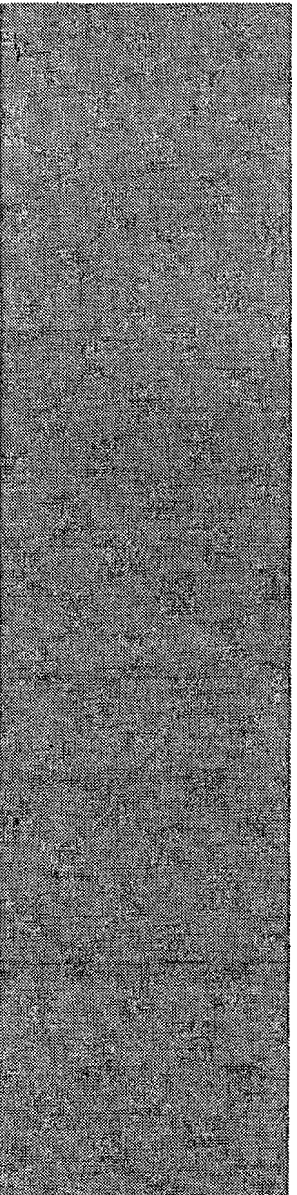
CCMP Action	Agency Activities (i.e. masterplan)	Obstacles & Solutions	Successes Stories & Partnership Opportunities
	Volusia County: Yes. Permitting and enforcing.		
	Edgewater: Yes. Code of Ordinances.		
	New Smyrna Beach: Did not respond to survey.		
	Oak Hill: Did not respond to survey.		
	Brevard County: Yes. Natural Resources Management Office.		
	Cape Canaveral: Yes. SJRWMD permits. City wetland protection code.		
	Cocoa: Yes. Site development plan review and approval process.		
	Cocoa Beach: Yes. Development review committee and development services department review all plans submitted for consistency with LDRs and State regulations.		
	Indialantic: Yes.		
	Indian Harbor Beach: Not applicable.		
	Malabar: Did not respond to survey.		
	Melbourne: Yes. Site Plan Review.		
	Melbourne Beach: Not applicable.		
	Melbourne Village: No response.		
	Palm Bay: Did not respond to survey.		
	Palm Shores: Yes. Retention/density.		
	Rockledge: Yes. Wetland maps somewhat outdated.		
	Satellite Beach: Yes. Shoreline Protection Ordinance (on hold to resolve issue of City's legal authority).		
	Titusville: Yes.		
	West Melbourne: Yes. LDR covers that.		
	Indian River County: Yes. The CWMP emphasizes non-regulatory measures, such as coordination with jurisdictional		

CCMP Action	Agency Activities (i.e. masterplan)	Obstacles & Solutions	Successes Stories & Partnership Opportunities
<p>W-2 Undertake a regular review of wetlands protection rules and regulations. (FDEP, all cities and counties, FI Legislature, all agencies with wetlands policies or rules)</p>	<p>agencies and establishment of a wetlands mitigation bank.</p> <p>Indian River Shores: Yes. Land Development Code/ Ordinances.</p> <p>Fellsmere: Did not respond to survey.</p> <p>Sebastian: No.</p> <p>Vero Beach: Yes. Site plan or subdivision approval process.</p> <p>St. Lucie County: Yes. The County implements the wetland protection requirements through its development review process.</p> <p>Fort Pierce: Yes.</p> <p>Port St. Lucie: No response.</p> <p>St. Lucie Village: No.</p> <p>Martin County: Yes. County has an enforcement program and staff to regulate protection.</p> <p>Sewall's Point: Yes.</p> <p>Stuart: Yes. Environmental land acquisition, and LDR implementation.</p> <p><i>Has a review of wetlands rules, regulations, and protection programs and their effectiveness been conducted?</i></p> <p>FDEP: No.</p> <p>SJRWMD: No.</p> <p>SFWMD: No.</p>	<p>SFWMD: The Environmental Resource Permit rules have not had any comprehensive review since adoption in Oct. 1995. Specific portions of the rule have come under review, such as grandfathering and mitigation banks. The Regulatory Department is currently reviewing a volume discharge component to the rules that may have a bearing on the IRL.</p>	

CCMP Action	Agency Activities (i.e. masterplan)	Obstacles & Solutions	Successes Stories & Partnership Opportunities
	<p>ACOE: No response.</p> <p>DCA: Yes, goals, objectives, and policies within the comprehensive plan.</p> <p>TCRPC: No. This is a job for the Water Management Districts.</p> <p>Volusia County: Yes.</p> <p>Edgewater: No.</p> <p>New Smyrna Beach: Did not respond to survey.</p> <p>Oak Hill: Did not respond to survey.</p> <p>Brevard County: No.</p> <p>Cape Canaveral: Yes.</p> <p>Cocoa: No.</p> <p>Cocoa Beach: Yes.</p> <p>Indianalantic: Yes.</p> <p>Indian Harbor Beach: Not applicable.</p> <p>Malabar: Did not respond to survey.</p> <p>Melbourne: No.</p> <p>Melbourne Beach: Not applicable.</p> <p>Melbourne Village: No response.</p> <p>Palm Bay: Did not respond to survey.</p> <p>Palm Shores: No.</p> <p>Rockledge: No.</p>	<p>TCRPC: Current land development regulations should include enough flexibility to allow large systems of wetlands and uplands to be preserved.</p> <p>Need revision of current land development regulations.</p>	

CCMP Action	Agency Activities (i.e. masterplan)	Obstacles & Solutions	Successes Stories & Partnership Opportunities
<p>W-3 Establish wetlands or shoreline setback or buffers. (WMDs, RPCs, and all cities and counties)</p>	<p>Satellite Beach: No.</p> <p>Titusville: No.</p> <p>West Melbourne: Yes.</p> <p>Indian River County: Yes.</p> <p>Indian River Shores: No.</p> <p>Fellsmere: Did not respond to survey.</p> <p>Sebastian: No.</p> <p>Vero Beach: No.</p> <p>St. Lucie County: No.</p> <p>Fort Pierce: No.</p> <p>Port St. Lucie: Yes.</p> <p>St. Lucie Village: No.</p> <p>Martin County: Yes.</p> <p>Sewall's Point: No.</p> <p>Stuart: No.</p> <p><i>Have model policies supporting resource-based development setbacks been developed for inclusion in regional and local government comprehensive growth management plans?</i></p> <p>ECFRPC: Yes. SRPP 4.29. ECFRPC also conducted a "Buffer Zones for Water, Wetlands, and Wildlife in the East Central Florida Region" study 1989 through University of Florida's Center for Wetlands. The study was a precursor of WMD buffer rules.</p>	<p>Satellite Beach: Actions needed are legislation authorizing cities to control wetland use, and to obtain information on applicable BMPs for build-out, bulkheaded shoreline lots.</p> <p>ECFRPC: Buffer rules of WMDs may not provide adequate transition areas, based on 1989 University of Florida study.</p> <p>Inventory of remaining wetlands, trend analysis of wetland loss and evaluation of significance of remaining wetlands of IRL are needed. ECFRPC conducted a wetlands inventory of Brevard County, including wet-</p>	

CCMP Action	Agency Activities (i.e. masterplan)	Obstacles & Solutions	Successes Stories & Partnership Opportunities
	<p>TCRPC: Yes. See SRPP 6.5.13. Significance of a resource-based versus a non resource-based setback is unclear. The RPC has policies promoting setbacks from estuaries and major water bodies.</p> <p><i>Has a resource-based development setback -- to protect wetlands and their functions -- been developed for the IRL such as that in the Wekiva and Econlockhatchee rivers?</i></p> <p>SJRWMD: No.</p> <p>SFWMD: No. The SFWMD setback is currently 25 ft. in all cases.</p> <p>Volusia County: Yes.</p> <p>Edgewater: No response.</p> <p>New Smyrna Beach: Did not respond to survey.</p> <p>Oak Hill: Did not respond to survey.</p> <p>Brevard County: Yes.</p> <p>Cape Canaveral: Yes.</p> <p>Cocoa: No.</p>	<p>lands susceptible to urban disturbance in 1986 but has not been updated.</p> <p>SFWMD: The wetland buffer or setback of 25' has not come under any further review. In the UEC, especially within Martin County, wetland restrictions are more stringent than the state criteria. In the UEC, the focus isn't so much on new development and how wetlands need more protection, but rather how runoff can be treated coming from developed lands with no surface water management systems.</p> <p>Volusia County: Additional funding and coordination with incorporated areas are needed.</p> <p>Brevard County: Scientific data regarding amount of buffer needed to provide adequate resource protection is needed. Also need improved funding and staffing.</p> <p>Cocoa: Modifications to Comprehensive Plan which reduce environmental protection goals, policies and objectives have been submitted to Florida DCA for review and</p>	<p>SFWMD: Both St. Lucie and Martin Counties have more stringent setbacks from state waters than the state itself (minimum 75ft).</p>

CCMP Action	Agency Activities (i.e. masterplan)	Obstacles & Solutions	Successes Stories & Partnership Opportunities
	Cocoa Beach: Yes. The City has setbacks from the dune and wetlands, these are written in LDR in a way similar to normal site setbacks. The City is almost totally built-out and very few "new development" setbacks exist.	approval.	
		Cocoa Beach: The comprehensive plan update does have resource based language regarding development orders.	
	Indialantic: No.		
	Indian Harbor Beach: No.		
	Malabar: Did not respond to survey.		
	Melbourne: No.		
	Melbourne Beach: No. SJRWMD standards apply.		
	Melbourne Village: No.		
	Palm Bay: Did not respond to survey.		
	Palm Shores: Yes.	Palm Shores: Lack of funding is an obstacle. Changes to the comprehensive plan are needed.	
	Rockledge: No.	Rockledge: Current codes do not address the upland buffers.	
	Satellite Beach: No.	Satellite Beach: Obstacles include statutes/case law. Land along waterways is already developed.	
	Titusville: No.	Titusville: Funding, lack of public support and state legislation are obstacles.	
	West Melbourne: No.		

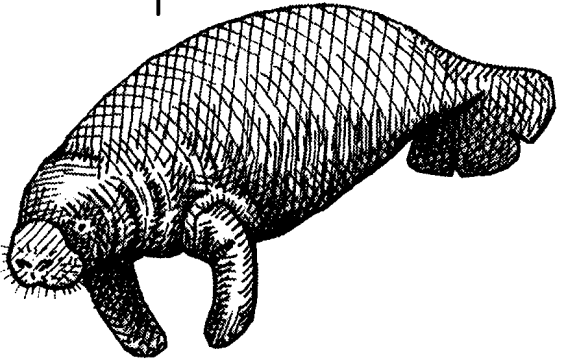
Indian River County: Yes.

Indian River Shores: Unknown.

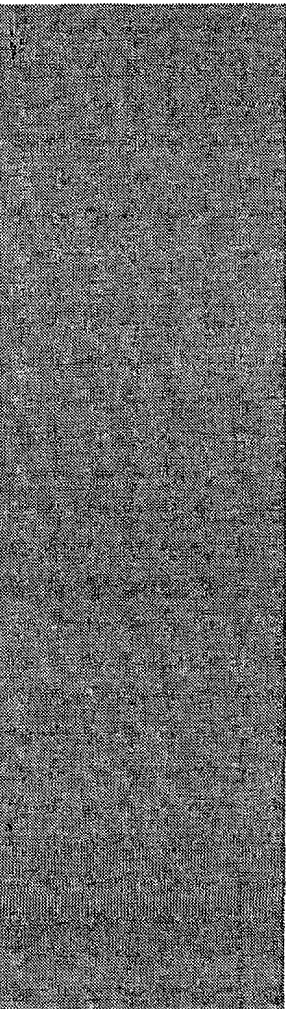
Fellsmere: Did not respond to survey.

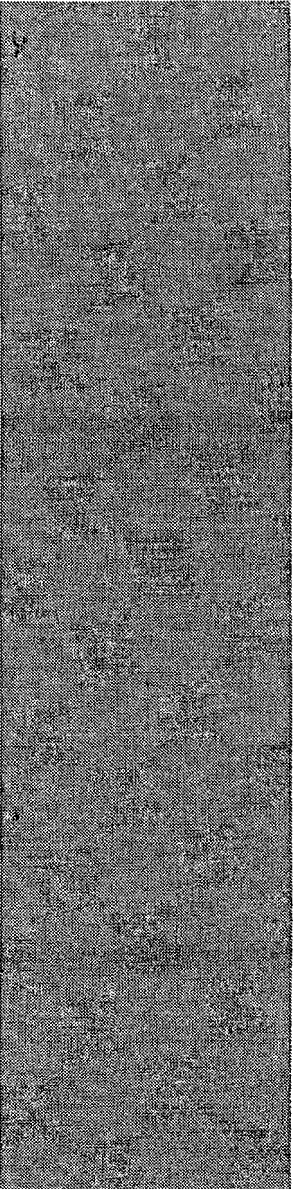
Sebastian: No.

Vero Beach: No.

CCMP Action	Agency Activities (i.e. masterplan)	Obstacles & Solutions	Successes Stories & Partnership Opportunities
<p>W-4 Acquire ownership or control of wetlands. (IRLLAWG) (Related action: LA-1, LA-2, ETS-3)</p> <p>W-5 Reconnect impounded wetlands to the IRL. (WMDs and MCDs) (Related action: IM-2.)</p>	<p>St. Lucie County: Yes.</p> <p>Fort Pierce: Not applicable.</p> <p>Port St. Lucie: No response.</p> <p>St. Lucie Village: No.</p> <p>Martin County: Yes.</p> <p>Sewall's Point: Yes.</p> <p>Stuart: Yes.</p> <p>IRLLAWG: No response.</p> <p><i>Have targets for impoundment reconnection to the IRL been established?</i></p> <p>SJRWMD: Yes. The District has set a target of 27,000 acres of impoundments within the IRL for reconnection or restoration.</p> <p>SFWMD: Yes. The target is to reconnect all impoundments in the Martin and St. Lucie county portion of the IRL.</p> <p>Indian River Mosquito Control District: Yes, all privately owned impoundments.</p> <p>St. Lucie Mosquito Control District: See St. Lucie County. [St. Lucie County responded: Yes. The Subcommittee on Managed Marshes prepared a regional plan to implement and coordinate management of each and every impoundment in the lagoon. Most have been implemented, or are in the process of being implemented, except where private</p>	<p>Martin County: Funding and staff are needed to improve shoreline conditions. Increasingly, shoreline is being developed and opportunities for restoration are diminished.</p> <p>SJRWMD: See IM-2.</p> <p>Indian River County MCD: Need public acquisition of privately-owned impoundments.</p> <p>St. Lucie County MCD: See IM-2.</p>	

