

<b>TITLE:</b> Herbert Hoover Dike Stabilization			
<b>SUBREGION:</b> 2	<b>PROJECT ID:</b> GL01	<b>FINANCIAL REQUIREMENT:</b>	
<b>PROGRAM CATEGORY:</b> Infrastructure	<b>BUDGET CATEGORY:</b> Infra Invest	USACE: \$250,000,000	
<b>PROJECT PLAN MANAGER:</b> K. Brooks-Hall 904-232-3155	<b>BASIS:</b> 3	<b>TOTAL:</b> \$250,000,000	
<b>LEAD ORGANIZATION(S):</b> USACE		<b>APPROPRIATED TO DATE:</b>	
<b>SUPPORTING ORGANIZATION(S):</b> SFWMD		USACE: \$3,448,000	
<b>COUNTY(S):</b> Okeechobee, Martin, Palm Beach, Hendry, Glades		<b>TOTAL:</b> \$3,448,000	
<b>LINKED PROJECTS:</b> Dependent on: Critical to: Associated with: TS01, GL03		<b>REMAINING FINANCIAL REQUIREMENT:</b>	
<b>START:</b> 1995		<b>END:</b> 2006	
		<b>TOTAL:</b> \$246,552,000	<b>APPROVED:</b> 11/97
			<b>LAST REVISION:</b> 2/98

**DESCRIPTION:** The purpose of the project is to protect the structural integrity of the Herbert Hoover Dike during extreme high water conditions. Construction of the Herbert Hoover Dike around Lake Okeechobee was initiated in the early 1930's and the last features were completed in the 1970's. The levee was constructed and improved through an incremental process during this period. Based on the best available existing data, it appears that the levee does not meet current safety factors for extreme flood conditions. Geotechnical data are being collected and evaluated to determine the extent of the problem and to develop recommendations for corrective actions. The results will be documented in a Major Rehabilitation Report. Construction cost may be incurred between 2000-2006. Note: Construction cost may be cost shared.

**RESTORATION BENEFITS:** This project will contribute to the restoration of Lake Okeechobee and more natural water flows to the estuaries and the Everglades by avoiding operational constraints that would reduce the ability to meet restoration goals. If the Herbert Hoover Dike is not stable under high water conditions, it may be necessary to modify the operation of the project to minimize the probability of experiencing high water conditions. Such operations could dictate when and how much water is released from the lake. As a result, operational flexibility would be lost and restoration opportunities would be reduced.

Time Line and Fiscal Year Budget (in thousands of dollars) for Herbert Hoover Dike Stabilization																
Task	97	98	99	00	01	02	03	04	05	06	07	08	09	10	Unprog	Total
Program																
Project																
USACE	349	330	400	5,000	15,000	20,000	20,000	20,000	15,000	15000						Unsched
<b>Subtotal</b>																<b>246,552</b>

<b>TITLE:</b> Fisheating Creek			
<b>SUBREGION :</b> 2	<b>PROJECT ID:</b> GL02	<b>FINANCIAL REQUIREMENT:</b>	
<b>PROGRAM CATEGORY:</b> Land Acquisition	<b>BUDGET CATEGORY:</b> Land Acquisition	SFWMD	\$5,000,000
<b>PROJECT PLAN MANAGER:</b> Rinaldi	<b>BASIS:</b> 3	<b>TOTAL:</b>	\$5,000,000
<b>LEAD ORGANIZATION(S):</b> SFWMD		<b>APPROPRIATED TO DATE:</b>	
<b>SUPPORTING ORGANIZATION(S):</b> FDEP		TOTAL:	\$5,000,000
<b>COUNTY(S):</b> Glades		<b>REMAINING FINANCIAL REQUIREMENT:</b>	
<b>LINKED PROJECTS:</b> Dependent on:		SFWMD	\$5,000,000
Critical to:		<b>TOTAL:</b>	\$5,000,000
Associated with:			
<b>START:</b> 1997	<b>END:</b> 2001	<b>APPROVED:</b> 11/97	<b>LAST REVISION:</b> 2/98

**DESCRIPTION:** Fisheating Creek, the only free- flowing tributary to Lake Okeechobee, is an extensive riverine swamp flowing through Glades County and emptying into the Lake. The total project area is 43,872 acres. Currently, none of this acreage is in public ownership. The project area contains relatively undisturbed upland and wetland habitats that serve as habitat for the endangered Florida Panther and a number of threatened species, including the Florida black bear, the bald eagle, the Florida scrub jay, and the Florida sandhill crane. The federally listed wood stork and state listed white ibis are known to use the area.

**RESTORATION BENEFITS:** This acquisition will preserve the water quality and critical habitat of this large watershed. Additionally, the acquisition will provide both hydrologic and water quality benefits for Lake Okeechobee, located downstream. When stages in Lake Okeechobee are high, Fisheating Creek serves as an important feeding area for wading birds, which typically use the lake marshes. Restoration requirements would be minimal if any, as most of the property remains in a natural state.

Time Line and Fiscal Year Budget (in thousands of dollars) for Fisheating Creek																
Task	97	98	99	00	01	02	03	04	05	06	07	08	09	10	Unprog	Total
Land Acquisition																
<b>Project</b>																
SFWMD			5000													5000
<b>Subtotal</b>																<b>\$5,000</b>

<b>TITLE:</b> Lake Okeechobee Regulation Schedule Review			
<b>SUBREGION :</b> 2	<b>PROJECT ID:</b> GL03	<b>FINANCIAL REQUIREMENT:</b>	
<b>PROGRAM CATEGORY:</b> Management	<b>BUDGET CATEGORY:</b> Area Mgt	USACE: \$697,000	
<b>COUNTY (S):</b> K. Brooks-Hall 904-232-3155	<b>BASIS:</b> 2	<b>TOTAL:</b> \$697,000	
<b>LEAD ORGANIZATION(S):</b> USACE		<b>APPROPRIATED TO DATE:</b>	
<b>SUPPORTING ORGANIZATION(S):</b> SFWMD		USACE: \$578,000	
<b>PROJECT PLAN MANAGER:</b> Okee, Martin, Palm Beach , Hendry, Glades		<b>TOTAL:</b> \$578,000	
<b>LINKED PROJECTS:</b> Dependent on: Critical to: Associated with: TS01, GL01, GL31		<b>REMAINING FINANCIAL REQUIREMENT:</b>	
<b>START:</b> 1996	<b>END:</b> 1998	<b>TOTAL:</b> \$119,000	
		<b>APPROVED:</b> 11/97	<b>LAST REVISION:</b> 2/98

**DESCRIPTION:** The operational guidelines for Lake Okeechobee are being reviewed to attempt to optimize the natural resources within the Lake, water discharges to the Everglades, and flows to the estuaries without adversely impacting flood control or municipal or industrial water supply.

**RESTORATION BENEFITS:** The purpose of the study is to develop a new operating strategy for Lake Okeechobee to improve the environmental conditions within the Lake, provide non-damaging discharges to the estuaries, and improve the timing and volumes of flows to the estuaries. The project is authorized and funding is available.