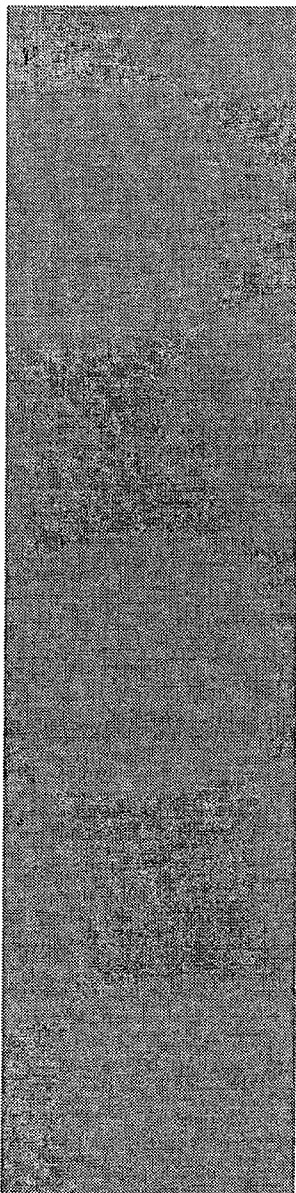
CCMP Action	Agency Activities (i.e. masterplan)	Obstacles & Solutions	Successes Stories & Partnership Opportunities
<p>W-6 Restore wetlands and shorelines. (WMDs, FDEP, public and private partnerships for coalition)</p>	<p>ownership precludes purchase and restoration.]</p> <p>Martin County Mosquito Control District: Yes. Two impoundments: 1A and Florida Oceanographic Society on Hutchinson Island. The rest of the mosquito control impoundments dikes have been breached and are open to the Indian River.</p> <p>Brevard County Mosquito Control District: Yes, via SWIM Program.</p> <p><i>Are you aware of or involved in wetland or shoreline restoration programs or efforts in the IRL region?</i></p> <p>FDEP: Yes.</p> <p>SJRWMD: Yes. There are several wetland and shoreline restoration programs in place in the IRL region.</p> <p>SFWMD: Yes. Through a combination of District funding,</p>	<p>Martin Co. MCD: See IM-2.</p> <p>Brevard County MCD: See IM-2.</p>	<p>FDEP: The Bureau of Coastal and Aquatic Managed Areas has done several shorebird nesting projects on spoil islands in the IRL. Several areas have been chosen for mitigation sites for regulatory actions.</p> <p>SJRWMD: A primary wetland restoration project is the reconnection of mosquito impoundments as functional links to the lagoon. The District in cooperation with mosquito control districts supports projects implementing improved management practices in impounded wetlands in the lagoon. Implementation of these practices will help to restore water quality and habitat benefits while maintaining mosquito control efforts.</p> <p>The District also participates in shoreline restoration projects such as the mangrove planting revegetation project being implemented by the Environmental Learning Center in Wabasso. Through this project, a unique method is used to plant mangroves along the shoreline of the IRL. The majority of these plantings are undertaken by citizen volunteers organized by the ELC. In addition to the District, SFWMD, FIND, USFWS and other public and private organizations provide funding and in-kind program support.</p>


CCMP Action	Agency Activities (i.e. masterplan)	Obstacles & Solutions	Successes Stories & Partnership Opportunities
 <p data-bbox="142 1356 400 1504">W-7 Remove trash and litter from wetlands and shorelines. (Interest groups)</p>	<p data-bbox="459 337 1066 612">SWIM, and local government funding, we are involved with shoreline restoration through our direct project efforts as well as by supporting the Environmental Learning Center. As with other things, priorities must be set when you have limited staff and funding, so some of those things are not accomplished as quickly or thoroughly as we would ideally like. We continually try to increase funding and staffing. The St. Lucie River Issue team is a good example of a major effort to secure funding for projects to benefit the St. Lucie Estuary and southern IRL. We are also making changes in the regulatory arena that will have a direct benefit.</p> <p data-bbox="459 617 1066 690">A dedicated, multi-disciplinary team and consistent funding at an appropriate level is needed. These are all things we are currently working to develop.</p> <p data-bbox="459 740 1066 789">USFWS: Yes. With funding and support from the Service's south Florida Coastal Ecosystem Program.</p> <p data-bbox="459 816 1066 1301">St. Lucie County: Yes. The County has a representative on the Central and South Florida Study Team. SWIM program applications are also submitted to the SFWMD to provide funding for exotic removal and restoration and retrofits. Private ownership and public funding limit the amount of restoration taking place. Additional funds targeted toward land acquisition and restoration of wetlands and buffers along the IRL and the St. Lucie River, including the North Fork, is needed. The primary impediment to restoration is private ownership. We continue to need research on how to improve our adaptive ecosystem management strategies. Streamlined permitting is limited to culverts instead of including other approaches that also enhance water quality, such as aeration devices. Exemptions/streamlining the permit process for such work would increase the speed of their implementation and reduce the costs of permitting. Public awareness for wetlands is greatly enhanced when access is provided. Funding for improvements to access would help to further public awareness goals.</p> <p data-bbox="459 1351 1066 1400"><i>Are you aware of shoreline clean-up efforts or programs in the IRL region?</i></p> <p data-bbox="459 1450 1066 1476">SJRWMD: Yes.</p>		<p data-bbox="1576 1455 2015 1533">SJRWMD: Each county within the IRL region has its own beautification group, generally operating in cooperation with Keep Florida</p>

CCMP Action	Agency Activities (i.e. masterplan)	Obstacles & Solutions	Successes Stories & Partnership Opportunities
	<p>Volusia County: Yes. Aid in the organization and participation of these programs.</p> <p>Brevard County: Yes. Periodic active participation.</p> <p>Cape Canaveral: Yes. Keep Brevard Beautiful and Adopt-a Shore Program.</p> <p>Melbourne: Yes. Keep Brevard Beautiful.</p> <p>Melbourne Beach: Yes. Cleanup trash, etc.</p> <p>Rockledge: Yes. Keep Brevard Beautiful and Adopt-a Shore Program.</p> <p>Satellite Beach: Yes. Keep Brevard Beautiful's Trash Bash.</p> <p>Indian River County: Yes. The County assists in promoting an annual cleanup event.</p> <p>St. Lucie County: Yes.</p>		<p>Beautiful. These organizations offer groups or individuals the opportunity to "Adopt A Shoreline" either on the ocean beaches or along the lagoon. The District has promoted these programs and is currently working with these groups to develop an "Adopt An Island" program to help clean up spoil islands in the lagoon.</p> <p>St. Lucie County: Submission of applications for funding, participation on IRL committees and attending workshops. St. Lucie County also has a "Pepper Buster" program to assist with the removal of exotics species on County owned and managed parcels.</p>

Primary responsible agencies: WMDs, RPCs, MCDs, U-F Florida Medical Entomology Lab, and IRLAWG. Please refer to this section's ranking and summarization text for the ranking information.

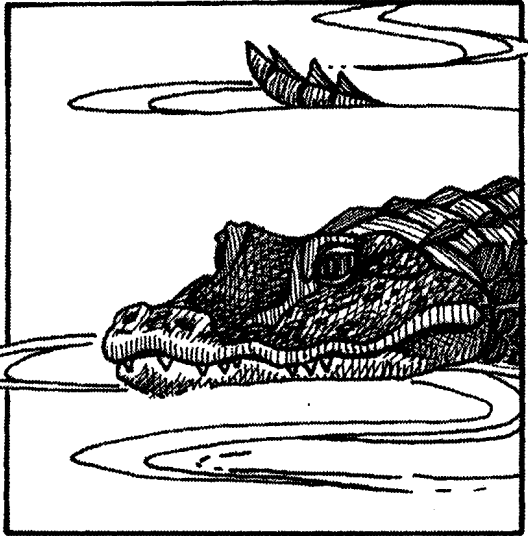
CCMP Action	Agency Activities (i.e. masterplan)	Obstacles & Solutions	Successes Stories & Partnership Opportunities
<p>IM-1 Complete or continue diagnostic, management or feasibility projects related to marshes impounded for mosquito control found in the 1994 SWIM Plan. (WMDs, RPCs, MCDs, U-F Florida Medical Entomology Lab)</p>	<p><i>Have targets for impoundment reconnection to the IRL been established?</i></p> <p>SJRWMD: Yes. The District has set a target of 27,000 acres of impoundments within the IRL for reconnection or restoration. The original schedule for this target was to complete activities by the year 2000. Problems with private ownership of impoundments and management of reconnected impoundments in Merritt Island National Wildlife Refuge have slowed progress. Mitigation has reconnected some impoundments that were originally targeted under this project, reducing the pool of available impoundments. If acquisition can be accomplished, reconnection should be completed by 2005.</p> <p>A major wetlands initiative has been undertaken to resolve management issues. This multi-agency research effort will examine a wide array of wetland components and management impacts on those components. This effort should allow reconnection and restoration to continue and insure the most appropriate management of reconnected wetlands.</p> <p>SFWMD: Yes. The target is to reconnect all impoundments in the Martin and St. Lucie county portion of the IRL.</p> <p>Indian River Mosquito Control District: Yes, all privately owned impoundments.</p> <p>St. Lucie Mosquito Control District: See St. Lucie County. (St. Lucie County responded: Yes. The Subcommittee on Managed Marshes prepared a regional plan to implement and coordinate management of each and every impoundment in the lagoon. Most have been implemented, or are in the process of being implemented, except where private ownership precludes purchase and restoration.)</p>	<p>St. Lucie County MCD: (St. Lucie County identified the following obstacles: Within an area under private ownership, the Mosquito Control District has to seek permission from owners to conduct any reconnection improvements. Such improvements are sometimes denied based on the owner's perception that such improvements detract from the owner's ability to develop the property once the habitat's function has been enhanced. The MCD is also vulnerable in areas under private ownership where the owners can refuse the District access for continued operation and management of</p>	

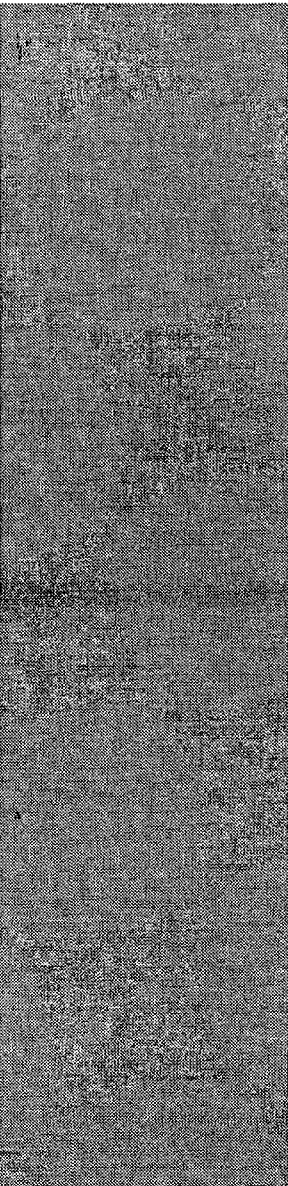
CCMP Action	Agency Activities (i.e. masterplan)	Obstacles & Solutions	Successes Stories & Partnership Opportunities
	Martin County Mosquito Control District Yes. Two impoundments: 1A and Florida Oceanographic Society on Hutchinson Island. The rest of the Mosquito Control Impoundments Dikes have been breached and are open to the Indian River.	improvements already installed. The second major impediment is that long term funding sources for such improvements are not identified.)	
	Brevard County Mosquito Control District: Yes, via SWIM Program	Martin County MCD: Mosquito Control staff shortages. New activities in Mosquito Impoundment Management will be addressed in FY00 Budget. Need development of a County level plan that would identify the extent of wetlands that have been severed from the IRL and identify opportunities for reconnection.	
	Volusia County: Yes. Canaveral National Seashore/ and Tiger Shoal Impoundment.	Brevard County MCD: We need improved funding and staffing, additional scientific documentation.	
	Brevard County: Yes. Via SWIM Program.	Brevard County: We attempted acquisition through direct contact with all private owners of impoundments and preferential tax assessment program, but no owners submitted their properties. The appraised value of wetlands is typically low and does not always provide the landowner with enough incentive to participate in a fee simple acquisition. Also, the level of inter-agency coordination necessary for a successful acquisition program is considerable and requires extensive cooperation among all agencies. Appraised value too low to have willing sellers! Price asked reflects high value of waterfront property! Need more purchases of mosquito impoundments.	
	Indian River County: Yes. Eventually all impoundments will be reconnected to the IRL.		
	St. Lucie County: Yes. The Subcommittee on Managed Marshes prepared a regional plan to implement and coordinate management of each and every impoundment in the lagoon. Most have been implemented, or are in the process of being implemented, except where private ownership pre-		

CCMP Action	Agency Activities (i.e. masterplan)	Obstacles & Solutions	Successes Stories & Partnership Opportunities
<p>IM-2 Continue acquisition of privately owned impounded marshes or obtain conservation easements allowing restoration of their natural functions. (WMDs, MCDs, and IRLAWG) (Related action W-5)</p> <p>LA-1 Develop a coordinated strategy to identify, classify, acquire and manage environmentally sensitive lands throughout the Indian River Lagoon. (IRLAWG, MCDs, WMDs, and all counties and cities)</p>	<p>cludes purchase and restoration.</p> <p>Martin County: Yes. The County has already connected impoundments that are under County control. The mosquito control manages two impoundments. All of the remaining impoundments have been breached and are open to the IRL.</p> <p><i>How many acres of impounded marshes have been reconnected in the last two years?</i></p> <p>Volusia County: Approximately 300 acres have been connected, and approximately 800 acres are planned for reconnection in the next two years.</p> <p>Brevard County: 4,200 acres have been connected, and approximately 4,700 acres are planned for reconnection in the next two years.</p> <p>Indian River County: 0, but approximately 500 acres are planned for reconnection.</p> <p>St. Lucie County: 247.53 acres, but approximately 650 acres are planned for reconnection.</p> <p>Martin County: 0 acres.</p> <p><i>Do you have an environmentally sensitive lands acquisition program?</i></p> <p>SJRWMD: Yes.</p> <p>SFWMD: Yes.</p> <p>Indian River Mosquito Control District: Yes, county; No, MCD.</p> <p>St. Lucie Mosquito Control District: Yes, county; No, MCD.</p> <p>Martin County Mosquito Control District: Yes.</p> <p>Brevard County Mosquito Control District: Yes, county; No, MCD.</p>		

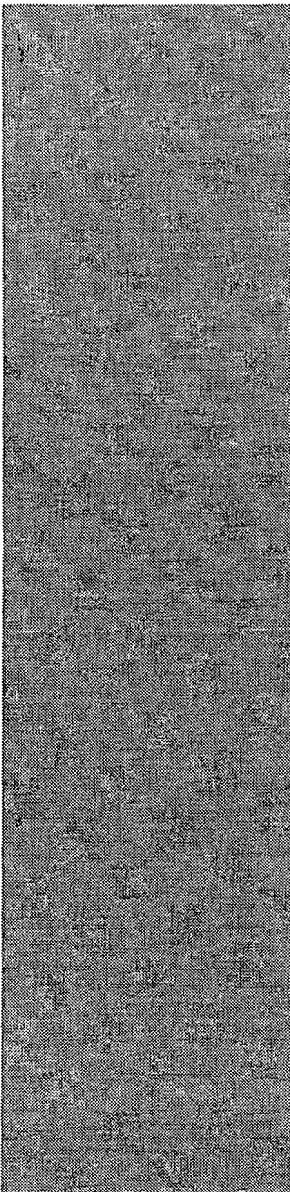
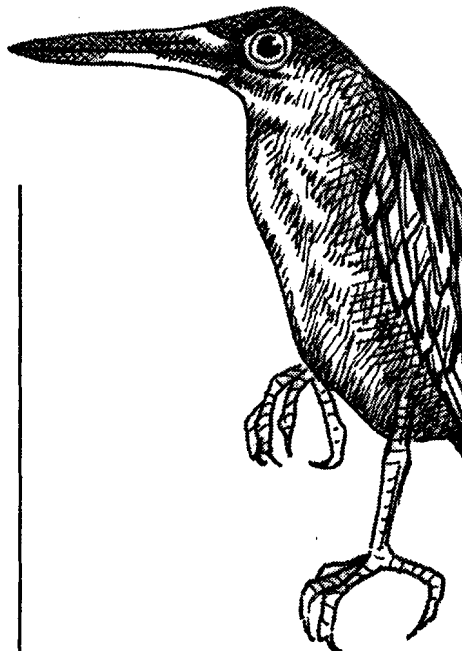
Primary responsible agencies: IRLAWG, MCDs, WMDs, and all cities and counties. Please refer to this section's ranking and summarization text for the ranking information.

CCMP Action	Agency Activities (i.e. masterplan)	Obstacles & Solutions	Successes Stories & Partnership Opportunities
<p>LA-2 Acquire ownership or management of wetlands adjacent to the IRL. (IRLLAWG, MCDs, WMDs, and all counties and cities)</p>	<p>Volusia County: Yes. From the general fund, impact fees and mitigation fees.</p> <p>Edgewater: No.</p> <p>New Smyrna Beach: Did not respond to survey.</p> <p>Oak Hill: Did not respond to survey.</p> <p>Brevard County: Yes.</p> <p>Cape Canaveral: Yes. P2000 funds.</p> <p>Cocoa: No, Comprehensive Plan Policy 6.4.5 encourages protection by public purchase programs and other mechanisms.</p>	<p>Volusia County: A significant portion of the IRL system in Volusia County is in public ownership (Canaveral National Seashore and the Merritt Island National Wildlife Refuge). However, other land can and needs to be purchased for further preservation of the IRL system. The greatest and most significant impediment is the cost of acquisition. Another issue is the multiple ownership characteristics of lands within the IRL basin.</p> <p>The County is coordinating with the SJRWMD to secure C.A.R.L. funds for the Blueway Project.</p> <p>Additional money earmarked for land preservation in the IRL basin needs to be made available. Money should come from both Federal and State sources. Grants could also be created to leverage local money.</p> <p>Edgewater: Lack of funding and staff availability and lack of scientific documentation.</p> <p>Brevard County: Obstacles include insufficient funding to complete planned acquisitions, and a need for a lead-coordinating agency: recommend FDEP. Need to develop a coordinated effort with appropriate agencies. Involve USFWS, FDEP, FDOT, WMD, and GFC locals.</p> <p>Centralized collection of land acquisition plans is needed as well as a coordinating committee to communicate acquisition priorities.</p> <p>Cocoa: Lack of funding, manpower, and priorities.</p>	<p>Brevard County: Through a voter-approved bond program that established the Environmentally Endangered Lands (EEL) Program and provided up to \$55 million in bonds to finance the cost of acquiring, protecting and maintaining environmentally endangered lands. The bonds are payable from an annual ad valorem tax not to exceed one-quarter mill levied for a period of 20 years.</p>

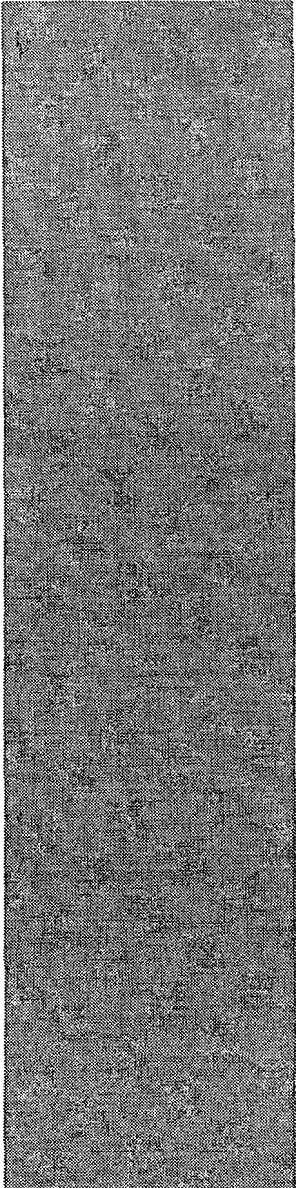

CCMP Action	Agency Activities (i.e. masterplan)	Obstacles & Solutions	Successes Stories & Partnership Opportunities
	<p>Cocoa Beach: Maybe. There is no real "program". In the past, concerned citizens with the help of the City purchased the Thousand Islands in the Banana River. These lands are being leased from the state for final ownership. There is a plan for preservation and maintenance of these islands.</p> <p>Another parcel was acquired by the County, Lori Wilson Park, a maritime hammock through citizen efforts.</p>	<p>Cocoa Beach: A maritime hammock parcel east of SRA1A and south of SR520, was in our original 1990 Comprehensive Plan for protection (the language did not give total protection from development) but no real action was made for land acquisition and sometime in the mid-90s this land began to be developed. The actual maritime hammock exists today but, despite the Comprehensive Plan earmarking, an approved site plan exists and is to be developed shortly. This will be the last parcel within the developed area of Cocoa Beach that is environmentally sensitive.</p> <p>Obstacles include: lack of a program and staff availability.</p> <p>Need program initiation and staff allocation.</p> <p>Also need elected official and City Administrator support through state coordinated education and involvement.</p>	
	<p>Indialantic: No.</p> <p>Indian Harbor Beach: No.</p> <p>Malabar: Did not respond to survey.</p> <p>Melbourne: No.</p> <p>Melbourne Beach: No.</p> <p>Melbourne Village: No.</p> <p>Palm Bay: Did not respond to survey.</p> <p>Palm Shores: No.</p> <p>Rockledge: Yes. Brevard County's EEL's Program.</p>	<p>Indian Harbor Beach: Funding is an issue.</p> <p>Melbourne: Need leadership and funding.</p> <p>Melbourne Beach: The town is built out along lagoon. Need to seek grants for protection.</p> <p>Melbourne Village: No funding.</p> <p>Palm Shores: Lack of funding, need coalition with other agencies. Need separate programs for small cities.</p> <p>Rockledge: Need funding and public/private partnerships. Solutions include: smaller viable wetland banks, technical support for surveying wetlands, and suitable banking.</p>	

CCMP Action	Agency Activities (i.e. masterplan)	Obstacles & Solutions	Successes Stories & Partnership Opportunities
	Satellite Beach: Yes. P2000 grant.	Satellite Beach: Need to identify a "lead" agency to actively develop a coalition.	
	Titusville: No.	Titusville: Within City limits, the IRL shoreline is nearly all developed as urban area.	
	West Melbourne: Yes.		
	Indian River County: Yes.	Indian River County: Lack of a full-time Environmental Lands Manager and lack of a dedicated source of funding to manage environmental lands. The County plans to hire a full-time Environmental Lands Manager by 2000.	
	Indian River Shores: No, only have zoning.		
	Fellsmere: Did not respond to survey.		
	Sebastian: No.	Sebastian: Funding, staff size and expertise not available.	
	Vero Beach: No. Indian River County has a program.	Vero Beach: Lack of staff, funding, etc.	
	St. Lucie County: Yes. The St. Lucie County Environmental Land Acquisition Program is a county-wide program funded through a \$20 million bond fund.	St. Lucie County: Funding limitations and differences between landowner perceived value and actual value create acquisition barriers. Limitations would primarily be addressed by lobbying the legislature for support for state and regional P2000 programs, for additional funding for land acquisition and management of environmentally sensitive areas along the IRL. A dedicated funding source for ongoing land acquisition, recreation development and management is an identified need.	St. Lucie County: To date, approximately 83% of available funds have been expended or are targeted toward approved projects. The County provides funding for land acquisition and the development of management plans for land acquisition efforts, generates grant applications for purchases and/or performs due diligence on donations of small wetland parcels within mosquito control impoundments. St. Lucie County also acts as a facilitator for wetland and native upland habitat preservation along the IRL, through the U.S. Dept. of Interior, Fish and Wildlife Service and the state P2000 programs. This effort has resulted in significant multi-party and multi-agency purchases because of our management ability, experience, funding acumen and general persistence.
	Fort Pierce: No.		
	Port St. Lucie: No.		
	St. Lucie Village: No. We are trying to acquire a 78 acre parcel through the Florida Communities Trust. A \$2.2 million grant was appropriated for this purchase, but the state and	St. Lucie Village: Lack of staff and funds. The Village cannot undertake such an effort alone. We will continue to pursue such pur-	

CCMP Action	Agency Activities (i.e. masterplan)	Obstacles & Solutions	Successes Stories & Partnership Opportunities
	<p>the land owner have not been able to agree on purchase price.</p> <p>Martin County: Yes.</p> <p>Sewall's Point: No.</p> <p>Stuart: Yes.</p> <p>GFC: Yes. P2000 Inholdings and Additions Program, GFC Mitigation Park Program - funded via developer contributions via DRI development orders and listed species incidental take permits.</p> <p>FDEP: Yes.</p> <p>USFWS: Yes. The National Coastal Wetlands Conservation Grants program (funded by federal aid in Atlanta) provides funds to coastal states to purchase environmental sensitive lands.</p> <p><i>Are you aware of a group that coordinates environmentally sensitive lands acquisition within the IRL region? Have you/they identified priorities for environmentally sensitive lands acquisition?</i></p> <p>SJRWMD: Yes. The District participates in the IRL Blueway</p>	<p>chases with the aid of County staff.</p> <p>Martin County: Funding and staff are limited for land acquisition. The County is working with SFWMD to develop a joint program for land acquisition. Significant improvement of estuary biodiversity would be accomplished with the full implementation of the ACOE restudy and IRL feasibility study.</p> <p>Funding and current public demand that sensitive lands adjacent to the St. Lucie River be given first priority over other acquisition such as those that may directly benefit the IRL. Need to identify long range strategy for acquisition that integrates recreation lands acquisition with environmentally sensitive lands where uses can be made compatible.</p> <p>Sewall's Point: Lack of public support and funding, lack of scientific information / documentation.</p> <p>Stuart: Lack of funding.</p> <p>SJRWMD: Obstacles include: lack of funding</p>	<p>Martin County: Funding through a 1% sales tax.</p>

CCMP Action	Agency Activities (i.e. masterplan)	Obstacles & Solutions	Successes Stories & Partnership Opportunities
	<p>CARL group. It also has several initiatives of its own to acquire sensitive lands that meet District criteria.</p> <p>The District's program targets wetlands, both Impounded and unimpounded. This directly supports action items IM-1, IM-2, W-4, W-5, and LA-2.</p>	<p>and staff to act as agents for acquisition, appraisal review, real estate closings and land management; lack of willing sellers; and no resolution on the sovereign submerged lands issue; appraised, fair market value vs. owner's speculation of development value; high growth, rapidly developing urban areas.</p> <p>The District and other Blueway partners are continuing to increase the priority of the lagoon, making more funding and staff available each year.</p> <p>Need to increase land acquisition funding sources to improve effectiveness.</p>	
	<p>SFWMD: Yes. Save Our Rivers is a SFWMD program set up to acquire lands throughout the District. The CARL and P2000 programs work in conjunction w/ SOR and local government land acquisition programs. We also have identified priorities.</p>	<p>SFWMD: If funding and staffing was at a higher level it could be accomplished faster, also increased efforts to obtain additional cost share from local governments and possibly through grants would help.</p> <p>The SLR issue team is addressing this through their efforts. Local governments have made good progress toward purchasing both environmentally sensitive lands and land to be used for water preserve areas, which will directly benefit the SLE and IRL by attenuating water. In 1998 Martin County voters passed a one-cent tax increase to be used for this purpose.</p> <p>More money would improve effectiveness.</p>	
	<p>GFC: Yes/No.</p>	<p>GFC: Obstacles may include potential reduction in available funding via successor to P-2000 Program. Need for legislative lobbying by public and private interest groups.</p>	
	<p>USFWS: Yes. IRL Blueway Project.</p>	<p>USFWS: To date we have not participated with this group directly.</p>	
	<p>Indian River Mosquito Control District: Yes. We have participated with groups on environmentally sensitive land acquisition and have identified priorities.</p>	<p>Indian River County MCD: Need more money and less arguing to improve effectiveness.</p>	
	<p>Martin County Mosquito Control District: Yes, not yet participated with group, but priorities have been identified for environmentally sensitive land acquisition.</p>	<p>Martin County MCD: Obstacles include: lack of funding and current public demand that sensitive lands adjacent to the St. Lucie</p>	

CCMP Action	Agency Activities (i.e. masterplan)	Obstacles & Solutions	Successes Stories & Partnership Opportunities
	<p>Brevard County Mosquito Control District: Yes. The program has identified priorities for mosquito impoundments. Brevard County's EEL Program is acquiring land within the North Indian River Lagoon CARL project. This project is approved for state and federal matching funds through the CARL program and NAWCA respectively. The EEL program, The Nature Conservancy, USFWS, SJRWMD, and Volusia County coordinate their land acquisition planning. The County is also aware that the WMDs that border the lagoon participated together to sponsor the Blueways CARL project. The EEL Program's acquisition priorities are currently focused on completing acquisition of lands identified in Brevard County's region of the North Indian River Lagoon CARL project and on continuing to acquire lands within the Coastal Scrub Ecosystem CARL project. The Blueways CARL project identified additional properties for protection along the entire length of the lagoon.</p> <p><i>How many acres of environmentally sensitive land have you acquired within the lagoon basin?</i></p> <p>SJRWMD: 12,014 acres within the lagoon basin. All environmentally sensitive land acquired by the District for the lagoon is adjacent to the lagoon or one of its tributaries.</p> <p>SFWMD: 397 acres adjacent to the lagoon and 2084 acres lagoon-wide.</p> <p>Indian River Mosquito Control District: See Indian River County.</p> <p>St. Lucie Mosquito Control District: See St. Lucie County.</p> <p>Martin County Mosquito Control District: See Martin County.</p> <p>Brevard County Mosquito Control District: See Brevard</p>	<p>River be given first priority over other acquisitions such as those that may directly benefit the IRL.</p> <p>Identify a long-range strategy for acquisition that integrates recreation lands acquisition with environmentally sensitive lands where these uses can be made compatible.</p> <p>Brevard County MCD: The Blueways was endorsed by the Brevard Board of County Commissioners with no funding commitment for acquisition. The County's EEL Program does not have acquisition dollars dedicated toward this program.</p>	

CCMP Action	Agency Activities (i.e. masterplan)	Obstacles & Solutions	Successes Stories & Partnership Opportunities
	<p>County.</p> <p>Volusia County: Approximately 40 acres adjacent to the lagoon and approximately 15,000 acres within the lagoon basin.</p> <p>Edgewater: No response.</p> <p>New Smyrna Beach: Did not respond to survey.</p> <p>Oak Hill: Did not respond to survey.</p> <p>Brevard County: Approximately 1,700 acres adjacent to the lagoon and approximately 4,000 acres within the lagoon basin.</p> <p>Cape Canaveral: 32 acres.</p> <p>Cocoa: Approximately 25 acres within the lagoon basin.</p> <p>Cocoa Beach: 600 acres.</p> <p>Indialantic: 0 acres</p> <p>Indian Harbor Beach: 0 acres</p> <p>Malabar: Did not respond to survey.</p> <p>Melbourne: 0 acres</p> <p>Melbourne Beach: Not applicable.</p> <p>Melbourne Village: No response.</p> <p>Palm Bay: Did not respond to survey.</p> <p>Palm Shores: 0 acres</p> <p>Rockledge: 235 acres adjacent to the lagoon and approximately 400 acres within the lagoon basin.</p> <p>Satellite Beach: 0 acres.</p> <p>Titusville: 0 acres.</p> <p>West Melbourne: 0 acres.</p>		