Time Line and Fiscal Year Budget (in thousands of dollars) for Lake Okeechobee Regulation Schedule Review																
Task	97	98	99	00	01	02	03	04	05	06	07	08	09	10	Unprog	Total
Program																
Project																
USACE	155	119														119
<i>Subtotal</i>																<b>119</b>

<b>TITLE:</b> Buck Island Agroecology Study			
<b>SUBREGION:</b> 2,1	<b>PROJECT ID:</b> GL04	<b>FINANCIAL REQUIREMENT:</b>	
<b>PROGRAM CATEGORY:</b> Science	<b>BUDGET CATEGORY:</b> Water quality/habitat protection		
<b>PROJECT PLAN MANAGER:</b> Steinman (561) 687-6492	<b>BASIS:</b> 2 Ecosystem Restoration	<b>TOTAL:</b>	\$12,000,000
<b>LEAD ORGANIZATION(S):</b> SFWMD		<b>APPROPRIATED TO DATE:</b> since 1991	
<b>SUPPORTING ORGANIZATION(S):</b> IFAS, NRCS, FCA, Archbold, MacArthur Foundation, USEPA, FDEP		MacArthur/Archbold 20-year lease value	\$4,000,000
<b>COUNTY(S):</b> Highlands		SFWMD, IFAS, FDEP, private contributions	\$2,000,000
<b>LINKED PROJECTS:</b> Dependent on: Critical to: GL06, GL07 Associated with:		<b>TOTAL:</b>	\$6,000,000
<b>START:</b> 1991	<b>END:</b> 2010	<b>REMAINING FINANCIAL REQUIREMENT:</b>	
		<b>TOTAL:</b>	\$6,000,000
		<b>APPROVED:</b> 11/97	<b>LAST REVISION:</b> 2/98

**DESCRIPTION:** Agricultural development in the Lake Okeechobee watershed has had major ecological impacts on both the lake and watershed regions. North of the lake, cattle and dairy farms have imported as much as 5400 tonnes phosphorus yr<sup>-1</sup> into the watershed as feed and fertilizer. Best management practices (BMPs) have resulted in dramatic declines in phosphorus (P) runoff from agricultural sites around the lake and phosphorus loading to the lake has been reduced by nearly 40%. However, the target load of approximately 360 tonnes P per year adopted by the State of Florida has not yet been achieved, and there is a need for additional reduction of P input into Lake Okeechobee. With completion of the programs to improve water quality associated with dairy runoff, beef cattle ranching becomes the next logical source in attempts to limit nutrient input into Everglades/Okeechobee ecosystem.

Under a cooperative agreement between the SFWMD, the University of Florida's Institute of Food and Agricultural Science (IFAS), Archbold Biological Station, and the Florida Cattlemen's Association, experimental research is being conducted to identify and optimize beef cattle ranching practices that will reduce nutrient loads in stormwater runoff. This project involves field-scale experimental research conducted over a range of hydrological and ranch management conditions to ensure that results can be realistically applied to agricultural operations in the basin. Three primary management practices will be optimized in this program: cattle stocking rate; pasture fertilization practices; and grazing and cattle rotation schemes. Specific components of the research include: (1) evaluation of water quality, nutrient cycling, and habitat attributes of existing pasture land management practices; (2) development of BMPs of cow-calf production systems in south Florida and assessment of their impact on water quality and wildlife habitat; and (3) dissemination of information about BMPs to regional cattle producers.

**RESTORATION BENEFITS:** Immediate benefits include improved water quality of runoff from pasture and range lands. Additional restoration benefits include improved wildlife habitat within improved pastures and wetlands of south Florida watersheds. Improved cattle management practices combined with enhanced water quality and wildlife functions provide a foundation for restoration of many south Florida watersheds, water bodies, and connecting streams and wetlands, including the Kissimmee River, Lake Okeechobee, St. Lucie River, Caloosahatchee River, Charlotte Harbor, C-139, Big Cypress Basin, and the Everglades.

Time Line and Fiscal Year Budget (in thousands of dollars) for Buck Island Agroecology Study																
Task	97	98	99	00	01	02	03	04	05	06	07	08	09	10	Unprog	Total
Program																
Project																
	500	500	500	500	500	500	500	500	500	500	400	400	200			6,000
<b>Subtotal</b>																<b>\$6,000</b>

<b>TITLE:</b> Lake Okeechobee Water Retention/Phosphorus Removal		
<b>SUBREGION :</b> 02	<b>PROJECT ID:</b> GL06	<b>FINANCIAL REQUIREMENT:</b> Federal \$6,000,000 State/local/landowners \$6,000,000 <b>TOTAL:</b> \$12,000,000
<b>PROGRAM CATEGORY:</b> Infrastructure	<b>BUDGET CATEGORY:</b> Water Quality	
<b>PROJECT PLAN MANAGER:</b> Rosen (561) 687-6348	<b>BASIS:</b> 2	<b>APPROPRIATED TO DATE:</b> SFWMD \$325,000 <b>TOTAL:</b> \$325,000
<b>LEAD ORGANIZATION(S):</b> SFWMD		<b>REMAINING FINANCIAL REQUIREMENT:</b>  <b>TOTAL:</b> \$12,000,000
<b>SUPPORTING ORGANIZATION(S):</b> FDEP, FDACS, NRCS, SWCD, Landowners		
<b>COUNTY(S):</b> Okeechobee, Highlands, Glades, St. Lucie		<b>APPROVED:</b> 11/97 <b>LAST REVISION:</b> 2/98
<b>LINKED PROJECTS:</b> Dependent on: Critical to: TS1-I Associated with: TS5-M, LO4-S		
<b>START:</b> 1997	<b>END:</b> 2002	

**DESCRIPTION:** The purpose of this project is to increase regional water storage north of Lake Okeechobee, reduce phosphorus loading to the lake, and restore wetland habitat in the region. This project covers approximately 25% of the watershed located north of Lake Okeechobee. Project elements will range in size from an entire sub-basin to localized efforts to reduce surface water runoff. Wetlands account for between 18 and 25% of the land classification in this watershed (based on data from US Fish and Wildlife Service-National Wetlands Inventory); however, approximately 45% of the wetlands have been ditched to dry the land for agriculture (i.e., improved pasture). Many of these wetlands were isolated depressions that functioned as small water retention areas in the landscape. Others were more expansive and experienced drying from the regional drainage system. The current system causes the loss of water from the watershed as surface water runoff, which is rapidly transported to the tributary system that drains into Lake Okeechobee. This project would reduce the number of drained wetlands in the northern watershed of Lake Okeechobee, as well as create new ones to retain/detain the water in the watershed (potentially 20,000 acres). The slow release of water from these wetlands will restore the natural hydrology through ground water recharge and attenuation of peak flows. For the ditched wetlands, the approach will be to simply remove the connection between the wetlands and the ditch, leaving the drainage system in place. At the subbasin scale, large land parcels that were once part of the tributary system's historic flood plain will be reflooded. In addition to water storage, these wetlands would remove nutrients and restore wildlife habitat. Additional water quality benefits would come from isolating phosphorus-loaded wetlands, increasing the buffer zones, and riparian corridors adjacent to waterways.

**RESTORATION BENEFITS:** The restoration of wetlands in the northern watershed of Lake Okeechobee will provide peak flow attenuation of water to the lake, resulting in a more gradual rise in lake stage during heavy rainfall periods, and a slower drop in lake stage during drought. Fewer freshwater discharges to tide from the Caloosahatchee and St. Lucie canals, dictated by the Lake Okeechobee regulation schedule, would be anticipated, as well as a reduction in nutrient loading to the lake. Regional benefits to wildlife and waterfowl are anticipated from these restored wetlands.

Time Line and Fiscal Year Budget (in thousands of dollars) for Lake Okeechobee Water Retention/Phosphorus Removal																
Task	97	98	99	00	01	02	03	04	05	06	07	08	09	10	Unprog	Total
Construction Plan		█														
Construction			█	█	█											
<b>Project</b>																
Construction Plan		650														650
Construction			3783	3783	3783											11,350
<b>Subtotal</b>		650	3783	3783	3783											12,000

<b>TITLE:</b> Lake Okeechobee Tributary Sediment Dredging			
<b>SUBREGION:</b> 02	<b>PROJECT ID:</b> GL07	<b>FINANCIAL REQUIREMENT:</b>	
<b>PROGRAM CATEGORY:</b> Infrastructure/Management	<b>BUDGET CATEGORY:</b> Water Quality	Federal	\$1,900,000
<b>PROJECT PLAN MANAGER:</b> B. Rosen. SFWMD (561)687-6348	<b>BASIS:</b> 2	State/local	\$1,900,000
<b>LEAD ORGANIZATION(S):</b> SFWMD		<b>TOTAL:</b>	\$3,800,000
<b>SUPPORTING ORGANIZATION(S):</b> FDEP, FDACS, NRCS, SWCD, Landowners		<b>APPROPRIATED TO DATE:</b>	
<b>COUNTY(S):</b> Okeechobee, Highlands, Glades, St. Lucie		(initial study funded by SFWMD for \$168,000)	
<b>LINKED PROJECTS:</b> Dependent on:		<b>TOTAL:</b>	\$150,000
Critical to: GL06		<b>REMAINING FINANCIAL REQUIREMENT:</b>	
Associated with: TS05, KV01		<b>TOTAL:</b>	\$3,800,000
<b>START:</b> 1997	<b>END:</b> 2001	<b>APPROVED:</b> 11/97	<b>LAST REVISION:</b> 2/98

**DESCRIPTION:** Sediments in tributaries to Lake Okeechobee are an important source of phosphorus that contribute to the over-target loading to the lake. A recently completed study indicated that 800 tons of phosphorus are contained in tributaries within an 8-basin area that encompasses the most intense agriculture in the northern watershed of the lake. The tributaries in this study range in size from primary to tertiary canals and field ditches. Although our knowledge on the transport of these sediments to the lake is limited at present, it is certain that high flow conditions will mobilize a portion of the sediments. Sediments were found to have the highest concentration of phosphorus in the upper 6 inches, and are located predominately in the primary and tertiary canals (80% of the 800 tons). The project proposes dredging sediments from these canals, thereby removing them as a potential source of phosphorus to Lake Okeechobee.

**RESTORATION BENEFITS:** The phosphorus loading to Lake Okeechobee would be reduced, enhancing the ability for the in-lake phosphorus target of 40 mg/L to be achieved more rapidly. The improvement in Lake Okeechobee water quality will enhance all water uses south of the lake, as well as the estuaries receiving water from the lake.

Time Line and Fiscal Year Budget (in thousands of dollars) for Lake Okeechobee Tributary Sediment Dredging																
Task	97	98	99	00	01	02	03	04	05	06	07	08	09	10	Unprog	Total
Detailed site Assessments		■														
Dredging			■	■												
<b>Project</b>																
		300	1,750	1,750												3,800
<b>Subtotal</b>																<b>\$3,800</b>

<b>TITLE:</b> West Palm Beach Wetland Reclamation Project			
<b>SUBREGION:</b> 2	<b>PROJECT ID:</b> GL08	<b>FINANCIAL REQUIREMENT:</b> Proposed	
<b>PROGRAM CATEGORY:</b> Infrastructure	<b>BUDGET CATEGORY:</b> Water Quality/Habitat Protection	Local: 50 percent	Federal: 50 percent
<b>PROJECT PLAN MANAGER:</b> Erik Olson (561) 659-8085	<b>BASIS:</b> Farm Bill Priority: 23	<b>TOTAL:</b> \$34,219,973	
<b>LEAD ORGANIZATION(S):</b> City of West Palm Beach		<b>APPROPRIATED TO DATE:</b>	
<b>SUPPORTING ORGANIZATION(S):</b> SFWMD		Local: \$6,682,516	Federal: \$0
<b>COUNTY(S):</b> Palm Beach		<b>TOTAL:</b> \$6,682,516.00	
<b>LINKED PROJECTS:</b> Dependent on: Critical to: Associated with:		<b>REMAINING FINANCIAL REQUIREMENT:</b>	
<b>START:</b> 1996	<b>END:</b> 1999	Local: \$10,427,471	Federal: \$17,109,987
		<b>TOTAL:</b> \$27,537,458.00	
		<b>APPROVED:</b> 11/97	<b>LAST REVISION:</b> 2/98

**DESCRIPTION:** This project will reuse safe, highly treated wastewater to increase the water supply in South Florida while lowering the demand on existing potable water resources including Lake Okeechobee. The plan involves directing the flow of tertiary treated wastewater through restored and created wetlands for additional cleansing and treatment processes, and at the same time creating wetland habitat. Then the water will be directed to the surficial aquifer where it will be recovered and pumped into the City of West Palm Beach's M Canal, which flows to the water treatment plant. The City of West Palm Beach, Florida, with support from Palm Beach County and the South Florida Water Management District, is implementing a wetlands-based Water Reclamation Program. This will assist the City and County in achieving sustainability while providing water for Everglades restoration.

**RESTORATION BENEFITS:**

1. Providing water for Everglades restoration through elimination of withdrawals from Lake Okeechobee for drinking water needs - a benefit of 60 - 100 million gallons per day.
2. Creation and restoration of approximately 2,000 acres of environmentally sensitive wetlands.
3. Increased water availability for meeting long-term urban water supply demands in the City of West Palm Beach, the Town of Palm Beach, and central Palm Beach County.
4. Aquifer recharge and replenishment.
5. Retention, conservation, and utilization of 30 million gallons per day of high quality reclaimed water.
6. Reduction of quantity of water disposed in deep injection wells.
7. Reduction of stormwater discharge to tide.

*NOTE: The City has already expended almost \$4 million to acquire the land and to conduct the pilot program.*

Time Line and Fiscal Year Budget (in millions of dollars) for West Palm Beach Wetland Reclamation Project																
Task	97	98	99	00	01	02	03	04	05	06	07	08	09	10	Unprog	Total
Phase I	█															
Phase II A, B & C	█															
Phase III A	█															
Phase III B		█														
Phase III C		█	█													
<b>Project</b>																
County	1000	2120	2120													5,240
City	2000	2880	2880													7,760
City/SFWMD																4,219
EPA	5000															5,000
Other Federal	0	6000	6000													12,000
<b>Subtotal</b>																<b>34,219</b>

<b>TITLE:</b> Atlantic Ridge Ecosystem			
<b>SUBREGION :</b> 2	<b>PROJECT ID:</b> GL09	<b>FINANCIAL REQUIREMENT:</b>	
<b>PROGRAM CATEGORY:</b> Land Acquisition	<b>BUDGET CATEGORY:</b> Land Acquisition	SFWMD: \$27,000,000	FDEP: \$27,000,000
<b>PROJECT PLAN MANAGER:</b> Rinaldi (561) 687-6537	<b>BASIS:</b> 3	<b>TOTAL:</b> \$54,000,000	
<b>LEAD ORGANIZATION(S):</b> SFWMD		<b>APPROPRIATED TO DATE:</b>	
<b>SUPPORTING ORGANIZATION(S):</b> FDEP		SFWMD: \$7,500,000	FDEP: \$7,500,000
<b>COUNTY(S):</b> Martin		<b>TOTAL:</b> \$15,000,000	
<b>LINKED PROJECTS:</b> Dependent on: None Critical to: None Associated with: None		<b>REMAINING FINANCIAL REQUIREMENT:</b>	
<b>START:</b> 1996	<b>END:</b> 2002	SFWMD: \$19,500,000	FDEP: \$19,500,000
		<b>TOTAL:</b> \$39,000,000	
		<b>APPROVED:</b> 11/97	<b>LAST REVISION:</b> 2/98

**DESCRIPTION:** The project area is located in southern Martin County, between I-95 and U.S. 1. The project area includes approximately 12,700 acres, which is extremely diverse ecologically. It contains large areas of forested sloughs and high quality flatwoods, as well as one of the largest remaining islands of coastal scrub. The current land use is mostly cattle grazing on unimproved pasture with intense agriculture and residential development occurring around the edges of the project area. However, the project also contains extensive wetland and upland systems. Currently, none of this project is in public ownership.

**RESTORATION BENEFITS:** The purpose of this project is to conserve and protect the high quality habitats and to protect water quality of the South Fork of the St. Lucie River and the North Fork of the Loxahatchee River. The project area forms the headwaters to these rivers and the extensive wetland systems provide a source of groundwater base flow to both rivers. This project will conserve and protect significant habitat for endangered and threatened species such as the Florida scrub jay, the Florida sandhill crane, and the Florida scrub lizard. The area is extremely important for aquifer recharge and water supply to the coastal portion of Martin County.