CCMP Action	Agency Activities (i.e. masterplan)	Obstacles & Solutions	Successes Stories & Partnership Opportunities
	<p>Indian River County: 737 acres adjacent to the lagoon and approximately 11,581 acres lagoon-wide.</p> <p>Indian River Shores: Unknown.</p> <p>Fellsmere: Did not respond to survey.</p> <p>Sebastian: 0 acres.</p> <p>Vero Beach: See Indian River County.</p> <p>St. Lucie County: 725 acres adjacent to the lagoon and approximately 12,644 acres lagoon-wide.</p> <p>Fort Pierce: No response.</p> <p>Port St. Lucie: No response.</p> <p>St. Lucie Village: 0 acres.</p> <p>Martin County: 1,027 acres adjacent to the lagoon and approximately 1,711 acres within the lagoon basin.</p> <p>Sewall's Point: 0 acres.</p> <p>Stuart: 25 acres lagoon-wide.</p> <p>NPS: NPS owns 6,356 acres. NASA owns 16,505 acres. The park may acquire approximately 38 acres in Oak Hill for an environmental center to interpret lagoon's resources and the archeological significance of Seminole Rest (Snyder's Mound).</p> <p>GFC: 0 acres.</p> <p>USFWS: 1,000 acres lagoon-wide.</p> <p>FDEP: 4,257 acres total. We've entered joint acquisition agreements with Brevard and Indian River counties. We've adopted WMD acquisition procedures for shared acquisitions</p>	<p>FDEP: Current barrier to expanding CARL boundaries is the mandate by Legislature to finalize P-2000. Even though a successor</p>	<p>St. Lucie County: Developing a mitigation bank on an additional 315 acres. 587 acres are in private conservation on the barrier islands. Received 284 acres in donations on the barrier islands. An additional 1,996 acres are publicly preserved along the lagoon in St. Lucie County. In process of attempting joint-purchase of all Blueway-Phase I projects in St. Lucie County, totaling 523 acres.</p> <p>FDEP: Archie Carr Sea Turtle Refuge, Maritime Hammocks Initiative, Sebastian Inlet, Hutchinson Island (Blind Creek and</p>

CCMP Action

Agency Activities
(i.e. masterplan)

Obstacles & Solutions

Successes Stories &
Partnership Opportunities

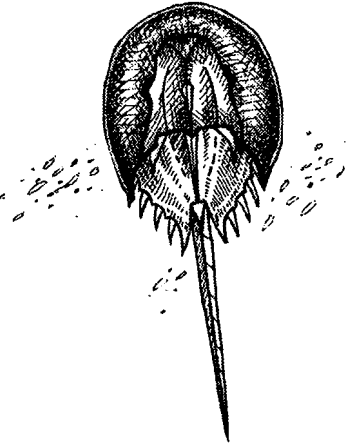
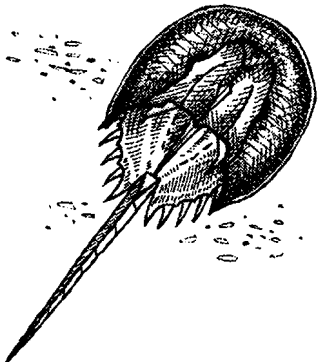
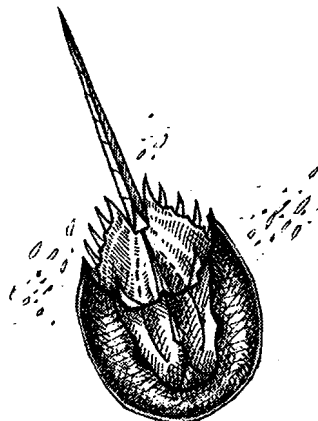
with the districts. We're collecting more tidal information to clear up sovereignty issues. We're consulting with legislative staff and members to promote a successor program for P-2000 that will include substantive funding for CARL and inholdings and additions.

program is proposed, CARL Program funding may be substantially reduced. Local support for the state's CARL program needs to be raised to the Governor's and Legislator's attention. Board of Trustees (cabinet and government) have more restrictive acquisition guidelines than other entities, but most counties and both WMDs in IRL understand the issues and have learned how to work with DSL to acquire lands for the Trustees. Indian River County, with support Brevard County, wants to hold joint title with Trustees, and we are working with them to develop a policy proposal to take to the Trustees for consideration. Land must be on CARL list or an inholding of addition to state-managed lands before state funds could be spent. State also restricted from acquiring lands below a mean high water that are sovereign submerged lands.

Green Turtle Beach, Seabranh, Avalon, St. Lucie Inlet, Ft. Pierce Inlet) Beach accesses in Brevard, Indian River, etc., Brevard Coastal Scrub Ecosystem, Muscara Tract, South Savannas, Sebastian Creek, North Fork ST. Lucie.

Primary responsible agencies ranked: USFWS, NMFS, GFC, FDEP. Please refer to this section's ranking and summarization text for the ranking information.

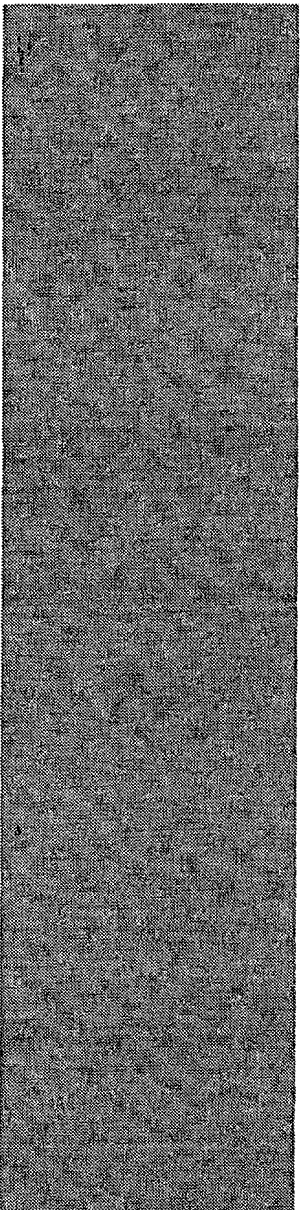
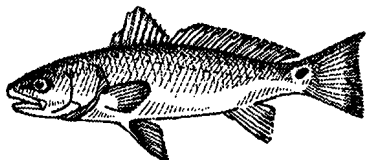
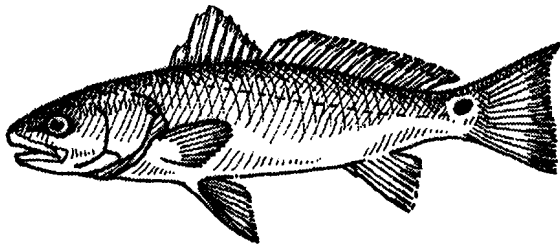
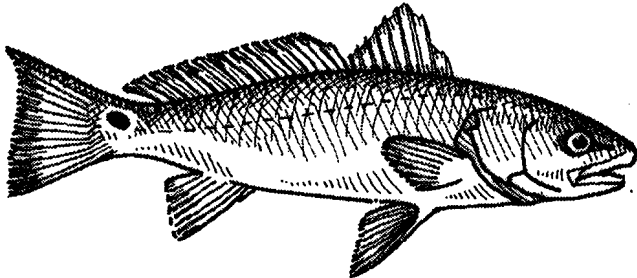
[illegible]

CCMP Action	Agency Activities (i.e. masterplan)	Obstacles & Solutions	Successes Stories & Partnership Opportunities
<p>ETS-2 Improve enforcement of regulations protecting endangered, threatened, or species of special concern within the Indian River Lagoon region. (USFWS, NMFS, GFC)</p>	<p><i>Have mechanisms to implement management plans and enforce regulations to protect endangered and threatened species been coordinated with other enforcement agencies?</i></p> <p>USFWS: No.</p> <p>GFC: Yes. We regularly coordinate with FDEP and USFWS staff. FDEP - sea turtles, manatee, USFWS - federally listed species.</p>	<p>GFC: We need to involve private landowners as stakeholders in the protection of listed species. We conduct some public outreach activities, but more are needed.</p> <p>Tax and regulatory incentives for the protection of listed species on private lands would improve effectiveness.</p>	
<p>ETS-3 Protect critical habitats of endangered, threatened, or species of special concern found within the Indian River Lagoon region through land acquisition. (IRLAWG) (Related action BD-2)</p>	<p><i>Have vital habitats or particular areas within the IRL that are critical to the maintenance of key species been identified and protected?</i></p> <p>FDEP: Yes. The Sustainable Fisheries Act now requires that all federal fisheries management plans include a description of essential fisheries habitat. Where appropriate, this will include IRL nursery areas.</p> <p>GFC/support: es. Regulatory - state and federal dredge and fill permit process, and local government land use regulations. Also, land acquisition programs and habitat stewardship on private lands.</p>	<p>FDEP: Identified not protected.</p>	
<p>ETS-4 Undertake studies of wildlife diseases occurring in the Indian River Lagoon region, which may be caused by human activities. (USFWS, NMFS)</p>	<p><i>Have studies been conducted of wildlife diseases or deaths occurring in the IRL region such as fibro-papillomatosis, lobo mycosis, fish kills or pelican deaths?</i></p> <p>USFWS: No.</p> <p>GFC: Yes. Pelican deaths.</p> <p><i>Are actions being taken to address these problems or causes?</i></p>		

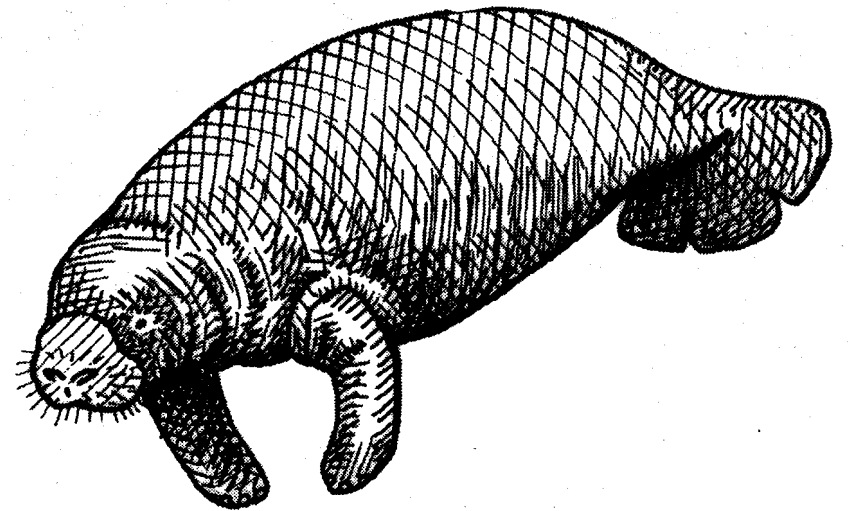
CCMP Action	Agency Activities (i.e. masterplan)	Obstacles & Solutions	Successes Stories & Partnership Opportunities
	USFWS: No. GFC: No.	GFC: Multiple pelican deaths have been attributed to nutrition and/or weather problems that are beyond our control.	

Primary responsible agencies ranked: FDEP AND MFC. Please refer to this section's ranking and summarization text for the ranking information.

CCMP Action	Agency Activities (i.e. masterplan)	Obstacles & Solutions	Successes Stories & Partnership Opportunities
<p>F-1 Improve management of fisheries in the IRL through coordination of fisheries research and management efforts (FDEP/FMRI, MFC)</p> <p>F-2 Develop a coordinated fisheries research agenda to improve the present knowledge of fisheries in the Indian River Lagoon. (FDEP/FMRI)</p> <p>F-3 Develop and implement a coordinated fisheries management strategy specific to the Indian River Lagoon. (FDEP/FMRI, MFC)</p>	<p><i>Has a coordinated research and management program to assess fisheries status and trends in the IRL been developed?</i></p> <p>FDEP/FMRI: Yes. The FDEP Florida Marine Research Institute is the lead agency. FMRI uses two field stations (Tequesta and Melbourne) to coordinate the fisheries research activities in the IRL. In addition, shellfish resources are monitored through the efforts of SEAS staff located in Palm Bay. FMRI, Fisheries Assessment section uses a two pronged approach, collecting fisheries independent (Fish Monitoring Program) and fisheries dependent (Trip Ticket, Biostatistical Sampling Program and Recreational Survey) data. The Fish Monitoring Program is a long-term program designed to estimate relative abundance of fishes in estuarine waters. The trip ticket program collects commercial data and the biostatistical program is an independent assessment of the identification of the fish and invertebrates brought back to the dock by commercial fishers. The recreational survey is a creel survey used to estimate levels of recreational catch and effort. Together these four component programs are used by FMRI stock assessment to develop fishery population estimates or stock assessments that are used in the assessment of harvest regulations.</p> <p><i>Is the collection and distribution of IRL fisheries data and information coordinated?</i></p> <p>FDEP/FMRI: Yes</p> <p><i>Have stock assessments been performed on any species?</i></p> <p>FDEP/FMRI: Yes. Weakfish, spotted seatrout, red drum, snook, mullet, bluefish, hardhead, gaftopsail catfish, Spanish and king mackerel, hard clams, and blue crab.</p>	<p>FDEP/FMRI: All the fisheries action items are possible with sufficient new, long-term funding. Additional funds (not fund shifting) need to be targeted for data collection and synthesis. This is probably the lowest priority for funding when funds are available.</p> <p>FDEP/FMRI: Obstacles preventing additional stock assessments include lack of life history information such as age, growth, and reproductive data. These types of data are lacking on some species listed under general "Marine Life" category (tropical species such as damsels and angelfish).</p>	

CCMP Action	Agency Activities (i.e. masterplan)	Obstacles & Solutions	Successes Stories & Partnership Opportunities
	<p><i>Have vital habitats or particular areas within the IRL that are critical to the maintenance of key species been identified and protected?</i></p> <p>FDEP/FMRI: Yes. The Sustainable Fisheries Act now requires that all federal fisheries management plans include a description of essential fisheries habitat. Where appropriate, this will include IRL nursery areas. Descriptions of essential habitat is also being incorporated into Interjurisdictional fishery management plans (ASMFC). This process will eventually lead to heightened awareness and protection through State legislation. FMRI is currently developing an approach to do this and a map of seagrasses and other wetlands can be produced.</p>		
			

PUBLIC & GOVERNMENTAL SUPPORT & INVOLVEMENT SECTION



PUBLIC & GOVERNMENTAL SUPPORT & INVOLVEMENT

Section Ranking

To evaluate the progress toward implementing recommended actions in the Public & Governmental Support and Involvement Section, we rated progress as follows: 4 - Implemented: (75-100% complete); 3 - Substantial Progress: (50-74% complete); 2 - Moderate Progress: (49-25% complete); 1 - Minimal Progress: (up to 24% complete); 0 - No Progress: (0% complete); U - Unknown Progress; DNR - Did Not Respond to survey

Public Involvement and Education

PIE-1 - Continue public involvement and education projects included in '94 SWIM.

PIE-2 - Inform the general public and governments about the resources of the IRL, the value of these resources, and threats to the continued viability of these resources.

PIE-3 - Increase public and government awareness of program which protect and restore the IRL.

PIE-4 - Increase public and government involvement in activities designed to protect and restore the resources of the IRL.

SJRWMD	4
SFWMD	2

Future Implementation

FI-1 - Establish a management structure to oversee, monitor and guide IRLCCMP implementation.

IRLNEP Policy Commission	
SJRWMD	4
SFWMD	4
FDEP	0

FI-2 - Establish a process to measure IRLCCMP implementation.

IRLNEP+	
SJRWMD	4
SFWMD	2
FDEP	0

FI-3 - Adopt an implementation agreement to be signed by all participants of the modified (post IRLCCMP adoption) management conference as whole or on an action plan by action plan basis.

USEPA	2
FDEP	2

SJRWMD	3
SFWMD	2
VOLUSIA COUNTY	4
Edgewater	0
New Smyrna	DNR
Oak Hill	DNR
BREVARD COUNTY	2
Cape Canaveral	0
Cocoa	4
Cocoa Beach	2
Indianalantic	U
Indian Harbor Beach	4
Malabar	DNR
Melbourne	2
Melbourne Beach	0
Melbourne Village	0
Palm Bay	DNR
Palm Shores	2
Rockledge	2
Satellite Beach	2
Titusville	2
West Melbourne	2
INDIAN RIVER COUNTY	4
Fellsmere	DNR
Indian River Shores	0
Sebastian	2
Vero Beach	0
ST. LUCIE COUNTY	2
Fort Pierce	0
Port St. Lucie	0
St. Lucie Village	0
MARTIN COUNTY	0
Sewall's Point	0
Stuart	2

Data and Information Management

DIM-1 - Continue/complete projects related to data and information management found in '94 SWIM update.