Time Line and Fiscal Year Budget (in millions of dollars) for Atlantic Ridge Ecosystem							
Task	1998	1999	2000	2001	2002	Unprog	Total
Land Acquisition	15.0	10.0	9.6	10.0	9.4	--	54.0
Project							
<i>Subtotal</i>							

<b>TITLE:</b> Indian River Lagoon			
<b>SUBREGION :</b> 2	<b>PROJECT ID:</b> GL10	<b>FINANCIAL REQUIREMENT:</b>	
<b>PROGRAM CATEGORY:</b> Land Acquisition	<b>BUDGET CATEGORY:</b> Land Acquisition	<b>SFWMD</b> \$8,736,940	<b>Counties:</b> \$2,566,290
<b>PROJECT PLAN MANAGER:</b> Rinaldi (561) 687-6537	<b>BASIS:</b> 2	<b>CARL</b> \$12,833,230	<b>FED:</b> \$1,530,000
<b>LEAD ORGANIZATION(S):</b> SFWMD		<b>TOTAL:</b> \$25,666,460	
<b>SUPPORTING ORGANIZATION(S):</b> St. Lucie and Martin Counties, FDEP and FW		<b>APPROPRIATED TO DATE:</b>	
<b>COUNTY(S):</b> St. Lucie		<b>SFWMD</b> \$1,747,387	<b>Counties:</b> \$1,490,758
<b>LINKED PROJECTS:</b> Dependent on:		<b>CARL</b> \$1,589,143	<b>FED:</b> \$301,000
Critical to:		<b>TOTAL:</b> \$5,128,288	
Associated with GL19		<b>REMAINING FINANCIAL REQUIREMENT:</b>	
<b>START:</b> 1997	<b>END:</b> 2002	<b>SFWMD</b> \$6,989,553	<b>Counties:</b> \$1,075,532
		<b>CARL</b> \$11,244,087	<b>FED:</b> \$1,229,000
		<b>TOTAL:</b> \$20,538,172	
		<b>APPROVED:</b> 11/97	<b>LAST REVISION:</b> 2/98

**DESCRIPTION:** This project consists of two tracts on Hutchinson Island, in St. Lucie County, totaling 535 acres. Currently, none of this acreage is in public ownership. Approximately 87% of the two tracts are wetlands, dominated by red and black mangroves, with a few freshwater wetlands.

**RESTORATION BENEFITS:** This acquisition is part of a larger effort by several counties in both the SFWMD and St. Johns River WMD to protect, preserve and restore the Indian River Lagoon. These lands represent the only two undeveloped parcels along the Indian River in St. Lucie County that are not in public ownership. Mosquito control impoundments are present on both tracts. Public ownership of these parcels would allow installation of operable water control structures that allow flushing of the mosquito control impoundments during most of the year. This flushing will provide an important source of mangrove detrital matter which is critical to the health of the estuary. Public ownership will also prevent aerial applications of chemical pesticides for mosquito control.

In 1997, protection was expanded to include lands in Martin County as well.

Time Line and Fiscal Year Budget (in millions of dollars) for Indian River Lagoon							
Task	1998	1999	2000	2001	2002	Unprog	Total
Land Acquisition	5.1	--	--	7.0	7.0	6.5	25.6
Project							
<i>Subtotal</i>							

<b>TITLE:</b> Juno Hills			
<b>SUBREGION :</b> 2	<b>PROJECT ID:</b> GL11	<b>FINANCIAL REQUIREMENT:</b> State and Local	
<b>PROGRAM CATEGORY:</b> Land Acquisition	<b>BUDGET CATEGORY:</b> Land Acquisition		
<b>PROJECT PLAN MANAGER:</b> John Outland (904) 488-4892	<b>BASIS:</b> 1, and 3	<b>TOTAL:</b> \$19,479,343	
<b>LEAD ORGANIZATION(S):</b> FDEP		<b>APPROPRIATED TO DATE:</b> State and Local \$14,975,430 <b>TOTAL:</b> \$14,975,430	
<b>SUPPORTING ORGANIZATION(S):</b> Palm Beach County			
<b>COUNTY(S):</b> Palm Beach		<b>REMAINING FINANCIAL REQUIREMENT:</b>   <b>TOTAL:</b> \$4,503,913	
<b>LINKED PROJECTS: Dependent on:</b> Continuation of FDEPs CARL Acquisition and Palm Beach County's EEL Program			
<b>Critical to:</b> <b>Associated with:</b>			
<b>START:</b> 1997	<b>END:</b> 1997	<b>APPROVED:</b> 11/97	<b>LAST REVISION:</b> 2/98

**DESCRIPTION:** This 440-acre site in Palm Beach County contains one of the largest and best remaining examples of the now rare coastal scrub. The extremely rare four-petal pawpaw, known only from a few sites in the Southeast Florida coastal scrub, and at least three other rare species of scrub plants occur in the Juno Hills project. Such rare animals as the scrub jay, scrub lizard, gopher tortoise, and red widow spider also inhabit the scrub here. Scrubby slash pine flatwoods, disturbed basin swamps, and estuarine tidal swamps cover parts of the project area.

**RESTORATION BENEFITS:** This acquisition will preserve a sample of the original vegetation of the Atlantic Coastal Ridge in densely populated southeast Florida. The land will be used as a park/botanical site.

<b>TITLE:</b> Loxahatchee River			
<b>SUBREGION :</b> 2	<b>PROJECT ID:</b> GL12	<b>FINANCIAL REQUIREMENT:</b>	
<b>PROGRAM CATEGORY:</b> Land Acquisition	<b>BUDGET CATEGORY:</b> Land Acquisition	<b>SFWMD</b>	\$11,927,120
<b>PROJECT PLAN MANAGER:</b> Rinaldi (561) 687-6537	<b>BASIS:</b> 3	<b>TOTAL:</b>	\$11,927,120
<b>LEAD ORGANIZATION(S):</b> SFWMD		<b>APPROPRIATED TO DATE:</b>	
<b>SUPPORTING ORGANIZATION(S):</b> Palm Beach County		<b>SFWMD</b>	\$11,927,120
<b>COUNTY(S):</b> Palm Beach, Martin		<b>TOTAL:</b>	\$11,927,120
<b>LINKED PROJECTS:</b> Dependent on: Critical to: Associated with: GL19		<b>REMAINING FINANCIAL REQUIREMENT:</b>	
<b>START:</b> 1984	<b>END:</b> 2001	<b>TOTAL:</b>	\$0
		<b>APPROVED:</b> 11/97	<b>LAST REVISION:</b> 2/98

**DESCRIPTION:** This 1,936-acre project connects to the southern end of Jonathan Dickinson State Park, and contains lands in Palm Beach and Martin Counties. The project includes the historic floodplain of the Northwest Fork of the Loxahatchee River, a National Wild and Scenic River.

**RESTORATION BENEFITS:** The purpose of this project is to protect the outstanding natural and cultural values of Florida's only federally designated Wild and Scenic River. Public ownership of this property will prevent direct disruption of surface and groundwater flows to the Northwest Fork, and increase minimum flows to the Loxahatchee River which will affect downstream movement of the saltwater wedge during dry conditions.

**ACQUISITION STATUS:** Completed.

<b>TITLE:</b> Loxahatchee Slough			
<b>SUBREGION :</b> 2	<b>PROJECT ID:</b> GL13	<b>FINANCIAL REQUIREMENT:</b>	
<b>PROGRAM CATEGORY:</b> Land Acquisition	<b>BUDGET CATEGORY:</b> Land Acquisition	Palm Beach County:	\$16,000,000
<b>PROJECT PLAN MANAGER:</b> C. Rinaldi (561) 687-6537	<b>BASIS:</b> 2	SFWMD:	\$5,000,000
<b>LEAD ORGANIZATION(S):</b> SFWMD, Palm Beach County		<b>TOTAL:</b>	\$21,000,000
<b>SUPPORTING ORGANIZATION(S):</b> None		<b>APPROPRIATED TO DATE:</b>	
<b>COUNTY(S):</b> Palm Beach		Palm Beach County:	\$13,000,000
<b>LINKED PROJECTS:</b> <b>Dependent on:</b> None		SFWMD:	\$4,000,000
<b>Critical to:</b> None		<b>TOTAL:</b>	\$17,000,000
<b>Associated with:</b> None		<b>REMAINING FINANCIAL REQUIREMENT:</b>	
<b>START:</b> 1996	<b>END:</b> 2002	Palm Beach County:	\$3,000,000
		SFWMD:	\$1,000,000
		<b>TOTAL:</b>	\$4,000,000
		<b>APPROVED:</b> 11/97	<b>LAST REVISION:</b> 2/98

**DESCRIPTION:** The Loxahatchee Slough Project is located in Palm Beach County and covers approximately 13,900 acres. It contains a mixture of habitat types, including pine flatwoods, cypress forest, and wet prairie. The present land use is native range. These lands are adjacent to the Loxahatchee Slough Corridor, an area that has been pledged for protection by the current landowner. Palm Beach County will lead the land management effort for this project.

**RESTORATION BENEFITS:** The purpose of this project is to provide additional wetland and upland buffer to the Loxahatchee Slough Corridor and to preserve critical foraging and nesting sites for wildlife in an area that is undergoing rapid urban development. This system is important for storing surface water runoff and providing groundwater base flow to Canal 18 and the Loxahatchee River. The slough, which is the initial headwaters of the Loxahatchee River, can also spill over to the south and contribute to the Everglades watershed under certain hydrologic conditions.

*NOTE: Palm Beach County purchased 10,300 acres of this project in 1996.*

Time Line and Fiscal Year Budget (in millions of dollars) for Loxahatchee Slough							
Task	1998	1999	2000	2001	2002	Unprog	Total
Land Acquisition	4.0	4.0	--	--	--	--	8.0
Project							
<i>Subtotal</i>							

<b>TITLE:</b> North Fork St. Lucie River			
<b>SUBREGION :</b> 2	<b>PROJECT ID:</b> GL14	<b>FINANCIAL REQUIREMENT:</b>	
<b>PROGRAM CATEGORY:</b> Land Acquisition	<b>BUDGET CATEGORY:</b> Land Acquisition	St. Lucie County: \$2,800,000	FDEP: \$3,500,000
<b>PROJECT PLAN MANAGER:</b> C. Rinaldi (561) 68706537	<b>BASIS:</b> 3	SFWMD: \$5,332,000	<b>TOTAL:</b> \$11,632,000
<b>LEAD ORGANIZATION(S):</b> SFWMD		<b>APPROPRIATED TO DATE:</b>	
<b>SUPPORTING ORGANIZATION(S):</b> St. Lucie County, FDEP		St. Lucie County: \$1,200,000	FDEP: \$1,417,000
<b>COUNTY(S):</b> St. Lucie		SFWMD: \$2,000,000	<b>TOTAL:</b> \$4,617,000
<b>LINKED PROJECTS:</b> Dependent on:		<b>REMAINING FINANCIAL REQUIREMENT:</b>	
Critical to:		St. Lucie County: \$1,600,000	FDEP: \$2,083,000
Associated with: GL19		SFWMD: \$3,332,000	<b>TOTAL:</b> \$7,015,000
<b>START:</b> 1995	<b>END:</b> 2002	<b>APPROVED:</b> 11/97	<b>LAST REVISION:</b> 2/98

**DESCRIPTION:** This 2,800-acre project includes a stretch of the North Fork approximately 6 miles long, extending from the White City bridge to Canal 24. This project will extend the boundary of the existing publicly owned St. Lucie River Aquatic Preserve. More than 80 percent of the project area is comprised of wetlands within the river floodplain. In addition to the river floodplain, this project includes 175 acres of high quality uplands habitat such as high hammock, pine flatwoods, and sand pine scrub.

**RESTORATION BENEFITS:** The purpose of this project is to preserve the floodplain habitat and to protect the water quality of the St. Lucie River from the rapidly encroaching urban development. Floodplain wetlands help decrease current velocities in the river, thereby attenuating flood waters. This action also facilitates recharge of the surficial aquifer and filters out nutrients, pollutants and suspended solids. This stretch of the river is classified as an Outstanding Florida Water. Boating, fishing and canoeing are actively pursued on this part of the river.

Time Line and Fiscal Year Budget (in millions of dollars) for North Fork St. Lucie River							
Task	1998	1999	2000	2001	2002	Unprog	Total
Land Acquisition	3.0	1.0	--	3.0	3.0	--	10.0
Project							
<i>Subtotal</i>							

<b>TITLE:</b> North Savannas			
<b>SUBREGION :</b> 2	<b>PROJECT ID:</b> GL15	<b>FINANCIAL REQUIREMENT:</b>	
<b>PROGRAM CATEGORY:</b> Land Acquisition	<b>BUDGET CATEGORY:</b> Land Acquisition	St. Lucie County: \$1,200,000	
<b>PROJECT PLAN MANAGER:</b> Rinaldi (561) 687-6537	<b>BASIS:</b> 3	SFWMD: \$3,800,000	
<b>LEAD ORGANIZATION(S):</b> SFWMD		<b>TOTAL:</b> \$5,000,000	
<b>SUPPORTING ORGANIZATION(S):</b> St. Lucie County		<b>APPROPRIATED TO DATE:</b>	
<b>COUNTY(S):</b> St. Lucie County		St. Lucie County:	
<b>LINKED PROJECTS:</b> <b>Dependent on:</b> None		SFWMD:	
<b>Critical to:</b> None		<b>TOTAL:</b> \$0	
<b>Associated with:</b> None		<b>REMAINING FINANCIAL REQUIREMENT:</b>	
<b>START:</b> 1997	<b>END:</b> 2002	St. Lucie County: \$1,200,000	
		SFWMD: \$3,800,000	
		<b>TOTAL:</b> \$5,000,000	
		<b>APPROVED:</b> 11/97	<b>LAST REVISION:</b> 2/98

**DESCRIPTION:** Currently, none of this acreage, which contains a 930-acre remnant of the historical savannas community type in St. Lucie County, is in public ownership. Based on an evaluation conducted for the Florida Natural Areas Inventory, this area was found to have excellent natural community diversity. Seven upland and wetland community types, including a small area of sand pine scrub, are on the property. Important water management functions of this project area include attenuating peak discharges during major storm events and water quality improvement. The site promotes recharge to the surficial aquifer, which is the primary source of potable water in St. Lucie County. The water table at this location is extremely shallow and results in the aquifer being vulnerable to surface contamination.

**RESTORATION BENEFITS:** Acquisition of this land will help in promoting recharge and protection of the surficial aquifer from surface contamination. Once acquired, sheetflow would be improved if several shellrock roads were removed. Further, acquisition will conserve and protect feeding and breeding habitat for a number of endangered and threatened species, including the wood stork, the Florida sandhill crane, and the osprey. This site also includes the world's only known population of an undescribed mint plant (*Dicerandra sp.*).

Time Line and Fiscal Year Budget (in millions of dollars) for North Savannas							
Task	1998	1999	2000	2001	2002	Unprog	Total
Land Acquisition	--	1.1	--	1.5	2.4	--	5.0
Project							
<i>Subtotal</i>							

<b>TITLE:</b> Pal-Mar			
<b>SUBREGION:</b> 2	<b>PROJECT ID:</b> GL16	<b>FINANCIAL REQUIREMENT:</b>	
<b>PROGRAM CATEGORY:</b> Land Acquisition	<b>BUDGET CATEGORY:</b> Land Acquisition	SFWMD: \$7,000,000	Palm Beach Cty: \$4,500,000
<b>PROJECT PLAN MANAGER:</b> Rinaldi (561) 687-6537	<b>BASIS:</b> 3	Martin County: \$1,000,000	FDEP: \$11,500,000
<b>LEAD ORGANIZATION(S):</b> SFWMD		<b>TOTAL:</b> \$24,000,000	
<b>SUPPORTING ORGANIZATION(S):</b> DEP, Palm Beach & Martin Counties		<b>APPROPRIATED TO DATE:</b>	
<b>COUNTY(S):</b> Palm Beach, Martin		SFWMD: \$3,500,000	Palm Beach Cty: \$2,000,000
<b>LINKED PROJECTS:</b> Dependent on: None		Martin County: \$1,000,000	FDEP: \$4,500,000
Critical to: None		<b>TOTAL:</b> \$11,000,000	
Associated with: None		<b>REMAINING FINANCIAL REQUIREMENT:</b>	
<b>START:</b> 1997	<b>END:</b> 2002	SFWMD: \$3,500,000	Palm Beach Cty: \$2,500,000
		Martin County: -0-	FDEP: \$7,000,000
		<b>TOTAL:</b> \$13,000,000	
		<b>APPROVED:</b> 11/97	<b>LAST REVISION:</b> 2/98

**DESCRIPTION:** Pal-Mar is located in Palm Beach and Martin Counties, east of the J.W. Corbett Wildlife Management Area and west of Jonathan Dickinson State Park. The total project encompasses 37,314 acres, including some of the highest quality pine flatwoods in southern Florida in an ecotone between pine flatwoods and the treeless Everglades. It also includes high quality prairie and savanna habitat. The first purchase of 1,922 acres was completed in 1992.