DIM-2 - Continue implementation of DIM strategies.

DIM-3 - Continue to update IRL Scientific Information System and make available to public in electronic format.

DIM-4 - Ensure all data and information concerning the IRL is entered into and available through STORET.

DIM-5 - Improve and update the STORET system.

SJRWMD	2
SFWMD	3

Monitoring

MON-1 - Complete/continue projects related to monitoring resources of the IRL found in SWIM Plan update.

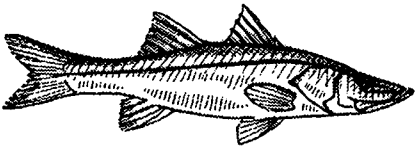
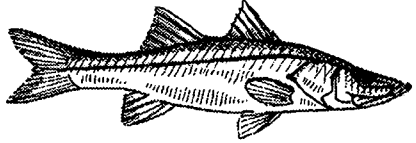
MON-2 - Continue Citizens Water Quality Monitoring Network.

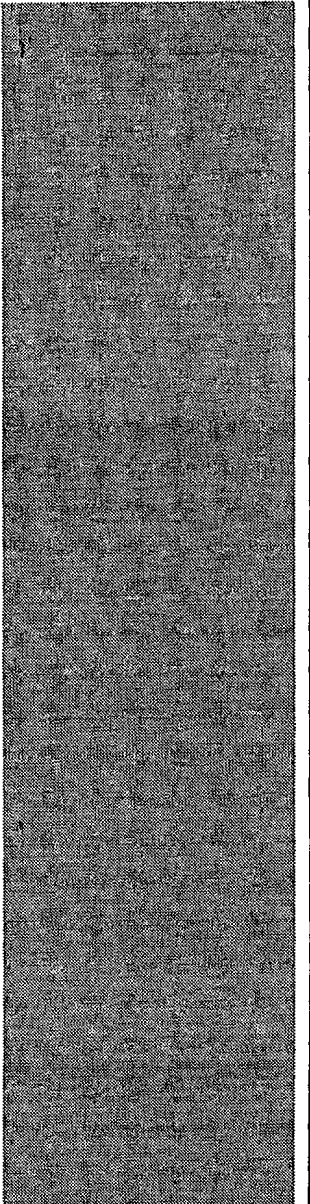
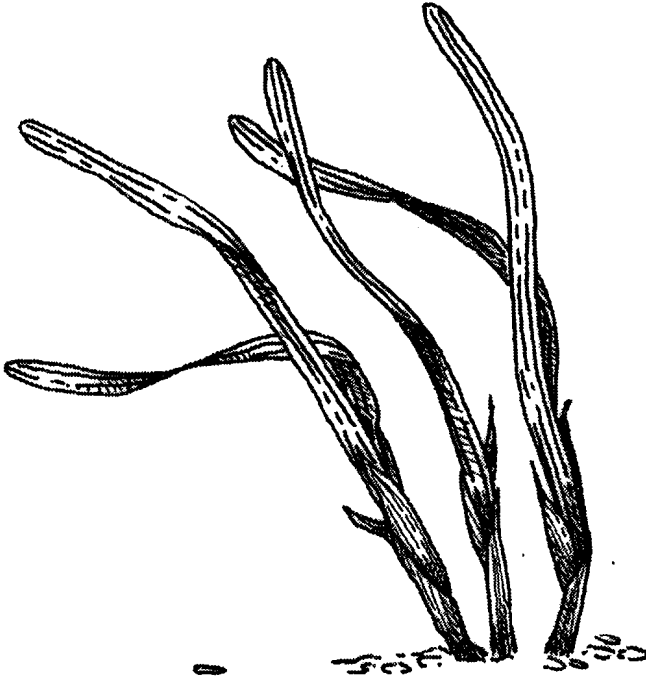
MON-3 - Provide support for biennial report on IRL.

SJRWMD	4
SFWMD	4

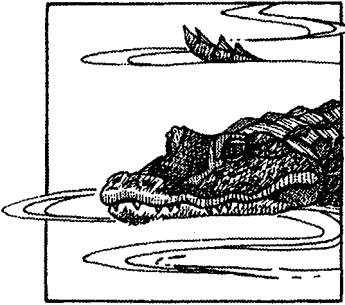
Primary responsible agencies ranked: SJRWMD, SFWMD, and FDEP. Please refer to this section's ranking and summarization text for the ranking information.

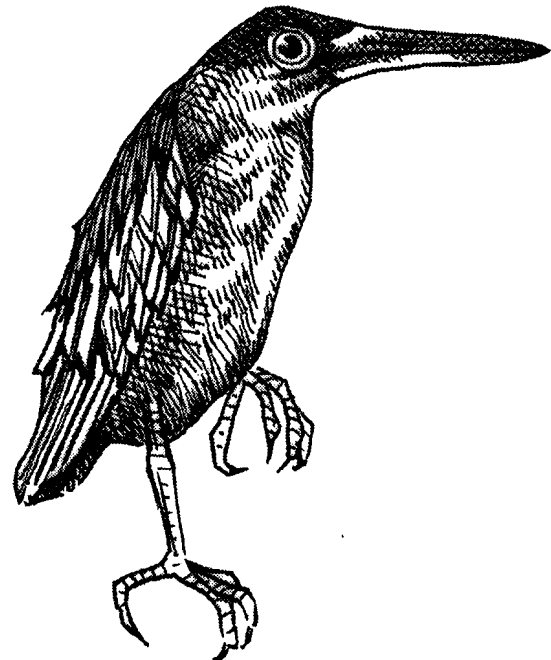
CCMP Action	Agency Activities (i.e. masterplan)	Obstacles & Solutions	Successes Stories & Partnership Opportunities
<p>PIE-1 Continue public involvement and education projects included in '94 SWIM. (SJRWMD, SFWMD)</p>	<p><i>What is the estimated number of printed materials which have been distributed since 1996?</i></p> <p>SJRWMD: The SJRWMD distributed 1.18 million pieces of literature and public education videos.</p> <p>SFWMD: The SFWMD distributed several thousand pieces of literature.</p> <p>FDEP: The FDEP distributed approximately 75,000 pieces of printed materials.</p>		<p>SJRWMD: Distributed 1.18 million pieces of literature distributed.</p> <p>SFWMD: Distributed several thousand.</p> <p>FDEP: Distributed approximately 75,000 printed materials, (general information on estuaries).</p>
<p>PIE-2 Inform the general public and governments about the resources of the IRL, the value of these resources, and threats to the continued viability of these resources. (IRLNEP4)</p>	<p><i>Do you have a web-site for IRL information?</i></p> <p>SJRWMD: The SJRWMD maintains website HYPERLINK http://www.sjr.state.fl.us/index2.html</p> <p>SFWMD: The SFWMD maintains website http://www.sfwmd.gov</p> <p>FDEP: The FDEP maintains website http://www.dep.state.fl.us There are several subsets of this website that have information on the IRL and associated resources.</p> <p><i>Is the effectiveness of the education program being measured?</i></p> <p>SJRWMD: The effectiveness of the SJRWMD education program is being measured.</p>		
<p>PIE-3 Increase public and government awareness of programs which protect and restore the IRL. (IRLNEP4)</p>		<p>SJRWMD: The SJRWMD is spearheading development of a decision-making series for local elected and appointed officials (Water Smart Communities) to highlight water resource issues, share strategies and approaches, and identify resources to assist officials in making critical water resource decisions. Stormwater management for water quality and flood protection and other topics will be covered by the series. Public</p>	<p>SJRWMD: After teacher workshops, evaluation forms are completed and returned to the SJRWMD. As the number of public events participated in increases, the requests to participate in additional events increases. As the public education program has increased in scope, requests for materials have increased.</p>

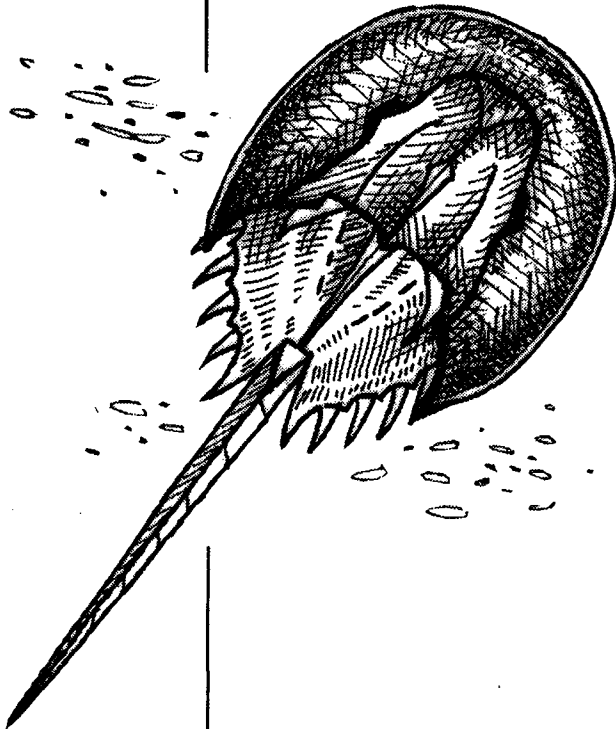
CCMP Action	Agency Activities (i.e. masterplan)	Obstacles & Solutions	Successes Stories & Partnership Opportunities
<p>PIE-4 Increase public and government involvement in activities designed to protect and restore the resources of the IRL. (IRLNEP+)</p>	 <p>SFWMD: The effectiveness of the SFWMD education program is not being measured.</p> <p>FDEP: The effectiveness of the FDEP education program is not being measured. Most of the environmental education efforts are limited to the distribution of materials at outreach events. Therefore the easiest way to measure is to count brochures distributed.</p> <p><i>What is the priority for your IRL education program?</i></p> <p>SJRWMD: The SJRWMD considers its IRL education program a high priority. Restoration and protection of the IRL is a high priority for the District. Recognizing that an informed citizenry is one of the keys to the success of Lagoon restoration and protection, the District also places a high priority on education initiatives, particularly those that involve direct public contact and involvement.</p>	<p>education is an on-going process that agencies and organizations must always employ as part of all IRL restoration and protection efforts. Public agencies at all levels must continue to seek opportunities to form partnerships to undertake Lagoon restoration projects together, and communication must be maintained with the public, media and with other agencies. Volunteer programs and community forums are critical components of public education efforts.</p> <p>SFWMD: More focus on education and awareness of issues and accomplishments.</p> <p>FDEP: It may benefit the IRL if the agencies worked together to create a 'road show' explaining the value of the lagoon and the ways in which residents and visitors can help maintain and improve its health.</p>	 <p>FDEP: Public support has been very good. There are several local environmental groups that help including: Hobe Sound Nature Conservancy, Blowing Rocks Preserve, FL Oceanographic Society, Ft. Pierce Manatee Center, St. Lucie Inlet State Recreational Area, and the ELC.</p> <p>SJRWMD: Those opportunities have included: developing a volunteer base to assist with Lagoon projects and public education efforts; maintaining communication with the media; sharing information with the public and elected officials through participation in more than 30 public events annually and by giving more than 60 presentations annually; forming partnerships with private organizations to develop public education projects; hosting community education forums; developing and distributing educational materials; holding workshops for teachers; involving high school students through the Legacy Program; involving 5th graders through the ELC's River Days and Brevard Zoo's Lagoon educational programs; and producing documentaries broadcast to local and overseas audiences.</p>

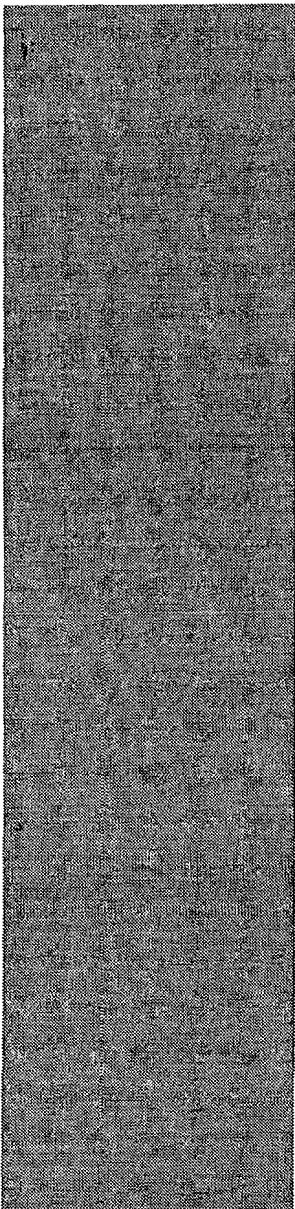
CCMP Action	Agency Activities (i.e. masterplan)	Obstacles & Solutions	Successes Stories & Partnership Opportunities
	<p>SFWMD: The SFWMD considers its IRL education program a medium priority.</p> <p>FDEP: The FDEP considers its IRL education program a low priority.</p> <p><i>Would you suggest changes to improve efforts to involve the public and officials about the IRL and projects / programs to protect and restore the IRL?</i></p> <p>SJRWMD: Yes.</p> <p>SFWMD: Yes.</p> <p>FDEP: Yes.</p>	<p>FDEP: FDEP does have sections designated to do environmental outreach, however staffs are limited.</p>	<p>FDEP: Most of the FDEP field offices participate in local events such as fairs, career days, public awareness functions, etc., on a regular basis.</p> 

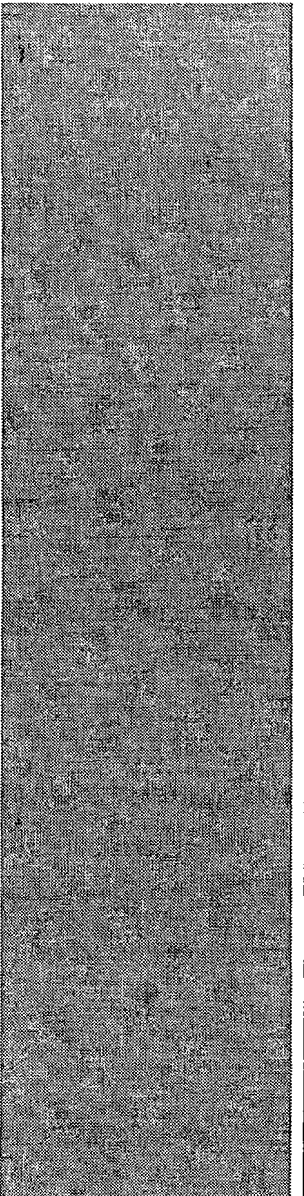
Primary responsible agencies ranked: SJRWMD, SFWMD, USEPA, FDEP, Volusia, Brevard, Indian River, St. Lucie and Martin counties and all cities. Please refer to this section's ranking and summarization text for the ranking information.