**RESTORATION BENEFITS:** The primary purpose of this project is to conserve and protect environmentally unique lands that contain native, relatively unaltered flora and fauna. Acquisition of this project will form an extensive wildlife corridor connecting Jonathan Dickinson State Park, Pal-Mar, J.W. Corbett Wildlife Management Area, and DuPuis Reserve. By protecting native flatwoods, prairies, and marshes, this project will protect critical habitat for at least four endangered bird species, including the Florida sandhill crane and Everglades snail kite, and for the endangered Florida panther.

Time Line and Fiscal Year Budget (in millions of dollars) for Pal Mar							
Task	1998	1999	2000	2001	2002	Unprog	Total
Land Acquisition	9.5	6.0	4.0	2.0	1.0	--	22.5
Project							
<i>Subtotal</i>							

<b>TITLE:</b> South Fork St. Lucie River			
<b>SUBREGION :</b> 2	<b>PROJECT ID:</b> GL17	<b>FINANCIAL REQUIREMENT:</b>	
<b>PROGRAM CATEGORY:</b> Land Acquisition	<b>BUDGET CATEGORY:</b> Land Acquisition	<b>SFWMD</b>	\$2,480,000
<b>PROJECT PLAN MANAGER:</b> Rinaldi (561) 687-6537	<b>BASIS:</b> 3	<b>TOTAL:</b>	\$2,480,000
<b>LEAD ORGANIZATION(S):</b> SFWMD		<b>APPROPRIATED TO DATE:</b>	
<b>SUPPORTING ORGANIZATION(S):</b> FDCA		<b>SFWMD</b>	\$2,480,000
<b>COUNTY(S):</b> Martin		<b>TOTAL:</b>	\$2,480,000
<b>LINKED PROJECTS:</b> Dependent on: Critical to: Associated with:		<b>REMAINING FINANCIAL REQUIREMENT:</b>	
<b>START:</b> 1995	<b>END:</b> 1996	<b>TOTAL:</b>	\$0
		<b>APPROVED:</b> 11/97	<b>LAST REVISION:</b> 2/98

**DESCRIPTION:** This project includes 184 acres on the western shore of the upper South Fork St. Lucie River. The property begins approximately 0.75 miles south of State Road 76 and extends approximately 1.25 miles southward.

**RESTORATION BENEFITS:** The purpose of this project is to protect the integrity of the river corridor. River water quality is best maintained when river corridor lands remain in their natural state and are restored and managed to enhance natural community quality. Prescribed fire has successfully been used as the main restoration tool to improve the condition of degraded communities on this property.

**ACQUISITION STATUS:** Completed.

<b>-*TITLE:</b> Indian River Lagoon National Estuary Program			
<b>SUBREGION :</b> 2	<b>PROJECT ID:</b> GL18	<b>FINANCIAL REQUIREMENT:</b>	
<b>PROGRAM CATEGORY:</b> Management	<b>BUDGET CATEGORY:</b> Natural Res. Mngt.	USDA: \$1,700,000	
<b>PROJECT PLAN MANAGER:</b> Donna Smith - 561-461-4546	<b>BASIS:</b> 3	<b>IFAS</b> 300,00	
<b>LEAD ORGANIZATION(S):</b> IFAS/ES		<b>TOTAL:</b> \$2,000,000 (funded)	
<b>SUPPORTING ORGANIZATION(S):</b> NRCS		<b>APPROPRIATED TO DATE:</b>	
<b>COUNTY(S):</b> St. Lucie, Martin		<b>TOTAL:</b> \$500,000	
<b>LINKED PROJECTS:</b> Dependent on: Critical to: Associated with:		<b>REMAINING FINANCIAL REQUIREMENT:</b>	
<b>START:</b> 1997	<b>END:</b> 2002	<b>TOTAL:</b> \$1,500,000	
		<b>APPROVED:</b> 11/97	<b>LAST REVISION:</b> 2/98

**DESCRIPTION:** Addressing water quality quantity concerns in the Indian River Lagoon Estuary through the development and implementation of water management plans. This project includes the Florida Yards neighborhoods program, establishment of BMP's to curtail nutrient flows into the Indian River Lagoon, assistance with urban landowners to prevent pollution and the operation of two mobile irrigation labs to assist Agricultural and Urban water users reduce water consumption.

**RESTORATION BENEFITS:** This project reduces water consumption in the basin from agriculture and urban areas and nutrient loading in to the Indian River Lagoon Estuary from urban and agricultural areas.

Time Line and Fiscal Year Budget (in thousands of dollars) for Indian River Lagoon National Estuary Program																
Task	97	98	99	00	01	02	03	04	05	06	07	08	09	10	Unprog	Total
Program																
Project																
IFAS (funded)		60	60	60	60	60										300
NRCS (funded)		220	230	240	250	260										1,200
<b>Subtotal</b>																<b>1,500</b>

<b>TITLE:</b> Indian River Lagoon Restoration Feasibility Study			
<b>SUBREGION :</b> 3	<b>PROJECT ID:</b> GL19	<b>FINANCIAL REQUIREMENT:</b>	
<b>PROGRAM CATEGORY:</b> Management	<b>BUDGET CATEGORY:</b> Management	USACE \$3,075,000	SFWMD \$3,075,000
<b>PROJECT PLAN MANAGER:</b> Hornung, 561-687-6616	<b>BASIS:</b>	<b>TOTAL:</b> \$6,150,000	
<b>LEAD ORGANIZATION(S):</b> USACE		<b>APPROPRIATED TO DATE:</b>	
<b>SUPPORTING ORGANIZATION(S):</b> SFWMD		USACE \$ 872,700	SFWMD \$ 872,700
<b>COUNTY(S):</b> St Lucie, Martin		<b>TOTAL:</b> \$1,745,400	
<b>LINKED PROJECTS:</b> Dependent on:		<b>REMAINING FINANCIAL REQUIREMENT:</b>	
Critical to: TS01		Funding included in Comp Restudy, TS1-I	
Associated with: GL10, GL14, GL18		USACE \$2,202,300	SFWMD \$2,202,300
		<b>TOTAL:</b> \$4,404,600	
<b>START:</b> 1997	<b>END:</b> 2001	<b>APPROVED:</b> 11/97	<b>LAST REVISION:</b> 2/98

**DESCRIPTION:** Indian River Lagoon spans some 156 miles along Florida's Central East Coast. With limited flushing capability with ocean waters, the ecology of the lower one-third of the lagoon is heavily influenced by freshwater discharges from the C&SF Project canals. Today, high-volume freshwater flows to the St. Lucie estuary through canals constructed as part of the C&SF Project cause rapid decreases in salinity in the St. Lucie estuary and Indian River Lagoon, adversely affecting the health of the habitats and organisms in these coastal estuaries. The C&SF Project canals and water control structures were designed to improve drainage for agricultural, industrial, and residential use. These drainage modifications and land use intensification in the St. Lucie estuary watershed have dramatically increased wet-season flows to the estuary and significantly reduced dry-season inflows. The Indian River Lagoon Restoration Feasibility Study is the second feasibility study to be initiated under the C&SF Project Comprehensive Review Study authority. The study will develop a regional plan to address multiple water resource opportunities to include: environmental restoration of areas adversely impacted by the C&SF Project system; flood damage reduction; and urban and agricultural water supply.

**RESTORATION BENEFITS:** In 1991, the Indian River Lagoon was listed as an estuary of national significance and included in the National Estuary Program. The restoration of base flow to the estuary will improve salinity conditions for habitats and organisms dependent on brackish areas for at least part of their life cycle. Reduction in the frequency of high volume stormwater discharges will reduce rapid fluctuations of salinity as well as sedimentation, thereby improving conditions for oyster communities and seagrass beds. Upland detention of stormwater will also decrease nutrient loading which has contributed to the build-up of fine-grained nutrient-rich muck in the estuary. Concepts to be evaluated during the study to meet the restoration objectives for the St. Lucie estuary and the Indian River Lagoon include the construction of water preserve areas to attenuate stormwater flowways which divert stormwater to other areas, localized retention facilities, and the feasibility of removing organic sediments from the St. Lucie estuary. The project is authorized and a Feasibility Cost Sharing Agreement is scheduled to be executed by the USACE and the SFWMD in June 1996.