CCMP Action	Agency Activities (i.e. masterplan)	Obstacles & Solutions	Successes Stories & Partnership Opportunities
<p>FI-1 Establish a management structure to oversee, monitor and guide IRLCCMP implementation. (IRLNEP Policy Committee)</p>	<p><i>Has a management structure to oversee implementation of the IRLCCMP been established?</i></p> <p>SJRWMD: Yes. In July 1996, the Governing Board passed Resolution #96-28 to "establish the Indian River Lagoon Basin Advisory Council" and charged this council with providing recommendations to the Governing Board related to the District's role in protecting and restoring the IRL with particular attention to implementing the IRLCCMP and SWIM Plan. The SJRWMD and SFWMD continue to work in unison collecting and managing technical data, developing PLRGs, and monitoring reconnected impoundments for wildlife habitat and water quality improvements. Activities currently underway by the Council include contacting state legislators in support of the Forever Florida Initiative and a dedicated funding source for the SWIM program; review and ranking of projects within the IRL 5 Year Capital improvement Plan; and review of the ACOE's \$7.2 billion South Florida Restudy Report as it applies to the IRL and the St. Lucie Estuary.</p> <p>SFWMD: Yes.</p> <p>FDEP: No. There has not been any specific staff allocation for the IRLCCMP implementation. The sections of FDEP specifically responsible for individual actions are familiar with the tasks laid out in the plan and works to implement them.</p> <p><i>Is there a process to review the management effectiveness through time?</i></p> <p>SJRWMD: Yes. There is a process to review the management effectiveness through time. There are several processes being</p>		<p>SJRWMD: Invitations to participate as a member of the Basin Advisory Council included representatives from Volusia, Brevard, Indian River, St. Lucie and Martin counties, FDEP, USEPA, SFWMD, SJRWMD, and chairs of NEP technical advisory and citizen's action committees. The IRL Basin Advisory Council was broadened in 1998 to include USACOE, USFWS, USDA/NRCS, NASA, FIND, TNC, and GFC. Over the past two years, the Council has effectively pursued implementation of the IRLCCMP by improving communication and facilitation between the Lagoon's management agencies, local governments and citizens. Considerable progress has been achieved in implementing CCMP actions by each of the Council members. Local governments have continued to actively pursue partnerships with the water management districts and other agencies to implement stormwater retrofit and habitat restoration projects as well as providing support for the Indian River Lagoon Blueway Proposal.</p> 

CCMP Action	Agency Activities (i.e. masterplan)	Obstacles & Solutions	Successes Stories & Partnership Opportunities
<p>FI-2 Establish a process to measure IRL- CMP implementa- tion. (IRLNEP)</p>	<p>used to assess the management effectiveness of the IRL Basin Advisory Council and the implementation of the CCMP, including this progress report produced by Florida Audubon. The IRLNEP 1998 Biennial Report was completed, with the primary purpose of ensuring adequate progress in CCMP implementation. Measurable environmental indicators are also being used to evaluate, including the primary indicator - the extent and health of the seagrass community, which is a vital component of the Lagoon's ecosystem and an excellent indicator of water quality, biological health and integrity. Much of the work being done on the IRL Pollutant Load Reduction Model is being based upon the viability of the seagrass community. Other supplemental environmental indicators are also being considered: changes in the acreage of approved shellfish harvesting areas and the landings or populations of IRL fin fish species such as the spotted seatrout.</p> <p>SFWMD: We are unsure if a process has been established to measure IRLCCMP implementation.</p> <p>FDEP: We are unsure if a process has been established to measure IRLCCMP implementation. However, FDEP has not established any process.</p> <p><i>Has a methodology been established to measure implementation progress?</i></p> <p>SJRWMD: Yes. A methodology to measure implementation progress has been established. There are several processes being used to assess the management effectiveness of the IRL Basin Advisory Council and the implementation of the CCMP, including this progress report produced by Florida Audubon. The IRLNEP 1998 Biennial Report was completed, with the primary purpose of ensuring adequate progress in CCMP implementation. Measurable environmental indicators are also being used to evaluated, including: the primary indicator -- the extent and health of the seagrass community, which is a vital component of the Lagoon's ecosystem and an excellent indicator of water quality, biological health and integrity. Much of the work being done on the IRL Pollutant Load Reduction Model is being based upon the viability of the seagrass community. Other supplemental environmental indicators are also being considered: changes in the acreage of approved shellfish harvesting areas and the</p>		

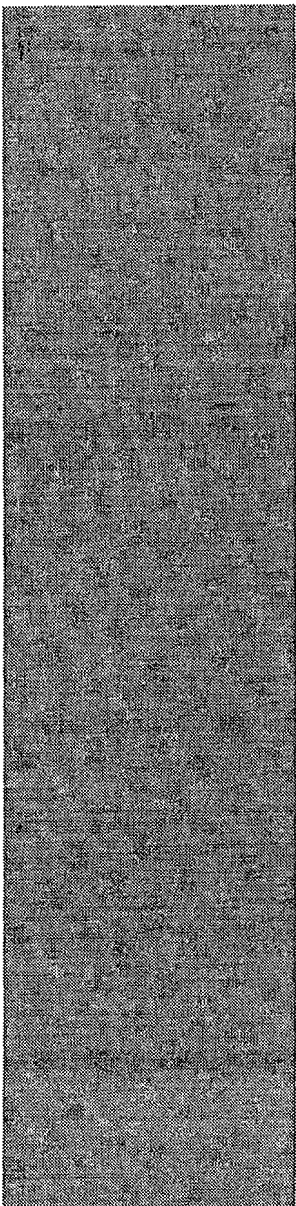
CCMP Action	Agency Activities (i.e. masterplan)	Obstacles & Solutions	Successes Stories & Partnership Opportunities
<p>FI-3 Adopt an implementation agreement to be signed by all participants of the modified (post IRLCCMP adoption) management conference as whole or on an action plan by action plan basis. (All government agencies and organizations and private institutions assigned responsibility for implementing IRLCCMP actions.)</p>	<p>landings or populations of IRL fin fish species such as the spotted seatrout..</p> <p>SFWMD: No. We are unaware of a process that has been established.</p> <p>FDEP: No. We are unaware of a process that has been established.</p> <p><i>Has an implementation agreement been adopted by all participants in the CCMP program?</i></p> <p>SJRWMD: An implementation agreement has not been adopted by all participants in the CCMP program. During the CCMP signing ceremony in November 1996, the Management Conference participants signed a "Partnership Agreement" vowing to make CCMP implementation a priority goal within their respective organizations. This agreement included a pledge to commit their resources toward maintaining a positive partnership/team approach, maintain a general problem solving process, improve communication between partner organizations and others, and facilitate beneficial information exchange, stating that only through a cooperative spirit of teamwork, using the CCMP for guidance, can they successfully advance the restoration of the IRL. However, a formal measurable implementation agreement detailing the specific responsibilities of each implementer with timelines and required activities has not been developed.</p> <p>SFWMD: Only a partnership agreement has been signed, not an implementation agreement.</p> <p>USEPA: Only a partnership agreement has been signed, not an implementation agreement.</p> <p>FDEP: We are uncertain whether an implementation agreement was signed.</p> <p><i>Is support from participants adequate to meet goals of the CCMP?</i></p> <p>SJRWMD: Yes/No. Support for CCMP implementation</p>	 <p>SJRWMD: Securing stable and adequate</p>	

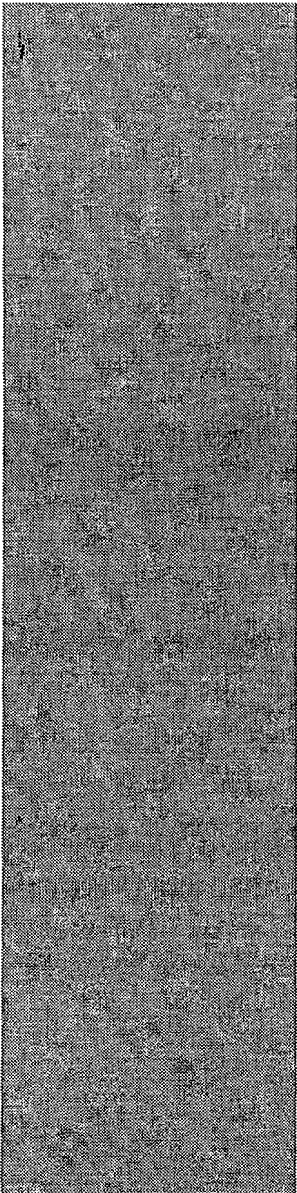
CCMP Action	Agency Activities (i.e. masterplan)	Obstacles & Solutions	Successes Stories & Partnership Opportunities
	<p>comes in the form of public, political and financial support. The IRL Program, through the leadership of the water management districts, has promoted numerous, well recognized, public education and outreach activities which have resulted in widespread public support for Lagoon restoration.</p>	<p>funding is, and will no doubt remain, a challenge for every agency and level of government involved with CCMP implementation. The Economic Assessment study estimated costs of \$18 million annually for the first five years for CCMP implementation. A significant portion of restoration costs are in technical engineering and design work associated with reducing and managing fresh and stormwater discharges. These costs lay the foundation for the construction of structural retrofits which may range in the hundreds of millions of dollars over the next 20 years, depending upon the established PLRGs necessary to sustain water quality and seagrasses. Current restoration projects have occurred based upon knowing priority sub-basins in critical need of improvement. Over \$22.4 million in federal, state, local and private funding is estimated to be expended on Lagoon restoration in 1999, however as watershed management planning and design work continue, the number of restoration projects will accelerate. A rough estimate of project needs through 2004 exceeds \$80 million. Continuation of project initiatives and the addition of new projects through 2010 will exceed \$280 million. Securing stable and adequate funding is, and will no doubt remain, a challenge for every agency and level of government involved with CCMP implementation.</p>	
	<p>SFWMD: It depends on the time frame. More support and resources are needed to get the goals accomplished in a timely manner.</p> <p>FDEP: Yes.</p> <p>USEPA: No.</p> <p><i>The IRL Advisory Board is responsible for oversight of the IRL Program, oversight of IRLCCMP implementation and advising both the SJRWMD and SFWMD Governing Boards about IRL issues. Have you had contact or interaction with the IRL Advisory Board or its members?</i></p>		

CCMP Action	Agency Activities (i.e. masterplan)	Obstacles & Solutions	Successes Stories & Partnership Opportunities
	Volusia County: Yes.		Volusia County: This organization works closely with IRL staff in such areas as Land Acquisition, Water Quality Monitoring and Stormwater Control.
	Edgewater: No.		
	New Smyrna Beach: Did not respond to survey.		
	Oak Hill: Did not respond to survey.		
	Brevard County: Yes.		Brevard County: County Commissioner or designee attends meetings.
	Cape Canaveral: No.		
	Cocoa: Yes.		Cocoa: Occasional attendance at Board meetings.
	Cocoa Beach: Yes, on a casual basis.	Cocoa Beach: To our knowledge there is no specific scheduled contact or agenda. However, members are actively involved in City politics (Waterways Advisory Board, etc.) and so there is a "watchdog" mechanism. The comprehensive plan update calls for better intergovernmental coordination of this issue so perhaps the future will show more interaction.	
	Indialantic: No response.		
	Indian Harbor Beach: Yes.		
	Malabar: Did not respond to survey.		
	Melbourne: Yes.		Melbourne: Have been invited to two Board meetings to provide status on R.O. concentrate discharge to the Lagoon
	Melbourne Beach: No.		
	Melbourne Village: No.		

Palm Bay: Did not respond to survey.


Palm Shores: Yes.

CCMP Action	Agency Activities (i.e. masterplan)	Obstacles & Solutions	Successes Stories & Partnership Opportunities
	Rockledge: No. Satellite Beach: No. Titusville: Yes. West Melbourne: Yes. Indian River County: Yes.		Indian River County: County Commissioner Fran Adams serves on the IRL Policy Committee.
	Fellsmere: Did not respond to survey.		St. Lucie County: St. Lucie County is represented on the Advisory Board. Commissioner Barnes is our representative.
	Indian River Shores: No.		Sewall's Point: We received a public meeting presentation to explain the IRL 3 years ago. Need to see the Board Members now.
	Sebastian: No.		Volusia County: It provides for the coordination with appropriate federal, state, regional and local governmental bodies for the estab-
	Vero Beach: No.		
	St. Lucie County: Yes.		
	Fort Pierce: No.		
	Port St. Lucie: No response.		
	St. Lucie Village: No.		
	Martin County: No.		
	Sewall's Point: No.		
	Stuart: No.		
	<i>Does your comprehensive growth management plan specifically address IRLCCMP implementation?</i>		
	Volusia County: Yes.		

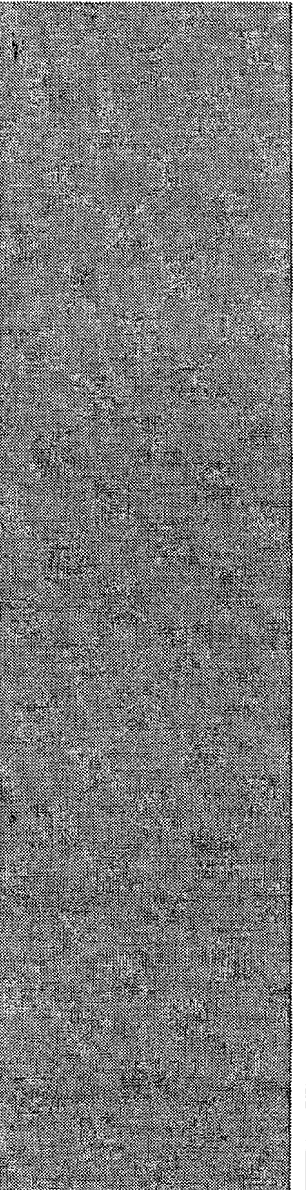
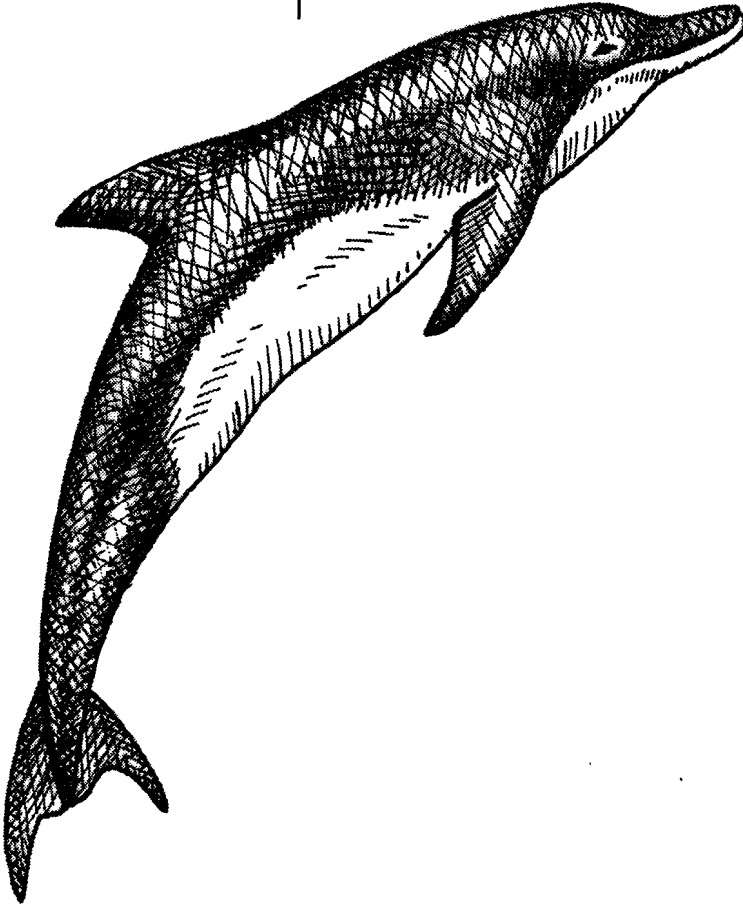
CCMP Action	Agency Activities (i.e. masterplan)	Obstacles & Solutions	Successes Stories & Partnership Opportunities
	Edgewater: No.		lishment of multi-jurisdictional task forces.
	New Smyrna Beach: Did not respond to survey.		
	Oak Hill: Did not respond to survey.		
	Brevard County: No.		
	Cape Canaveral: No.		Brevard County: The comprehensive plan is compatible with the CCMP.
	Cocoa: Do not know. Not specifically addressing IRLCCMP but policies do cover some IRLCCMP initiatives.		
	Cocoa Beach: No.		
	Indialantic: No response.	Cocoa Beach: Will be incorporated prior to comp plan update adoption.	
	Indian Harbor Beach: Yes.		
	Malabar: Did not respond to survey.		
	Melbourne: No.		
	Melbourne Beach: No, St. Johns River Water Management District standards.		Melbourne: Addressed through priority implementation of stormwater management/utility funding related activities to come.
	Melbourne Village: No, plan written before IRLCCMP.		
	Palm Bay: Did not respond to survey.		
	Palm Shores: No.		
	Rockledge: Yes.	Palm Shores: Outdated. No money for EAR until 2002.	
	Satellite Beach: Yes.		
	Titusville: No.		
	West Melbourne: No.		
	Indian River County: Yes.		