Time Line and Fiscal Year Budget (in thousands of dollars) for Indian River Lagoon Restoration Feasibility Study																
Task	97	98	99	00	01	02	03	04	05	06	07	08	09	10	Unprog	Total
Program	██████████															
Project																
USACE	776	1409	531	219	43											2,978
SFWMD	776	1409	531	219	43											2,978
<b>Subtotal</b>																<b>5,956</b>

<b>TITLE:</b> Upper East Coast Regional Attenuation Facilities/Water Preserve Areas			
<b>SUBREGION :</b> 3	<b>PROJECT ID:</b> GL21	<b>FINANCIAL REQUIREMENT:</b>	
<b>PROGRAM CATEGORY:</b> Land Acquisition	<b>BUDGET CATEGORY:</b> Land Acquisition	State - Federal cost-share: 50/50 (Proposed)	
<b>PROJECT PLAN MANAGER:</b> Warner	<b>BASIS:</b>	<b>TOTAL:</b> \$80,000,000	<b>APPROPRIATED TO DATE:</b>
<b>LEAD ORGANIZATION(S):</b> SFWMD (Proposed by Governor's Commission)		<b>TOTAL:</b> \$0	
<b>SUPPORTING ORGANIZATION(S):</b>			<b>REMAINING FINANCIAL REQUIREMENT:</b>
<b>COUNTY(S):</b> Martin, St Lucie, Okeechobee			
<b>LINKED PROJECTS:</b> Dependent on: Critical to: Associated with:		<b>TOTAL:</b> \$80,000,000	
<b>START:</b> 1996	<b>END:</b> 2001	<b>APPROVED:</b> 11/97	<b>LAST REVISION:</b> 2/98

**DESCRIPTION:** Involves acquiring approximately 40,000 acres of land in Martin, St. Lucie, and Okeechobee counties. Identification of exact parcels will come as a result of completion of the Indian River Lagoon (IRL) Restoration Feasibility Study. These lands will be used for stormwater storage facilities. The need for storage was established by the Indian River Lagoon SWIM Plan and adopted into the USACE's Restudy effort. Excess stormwater is routed to the St. Lucie estuary and Indian River Lagoon, where it disrupts natural salinity conditions and aquatic habitats. Much of the land is in citrus production, and because citrus farming in this area is not expanding, the lands may be purchased at favorable prices. An increase in the citrus market (up somewhat in 1996) would escalate land prices and bring pressure to convert more native and pasture land to citrus production. Rapid acquisition will facilitate design by reducing the number of alternatives to be considered.

**RESTORATION BENEFITS:** Detention will improve the quantity and timing of discharges to the IRL and the St. Lucie estuary, and will improve the quality of discharges by reducing the concentration of nutrients and other pollutants. Another probable benefit is improved agricultural water supply.

**NOTE:** This land may be incorporated into recommendations of the Indian River Lagoon Feasibility Study, which will be initiated July 1996. If the recommended plan requires acquisition of these lands, the SFWMD will be given credit for their cost.

<b>TITLE:</b> Agricultural Contributions to Carbon Cycling			
<b>SUBREGION:</b> 2	<b>PROJECT ID:</b> GL22	<b>FINANCIAL REQUIREMENT:</b>	
<b>PROGRAM CATEGORY:</b> Science	<b>BUDGET CATEGORY:</b> Research	ARS	\$1,797,980
<b>PROJECT PLAN MANAGER:</b> L.H. Allen (352) 392-6180	<b>BASIS:</b> 3	<b>TOTAL:</b>	\$1,797,980
<b>LEAD ORGANIZATION(S):</b> USDA-ARS		<b>APPROPRIATED TO DATE:</b>	ARS \$359,596
<b>SUPPORTING ORGANIZATION(S):</b>		<b>TOTAL:</b>	\$359,596
<b>COUNTY(S):</b> All		<b>REMAINING FINANCIAL REQUIREMENT:</b>	ARS \$1,438,384
<b>LINKED PROJECTS:</b> Dependent on: GL40 Critical to: Associated with:		<b>TOTAL:</b>	\$1,438,384
<b>START:</b> 1996	<b>END:</b> 2001	<b>APPROVED:</b> 11/97	<b>LAST REVISION:</b> 2/98

**DESCRIPTION:** Measure methane, carbon dioxide, and water fluxes of rice, sugarcane, and wetland species under various water table conditions in order to identify species and cultivars that will most likely thrive under flooding and soil waterlogging. Measure transmissibility of oxygen and methane flow through the aerenchyma of rice, sugarcane, and wetland species downwards to the rhizosphere and soil.

**RESTORATION BENEFITS:** Provide information on the effect of various vegetation cover and water table management on loss of organic matter as soil carbon dioxide fluxes. This will enable management practices that will sustain productivity while helping to reserve the organic soil resources of the Everglades. Provide information on species and cultivars that will thrive but under flooding and waterlogging conditions while minimizing organic loss.

Time Line and Fiscal Year Budget (in thousands of dollars) for Agricultural Contributions to Carbon Cycling																
Task	97	98	99	00	01	02	03	04	05	06	07	08	09	10	Unprog	Total
Research																
Project																
ARS	360	360	360	360	360											1,800
<b>Subtotal</b>																<b>\$1,800</b>

<b>TITLE:</b> Ecological Impact of Water Resource Project for Ten Mile Creek Property			
<b>SUBREGION :</b> 3	<b>PROJECT ID:</b> GL23	<b>FINANCIAL REQUIREMENT:</b>	
<b>PROGRAM CATEGORY:</b> Science	<b>BUDGET CATEGORY:</b> Monitoring	UF/IFAS: \$2,725,000	USDA/NRCS: \$400,000
<b>PROJECT PLAN MANAGER:</b> Arnold (561) 468-3922	<b>BASIS:</b>	<b>TOTAL:</b> \$3,125,000	
<b>LEAD ORGANIZATION(S):</b> IFAS, NRCS		<b>APPROPRIATED TO DATE:</b> Potential Cost Sharing Partner: SFWMD	
<b>SUPPORTING ORGANIZATION(S):</b> Harbor Branch Oceanographic Institute		<b>TOTAL:</b> \$0	
<b>COUNTY(S):</b> Saint Lucie, Martin		<b>REMAINING FINANCIAL REQUIREMENT:</b>	
<b>LINKED PROJECTS:</b> Dependent on: GL10, GL19 Critical to: Associated with: GL18		<b>TOTAL:</b> \$3,125,000	
<b>START:</b> 1997	<b>END:</b> 2007	<b>APPROVED:</b> 11/97	<b>LAST REVISION:</b> 2/98

**DESCRIPTION:** This project will be in support of the Save Our Rivers Water Resources Project Application for Ten Mile Creek Property. The object of this project is to provide baseline data of plant, wildlife, and water quality and document changes in these parameters through the construction and operational phases of the Ten Mile Creek Project. A pre-construction wildlife and plant census will document the existing ecosystem. The wildlife and vegetation census will be repeated following construction to document the transition from grove/pasture to a reservoir/attenuation facility. The water monitoring portion of the project will record inflows, rainfall, and evaporation and seepage estimates so that water balances can be calculated for the Ten Mile Creek project. A major focus of the project will be to determining the environmental aspects of the project brought about by changes in the water flow patterns in the Ten Mile Creek basin. Wetland hydro periods calculated from depth/duration measurements will be evaluated with respect to project operation. Measurements of nutrient and pesticide concentrations in the waters and sediments of the creek, wetlands, and reservoir will document the effectiveness of the Ten Mile Creek project to enhance the quality of water going into the Indian River Lagoon.

**RESTORATION BENEFITS:** This project will provide valuable long-term measurements of changes in water flows, water quality, and wildlife and plant populations as the land area changes from agriculture to a reservoir/attenuation facility. The project will provide data to document the Ten Mile Creek Project's impact as part of the Indian River Lagoon restoration. These data may also be used to evaluate similar future projects that are considered.