CCMP Action	Agency Activities (i.e. masterplan)	Obstacles & Solutions	Successes Stories & Partnership Opportunities
	<p>Fellsmere: Did not respond to survey.</p> <p>Indian River Shores: No response.</p> <p>Sebastian: Yes.</p> <p>Vero Beach: No.</p> <p>St. Lucie County: No.</p>	<p>St. Lucie County: Comprehensive plan was adopted in 1991, prior to the completion of the IRLCCMP. The plan is currently being revised and upcoming amendments will address implementation of the IRLCCMP.</p>	
	<p>Fort Pierce: No.</p> <p>Port St. Lucie: No.</p> <p>St. Lucie Village: No.</p> <p>Martin County: No.</p> <p>Sewall's Point: No.</p> <p>Stuart: Yes.</p>		

Primary responsible agencies ranked: SJRWMD, SFWMD, USEPA and FDEP. Please refer to this section's ranking and summarization text for the ranking information.

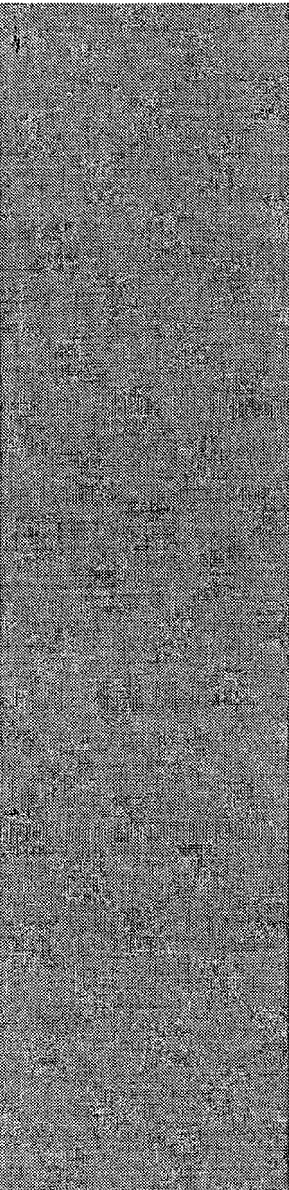
CCMP Action	Agency Activities (i.e. masterplan)	Obstacles & Solutions	Successes Stories & Partnership Opportunities
<p>DIM-1 Continue/complete projects related to data and information management found in '94 SWIM update. (SJRWMD, SFWMD)</p> <p>DIM-2 Continue implementation of DIM strategies (SJRWMD, SFWMD)</p> <p>DIM-3 Continue to update IRL Scientific Information System and make available to public in electronic format. (SJRWMD, SFWMD, USEPA, FDEP)</p>	<p><i>Is all lagoon data compiled in a central location?</i></p> <p>SJRWMD: No. The DIM strategy of the CCMP & SWIM plan is still viewed as a worthy endeavor. Full realization of this objective would provide an invaluable resource to the public, managers and scientists. However, development of a central data base for ALL information is probably not practical or feasible. ALL Lagoon data includes hydrologic, hydrodynamic, water quality, seagrass transect measurements, groundwater and atmospheric deposition loadings, GIS, muck characterizations, wetlands research and species/biodiversity inventories, observational and reported information, etc., collected by over 100 different agencies, levels of government and non-profit/private organizations. All water quality data is housed in STORET managed by US USEPA. Data is also stored at SJRWMD and SFWMD for their portions of the IRL. Data from individual counties is stored by the county agency participating in the IRL ambient water quality monitoring network. IRL Citizens Volunteer Water Quality Monitoring Network data is also housed in STORET at the Marine Resources Council.</p> <p>SFWMD: Yes.</p> <p>USEPA: Yes. At IRLNEP office.</p> <p>FDEP: Yes. STORET</p> <p><i>Is a catalogue or guide to this data available?</i></p> <p>SJRWMD: No.</p> <p>SFWMD: No.</p> <p>USEPA: See WMD.</p> <p>FDEP: No.</p>	<p>SJRWMD: An initial step in achieving this objective, and a still-unresolved issue, is identifying a responsible entity that could handle such an immense project. To date, no entity/agency has been identified to assume the job of pursuing the DIM objective in full.</p>	<p>SJRWMD: The SJRWMD provided funding and technical assistance toward the completion of the first and second editions of the IRL Information System bibliography, which contains thousands of literature citations, and is available on disk[s] or as a hard copy upon request.</p> <div data-bbox="1402 898 1999 1504">  </div>

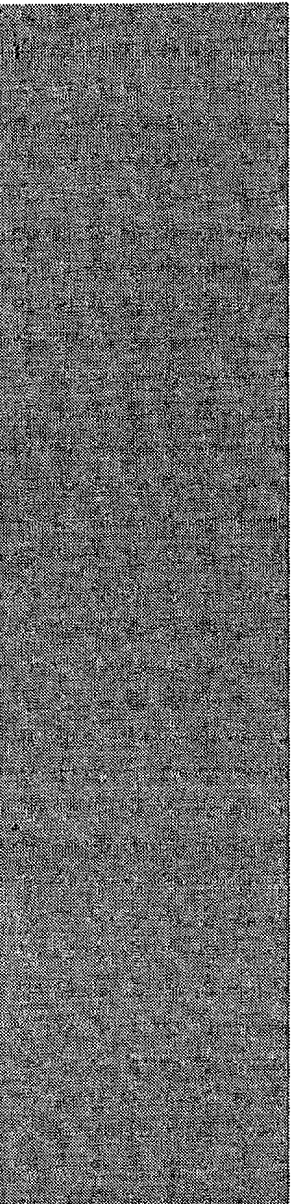
CCMP Action	Agency Activities (i.e. masterplan)	Obstacles & Solutions	Successes Stories & Partnership Opportunities
<p>DIM-4 Ensure all data and information concerning the IRL is entered into and available through STORET. (SJRWMD, SFWMD, USEPA, FDEP)</p>	<p><i>Is IRL data and information effectively managed?</i></p> <p>SJRWMD: Yes/No. Not all data is in a centralized fashion. SJRWMD's system of management is continually improving, striving to become more effective and responsive to the needs of researchers and resource managers.</p> <p>SFWMD: Yes. It could be made better by improving the accessibility and cataloging of data and better metadata.</p> <p>USEPA: Yes.</p> <p>FDEP: Yes. Have not encountered obstacles when trying to locate data.</p>	<p>SJRWMD: Identify the IRL data manager or agency that would collect, centralize and update data, specify the types of data the manager will enter, update frequencies, development of a catalog, etc. Also, a long-term dedicated funding source is needed to support the DIM project.</p> <p>SFWMD: Make it easy to access through internet.</p>	
<p>DIM-5 Improve and update the STORET system. (SJRWMD, SFWMD, USEPA, FDEP)</p>	<p><i>Is this data readily available to other agencies and the general public?</i></p> <p>SJRWMD: Yes/No. SJRWMD data is managed in a centralized scientific data base and an individual project data bases. The types of data are hydrologic, hydrodynamic, water quality, and seagrass transect measurements (depths, % coverage, relative species distribution, height of seagrass canopy, etc.). These data are available to the public upon request. Also the IRLSIS is an important bibliography of IRL-specific or related materials and this is also available to the public.</p> <p>SFWMD: Somewhat. It can be requested through the MSLSC or our Information Systems Group (electronic data). We are currently working on making access easier.</p> <p>USEPA: Yes.</p> <p>FDEP: Yes.</p>	<p>FDEP: A new version of STORET has recently been implemented and as a result, it would be beneficial to have a training course for all staff that enter data to ensure accurate and consistent use.</p>	
	<p><i>Do database updates occur on a regular basis?</i></p>		

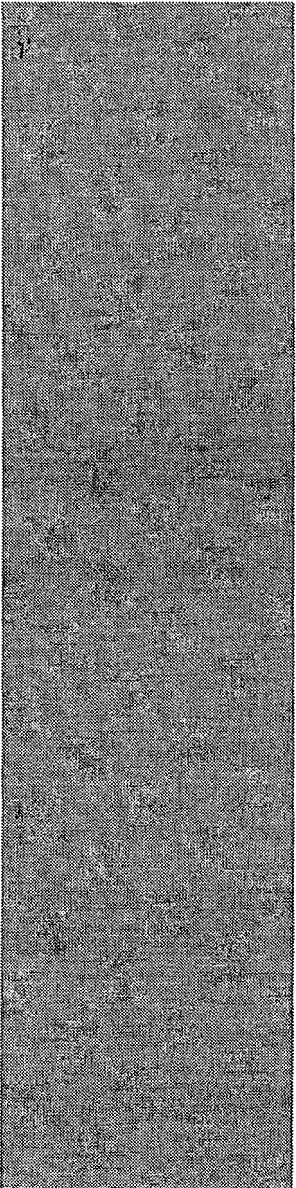
CCMP Action	Agency Activities (i.e. masterplan)	Obstacles & Solutions	Successes Stories & Partnership Opportunities
	<p>SJRWMD: Yes. SJRWMD databases are updated as new data are entered monthly, quarterly or yearly.</p> <p>SFWMD: Yes. It depends on the dataset. Data can be anything from static (never updated) to updated on a monthly basis.</p> <p>USEPA: See WMD.</p> <p>FDEP : Yes. 373.026 FL Statute requires input of all data collected using state funds into STORET. Most groups input data after QA/QC.</p>		

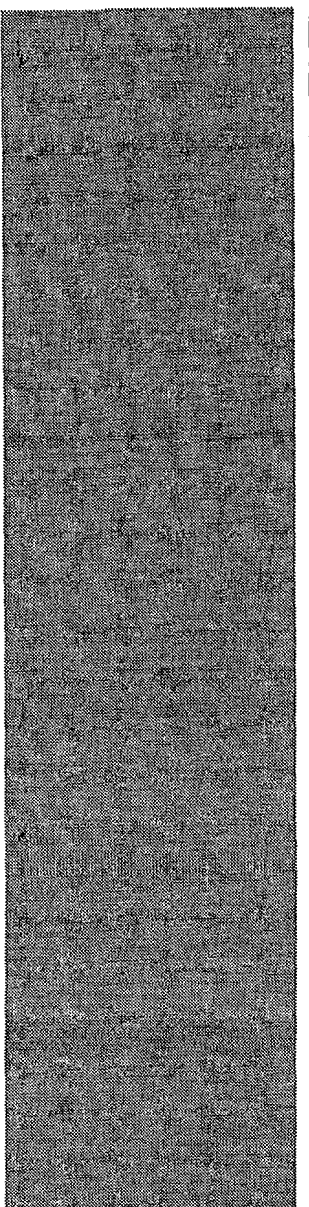
Primary responsible agencies ranked: SJRWMD, SFWMD, FDEP, Volusia, Brevard, Indian River, St. Lucie and Volusia counties and all cities. Please refer to this section's ranking and summarization text for the ranking information.

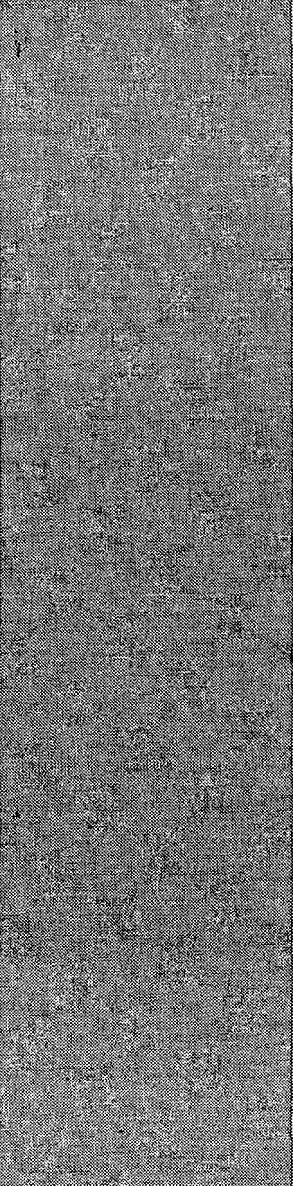
CCMP Action	Agency Activities (i.e. masterplan)	Obstacles & Solutions	Successes Stories & Partnership Opportunities
MON-1 Complete/continue projects related to monitoring resources of the IRL found in the SWIM Plan update. (SJRWMD, SFWMD)	<i>Does your agency conduct monitoring of the IRL?</i> SJRWMD: Yes.	SJRWMD: Provide additional staff and support to develop an internal and/or external performance audit that will provide the basis for determining the feasibility of sampling strategies and optimizing the overall monitoring effort. For annual seagrass status reports, provide enough staff (about 2 FTEs) and support. It would be better to create the institutional framework with a commitment for mapping every 1-2 years.	SJRWMD: SJRWMD Water Quality: Ambient and Tributaries. Meteorological Data: air temperature, wind direction, wind speed, percent cloud cover; Near-Surface Sampling and Near-Bottom Sampling (Physical Data): water temperature, total depth, secchi depth, pH, dissolved oxygen, salinity, light attenuation; Atmospheric Deposition: (alkalinity, pH, conductivity, TN, TP, NO3, SO4, PO4, Na, Mg, Ca, K, precipitation data); Seagrass Mapping: monitor overall abundance and distribution every 2-3 years. Monitoring of 79 fixed transects twice a year is used to detect smaller-scale changes in depth distribution, density, and species composition.
MON-2 Continue Citizens Water Quality Monitoring Network. (IRLNEP+)	SFWMD: Yes.	SFWMD: We are currently evaluating and making some changes to our monitoring program to improve its applicability to modeling efforts which are aimed at PLRG development and to most efficiently evaluate trends.	SFWMD: Long-term trend, short-term trend, and model input. TSS, nutrients, salinity. Metals and pesticides are monitored as well, but on a more limited basis.
MON-3 Provide support for biennial report on IRL. (All agencies and organizations with listed responsibilities in the IRLCCMP)	FDEP: Yes. Volusia County: Yes.	FDEP: Monitoring for specific purposes should be continued as needed for management decisions regarding permitting, enforcement, episodic events, and TMDL development. Volusia County: Regular reports need to be produced for interested parties. Data will be made available on the internet by USEPA STORET in near future.	FDEP: Trend analysis and compliance efforts. General water chemistry, nutrients, specific permit requirements. Volusia County: Background environmental monitoring trend determination.
	Edgewater: Yes. Compliance with St. Johns River Water Management District permits for stormwater conditions. New Smyrna Beach: Did not respond to survey. Oak Hill: Did not respond to survey.	Edgewater: We need to trend it and use the information based on rainfall.	

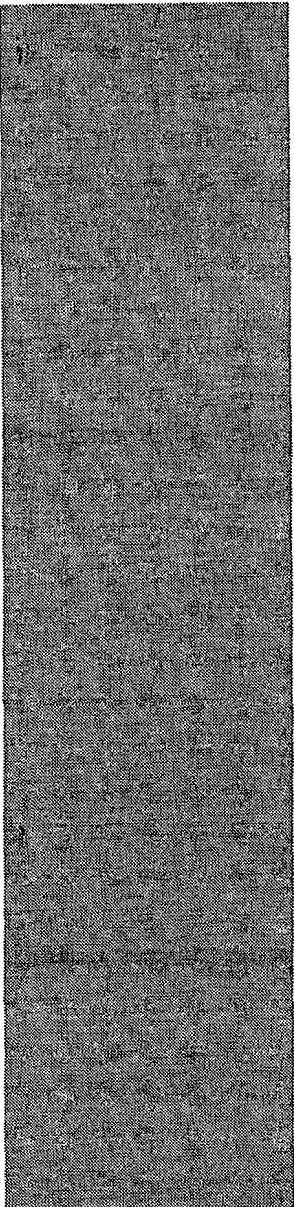
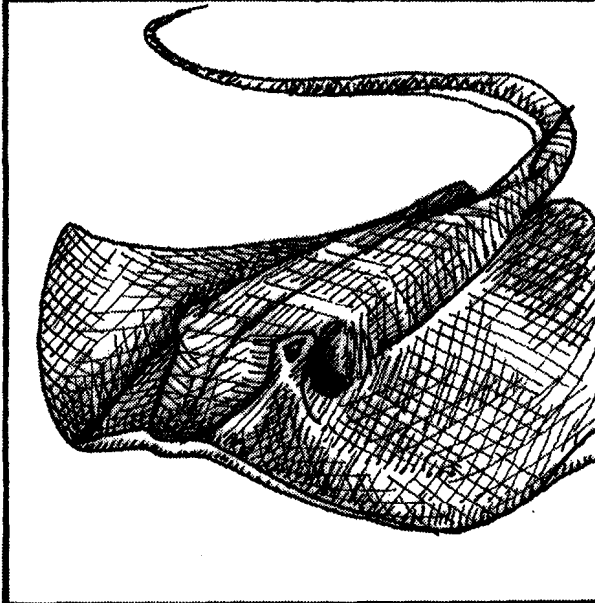
CCMP Action	Agency Activities (i.e. masterplan)	Obstacles & Solutions	Successes Stories & Partnership Opportunities
	Brevard County: Yes.	Brevard County: The current program number and location of stations (14 stations in proximity to seagrass beds) does not adequately document long term trends, or the general health of the lagoon throughout all areas of the lagoon. Inadequate opportunity has been afforded to the network participants to discuss the sampling design or methodology for the project with the researchers conducting modeling of the data. Need more funding for establishment and monitoring of additional stations in areas not currently sampled (Sykes Creek, Newfound Harbor), and additional stations distributed throughout the lagoon to allow more accurate plotting of tropic state index trends.	Brevard County: In June 1992, a water quality-monitoring program to assess non-point (stormwater) pollution sources was established. This program evaluates stormwater treatment project effectiveness, provides monitoring in conjunction with procurement of construction permits for treatment projects, and addresses water quality problems in various areas of the lagoon. The County has participated in Ambient Water Quality Monitoring of the Lagoon for a number of years. In August of 1995 the Stormwater and Lagoon Monitoring Programs were merged into a single program to increase productivity, reduce costs and generally improve the programs without a loss of valuable data. Since October 1995, SWI has been state certified to collect surface water and sediment samples for virtually any parameter of interest. SWI staff are active participants in the Indian River Lagoon Water Quality Monitoring Network. The network collects water quality data monthly in cooperation with NASA, SFWMD, SJRWMD, Volusia County and Indian River County. Continued participation in this effort is essential to the success of the CCMP and NEP efforts to protect and restore the estuary. Participating agencies provide the hard data with which resource managers can prioritize restoration efforts and develop long range management plans. Without the participation of a professional monitoring staff who has many years of experience and intimate knowledge of their particular area of the lagoon, funding may be wasted and poor decisions made based on conclusions resulting from inaccurate data. The final result may be inadequate protection of the Lagoon or overly restrictive Reduction Goals. Brevard County covers 72 miles of the 156 total miles comprising the IRL system (includes Banana and Mosquito Lagoons), The Surface Water Improvement Program monitors additional water quality stations quarterly in order to accurately document water quality condi-

CCMP Action	Agency Activities (i.e. masterplan)	Obstacles & Solutions	Successes Stories & Partnership Opportunities
			<p>tions throughout the entire lagoon basin within the County. Brevard County alone monitors some areas such as Sykes Creek and Newfound Harbor and has done so since 1979. Since inception, the Ambient Surface Water Quality Monitoring Program has collected some 150,000 data entries. Lagoon and stormwater monitoring also provides information useful in identifying areas of water quality impact. (Shared via STORET and upon request.) Reports include: County- State of the Indian River Lagoon, an Analysis of Long Term Data Sets, and numerous staff reports. SJRWMD - Status of Water Quality in the Indian River Lagoon System: spatial and temporal trends. FDEP Water Quality Assessment for the State of Florida Section 305(B) Main Report. County is currently completing report analyzes and summarizing data trends from information collected over a five year period, with a comparison to the previous 1987-1994 report period.</p>
	Cape Canaveral: No.	Cape Canaveral: Support funding for cities to help with monitoring. Need to have a lead agency coordinate and help communities with this process.	
	<p>Cocoa: No.</p> <p>Cocoa Beach: Yes.</p>	<p>Cocoa Beach: Most local governments in the lagoon area look to the IRL-SWIM as the steward agency for the lagoon and often default to them to initiate projects. This mindset is beginning to change. Continue promoting IRLCCMP actively as the master document for lagoon improvement is needed. Maybe the SWIM tag should have been on cover as ID logo. Monitor the progress of local governments on comprehensive plan revisions, LDR revisions and stormwater master plans and stormwater utility establishment. Conduct annual elected official and local government administrator seminars/conferences to establish baseline knowledge of IRLCCMP and local government actions. Make sure attendance is good</p>	<p>Cocoa Beach: Monitoring of stormwater outfalls helped acquire data for eventual pollutant load reduction. This data is being used in Stormwater Master Plan for calibration of hydraulic model and prioritization of watershed BMPs. Other monitoring is very general, once or twice annually; 55 sites (lagoon, arterial waterway and canal) to get baseline data (turbidity, salinity, secchi depth and DO) for tracking effectiveness of future BMPs. This data is also used to target problem canals and storm basins. Brevard County has been given the data that will eventually be shared as needed for NPDES permitting. Stormwater Master Plan will use data to model hydrologic loading models and eventually this will be the</p>

CCMP Action	Agency Activities (i.e. masterplan)	Obstacles & Solutions	Successes Stories & Partnership Opportunities
	<p>Indialantic: No.</p> <p>Indlan Harbor Beach: No.</p> <p>Malabar: Did not respond to survey.</p> <p>Melbourne: Yes.</p>	<p>and don't water down by inviting public (public conference is great but should be a separate, lighter agenda). Annually produce BRIEF status sheet including the actions and the status of each local government along the lagoon so that strengths and weaknesses are easily identified and info can be shared to get slow governments up to speed. This can be in a form of a simple matrix, each action, local government and degree of progress. Hold governments responsible, in a friendly non-regulatory way; try not to create a negative response from slow moving governments. This matrix/report can be used as a tool for conference. This survey assessment should also be more of a matrix form so that local government can complete it with less time input, so that responses are more "fill in the blank" with key words being circled, etc.</p>	<p>basis, most likely, for the City's (and perhaps neighboring cities) TMDLs in the NPDES permitting.</p> <p>Melbourne: Monitoring conducted in Eau Gallie River (compliance for R.O. concentrate industrial wastewater permit) [FDEP]. Numerous sampling events have been conducted in the IRL to support new permit application to relocate the discharge to the Lagoon. Current parameters monitored in the Eau Gallie River: flow, hydrogen sulfide, total phosphorous, DO, total nitrogen, chlorides, turbidity, specific conductance, pH, total chromium, silver, zinc, fluoride, aluminum, calcium, magnesium, sodium, strontium, iron, copper, gross alpha, and radium 226/228. Modified parameter list will be used when the new discharge permit is issued for the Lagoon discharge. Information for monitoring program is submitted to the FDEP for permit compliance purpose.</p>
	Melbourne Beach: Yes.		

CCMP Action	Agency Activities (i.e. masterplan)	Obstacles & Solutions	Successes Stories & Partnership Opportunities
	Melbourne Village: No response.		Melbourne Beach: Contract (with county) to monitor stormwater runoff sediment in baffle boxes.
	Palm Bay: Did not respond to survey.		
	Palm Shores: No.	Palm Shores: More money for wider monitoring.	
	Rockledge: Yes.		
	Satellite Beach: No.	Satellite Beach: Send monthly evaluations to municipalities.	
	Titusville: No.		
	West Melbourne: No.		
	Indian River County: No.		
	Fellsmere: Did not respond to survey.		
	Indian River Shores: No.		
	Sebastian: No.		
	Vero Beach: No.		
	St. Lucie County: No.		
	Fort Pierce: No.		
	Port St. Lucie: Yes.		
	St. Lucie Village: No.		
	Martin County: No.		
	Sewall's Point: No.	Sewall's Point: Send copies to Town Hall for their use and display.	
	Stuart: No.	Stuart: More data accessibility would improve effectiveness.	
	<i>What is the purpose and how is the information developed</i>		

CCMP Action	Agency Activities (i.e. masterplan)	Obstacles & Solutions	Successes Stories & Partnership Opportunities
	<i>by this monitoring program used?</i>		
	SJRWMD		SJRWMD: As management strategies are enacted to achieve PLR goals, the monitoring can gauge effectiveness. Long-term patterns of seagrass loss or gain are presented as maps. Areas of dense, stable seagrass beds are targeted for preservation; areas of large seagrass loss are targeted for restoration. The IRL water quality monitoring program is intended to focus its mission on: providing answers to specific questions related to long-term management of seagrass and the water quality of its environment; increasing the statistical power of the data collected; and collecting complementary data for the calibration of the PLR Model. The goal of atmospheric deposition monitoring is to conduct careful measurements of atmospheric depositions of nutrients into IRL for incorporation in PLR models. Seagrass mapping is primarily ambient monitoring designed to detect broad-scale geographic patterns and trends over
	SFWMD		SFWMD: Trend analysis, modeling and management.
	<i>Is there an established water quality monitoring network that is coordinated?</i>		
	SJRWMD: Yes. SFWMD: Yes. FDEP: Yes.		FDEP: The Integrated Water Resource Monitoring Network conducts water quality monitoring and is funded by FDEP and carried out by the WMD.
	<i>Have reports based on this information been produced?</i>		

CCMP Action	Agency Activities (i.e. masterplan)	Obstacles & Solutions	Successes Stories & Partnership Opportunities
	SJRWMD: Yes.		SJRWMD: Distributed as a fully developed technical memorandum or workshop abstracts and handouts.
	SFWMD: Yes.		SFWMD: Some are regular and some are just occasionally as research findings or analysis of the data is completed.
	FDEP: Yes.		FDEP: 305(b) reports produced every 2 years; various EcoSummary reports produced at different times; distributed via hard copy or website.
	<i>Is the IRL monitoring program effective?</i>		
	SJRWMD: Yes.		
	SFWMD: Yes.		
	FDEP :Yes.		
			

ACRONYMS

A

ACOE - Army Corps of Engineers
ASMFC - Atlantic States Marine Fishery Council

B

BCC - Brevard Community College
BCC - Brevard County Commission
BD - Biodiversity
BMP - Best Management Practices
BOCC - Board of County Commissioners

C

CAMA - Coastal and Aquatic Managed Areas
CBDG - Community Block Development Grant
CCMP - Comprehensive Conservation & Management Plan
CMP - Comprehensive Management Plan
CPHU - County Public Health Unit
CWMP - Comprehensive Water Management Plan

D

DCA - Department of Community Affairs
DIM - Data and Information Management
DMMA - Dredged material management area
DMR - Discharge monitoring report
DNR - Department of Natural Resources
DRI - Development of Regional Impact
DSL - Division of State Lands

E

ECFRPC - East Central Florida Regional Planning Council
EEL - Environmentally Endangered Lands
ELC - Environmental Learning Center
ERP - Environmental Resource Permit
ETS - Endangered & Threatened Species

F

FFWCC - Florida Fish and Wildlife Conservation Commission

FDEP - Florida Department of Environmental Protection
FDHRS - Florida Department of Health & Rehabilitative Services
FDOT - Florida Department of Transportation
FI - Future Implementation
FMP - Florida Marine Patrol
FMRI - Florida Marine Research Institute
FNAI - Florida Natural Areas Inventory
FSD - Fresh and Stormwater Discharges
FTE - Full Time Employment
FY - Fiscal Year
FYN - Florida Yards & Neighborhoods

G

GFC - Florida Game and Freshwater Fish Commission
GOP - Goals/Objectives Policy

I

ICW - Intracoastal Waterway
IFAS - Institute of Food and Agricultural Services
IM - Impounded Marshes
IPM - Interagency Program Manager
IRC - Indian River County
IRL - Indian River Lagoon
IRLCCMP - Indian River Lagoon Comprehensive Conservation and Management Plan
IRLLAWG - Indian River Lagoon Land Acquisition Working Group
IRLNPEP - Indian River Lagoon National Estuary Program
IRLSIS - Indian River Lagoon Scientific Information System
IRLWQMN - Indian River Lagoon Water Quality Monitoring Network

L

LAWG - Land Acquisition Working Group
LDR - Land Development Regulations
LPA - Local Planning Agency

LR - Living Resources

M

MCD - Mosquito Control District
MFC - Marine Fisheries Commission
MG - Million Gallons
mgd - millions of gallons per day
MMP - Marina Management Plan
MPP - Manatee Protection Plan
MRC - Marine Resources Council
MSBU - Municipal Service Benefit Unit
MSD - Marine Sanitation Device
MSLSC - Martin-St. Lucie Service Center (SFWMD)
MSTU - Municipal Service Tax Unit

N

Na or N/A - Not Applicable
NAWCA - North American Wetlands Conservation Act
NEP - National Estuary Program
NMFS - National Marine Fisheries Service
NOAA - National Oceanic and Atmospheric Administration
NPDES - National Pollutant Discharge Elimination System
NPS - Nonpoint Source
NRCS - Natural Resources Conservation Service
NWS - National Wildlife Service

O

OFW - Outstanding Florida Waters
OSDS - On-site Sewage disposal system

P

PGSI - Public and Government Support and Involvement
PLR - Pollutant Load Reduction
PLRG - Pollutant Load Reduction Goals
PSA - Public Service Announcement

ACRONYMS CONTINUED

Q

QA - Quality Assurance
QC - Quality Control

R

RPC - Regional Planning Council
RSMAS - Rosenstiel School of Marine and
Aeronautic Studies

S

SAV - submerged aquatic vegetation
SFWMD - South Florida Water Management
District
SG - Seagrasses
SJR - St. Johns River
SJRWMD - St. Johns River Water Management
District
SLE - St. Lucie Estuary
SLR - St. Lucie River
SOR - Save Our Rivers
SRA - Storage Recovery Area
SRF - State Revolving Fund
SRPP - Strategic Regional Policy Plan
STORET - Storage and Retrieval System
SW - Stormwater
SWFWMD - Southwest Florida Water
Management District
SWI - Surface Water Improvement
SWIM - Surface Water Improvement &
Management Program

T

TCRPC - Treasure Coast Regional Planning
Council
TMDL - Total Maximum Daily Loads
TNC - The Nature Conservancy
TP - Total Phosphorus
TSS - Total Suspended Solids

U

UEC - Upper East Coast

UIC - Underground Injection Control

USACOE - United States Army Corps of
Engineers

USCG - United States Coast Guard

USDA - United States Department of Agriculture

USEPA - United States Environmental Protection
Agency

USFWS - United States Fish and Wildlife Service

V

VEC - Volusia Environmental Control

W

WCD - Water Control District

WMD - Water Management District

WSQ - Water & Sediment Quality

WWTP - Wastewater Treatment Plant

www - worldwide web