Time Line and Fiscal Year Budget (in thousands of dollars) for Ten Mile Creek Ecological Impact Project																
Task	97	98	99	00	01	02	03	04	05	06	07	08	09	10	Unprog	Total
Wildlife census	■	■		■				■			■					
Plant census	■	■		■				■			■					
Monitor water	■	■	■	■	■	■	■	■	■	■	■					
Project																
IFAS/NRCS	250	250	250	250	375	250	250	375	250	250	375					3,125
<b>Subtotal</b>																<b>\$3,125</b>

<b>TITLE:</b> L-8 Canal - Water Catchment Area - Loxahatchee Slough Infrastructure Improvements			
<b>SUBREGION:</b> 2	<b>PROJECT ID:</b> GL24	<b>FINANCIAL REQUIREMENT:</b> (Proposed)	
<b>PROGRAM CATEGORY:</b> Infrastructure Investment	<b>BUDGET CATEGORY:</b> Infrastructure Investment	Federal	\$1,600,000
<b>PROJECT PLAN MANAGER:</b> Erik Olson (561) 659-8085	<b>BASIS:</b>	WPB	\$1,600,000
<b>LEAD ORGANIZATION(S):</b> City of West Palm Beach		<b>TOTAL:</b>	\$3,200,000
<b>SUPPORTING ORGANIZATION(S):</b>		<b>APPROPRIATED TO DATE:</b>	
<b>COUNTY(S):</b> Palm Beach		Local	\$500,000
<b>LINKED PROJECTS:</b> Dependent on:		<b>TOTAL:</b>	\$500,000
Critical to:		<b>REMAINING FINANCIAL REQUIREMENT:</b>	
Associated with: GL26		Federal	\$1,600,000
		WPB	\$1,100,000
<b>START:</b> 1997	<b>END:</b> 1998	<b>TOTAL:</b>	\$2,700,000
		<b>APPROVED:</b> 11/97	<b>LAST REVISION:</b> 2/98

**DESCRIPTION:** Infrastructure improvements to take water from L-8 Canal and route it to the City of West Palm Beach's Water Catchment Area and then into the Loxahatchee Slough and Estuary

**RESTORATION BENEFITS:** Will directly benefit approximately 10,000 acres of wetlands in the Loxahatchee Slough; provide additional flow for restoration of the Loxahatchee River Estuary; provide additional water for 10,000 acres of wetlands in the City's Water Catchment Area: reduce dependency on Lake Okeechobee water: provide water for storage in Aquifer Storage and Recovery wells for later environmental and urban water supply use.

Time Line and Fiscal Year Budget (in thousands of dollars) for L-8 Canal - Water Catchment Area - Loxahatchee Slough Infrastructure Improvements																
Task	97	98	99	00	01	02	03	04	05	06	07	08	09	10	Unprog	Total
Improvements																
Project																
Federal	250	1350														1,600
WPB	250	1350														1,600
<b>Subtotal</b>	500	2700														\$3,200

<b>TITLE:</b> Ten Mile Creek Water Preserve Area		
<b>SUBREGION :</b> 2	<b>PROJECT ID:</b> GL25	<b>FINANCIAL REQUIREMENT:</b>
<b>PROGRAM CATEGORY:</b> Land Acquisition & Infrastructure	<b>BUDGET CATEGORY:</b> Land Acquisition & Infrastructure	USACE \$15,000,000
<b>PROJECT PLAN MANAGER:</b> Unsell (561)687-6888	<b>BASIS:</b> 2	SFWMD & Local Sponsors \$15,000,000
<b>LEAD ORGANIZATION(S):</b> USACE, SFWMD		<b>TOTAL:</b> \$30,000,000
<b>SUPPORTING ORGANIZATION(S):</b> National Estuary Program, Regional Attenuation Facility Task Force, St. Lucie River Initiative		<b>APPROPRIATED TO DATE:</b>
<b>COUNTY(S):</b> Martin and St. Lucie		<b>TOTAL:</b> \$0
<b>LINKED PROJECTS:</b> Dependent on: Critical to: UEC12-M Associated with: UEC11-M, UEC16-S		<b>REMAINING FINANCIAL REQUIREMENT:</b>
<b>START:</b> 1996	<b>END:</b> 2001	<b>TOTAL:</b> \$30,000,000
		<b>APPROVED:</b> 11/97
		<b>LAST REVISION:</b> 2/98

**DESCRIPTION:** This is a land acquisition and infrastructure project. It will consist of the acquisition of 1200 to 2000 acres of land in the eastern portion of the Ten Mile Creek Basin and the construction of an above-ground impoundment for stormwater detention purposes on this property. It will also include construction of one or more pump stations and may require redesign and reconstruction of the adjacent tidal discharge control structure. A constructed wetland or flow-through marsh may be added for water quality improvement purposes.

This project may be the first of several similar water preserve areas in Martin and St. Lucie counties. It will be very important to the construction and long-term operation of these other facilities that as much as possible can be learned from this first preserve area. Pre-construction habitat and vegetative systems will be documented for permit purposes and for the assessment of benefits of the facility. Water quality and quantity monitoring will be initiated prior to construction as well. Use of this baseline data will guide staff in optimizing the operation of this facility. Factors to be considered will be local habitat creation and restoration as well as the benefits that will occur downstream in the Lagoon and Estuary.

**RESTORATION BENEFITS:** Major improvements will accrue to the North Fork of the St. Lucie River Estuary, which is a part of the Indian River Lagoon, as a result of this project. The Indian River Lagoon is the most biologically diverse estuary in North America. The entire lagoon is endangered, especially the southern portion lying in SFWMD, from increased freshwater run-off from watershed drainage enhancements. Control of freshwater entering this basin will allow salinity concentrations to stabilize to levels that are favorable to seagrasses and benthic organisms such as oysters. Sediments and nutrients in the freshwater discharges to the estuary will also be reduced through this proposed detention system. Reduction in pollutants such as nutrients and excessive freshwater discharges will result in improvements in habitat for manatees and a host of saltwater fishes that use the estuary and lagoon as nurseries. Organic ooze is an ongoing problem in the estuary, especially in the North Fork. The reduction in sediment loadings that occurs with the construction of this proposed facility is anticipated to provide substantial relief from this long-term problem.

<b>TITLE:</b> Loxahatchee Slough Ecosystem Restoration		
<b>SUBREGION:</b> 03	<b>PROJECT ID:</b> GL26	<b>FINANCIAL REQUIREMENT:</b>
<b>PROGRAM CATEGORY:</b> Infrastructure & Management	<b>BUDGET CATEGORY:</b> Infrastructure Investment, Natural Resource Management	
<b>PROJECT PLAN MANAGER:</b> Lund (SFWMD), (561) 687-6631 Brennan (PBC) (561) 233-2494	<b>BASIS:</b> 2 Ecosystem Restoration	<b>TOTAL:</b> \$2.05 million
<b>LEAD ORGANIZATION(S):</b> SFWMD, Palm Beach County DERM, USACE		<b>APPROPRIATED TO DATE:</b>
<b>SUPPORTING ORGANIZATION(S):</b> City of West Palm Beach		<b>TOTAL:</b> \$0
<b>COUNTY(S):</b> Palm Beach		<b>REMAINING FINANCIAL REQUIREMENT:</b> Estimated cost of ogee weir/single gate structure: \$1-1.25 million Estimated treatment costs for 1800 acres melaleuca: \$0.8 million
<b>LINKED PROJECTS:</b> Dependent on: Critical to: Associated with:		
<b>START:</b> 1997	<b>END:</b> 2000	<b>TOTAL:</b> \$2.05 million
		<b>APPROVED:</b> 11/97
		<b>LAST REVISION:</b> 2/98

**DESCRIPTION:** This ecosystem restoration project has two components; the construction of a new water control structure in the C-18 canal to permit reflooding of Loxahatchee Slough wetlands previously drained by construction of the C-18 canal, and the elimination of approximately 1800 acres of melaleuca infestation associated with over-drained wetlands in the Loxahatchee Slough. The structure will raise water levels in the east leg of the C-18 canal to permit hydroperiod restoration for approximately 12,000 acres of the adjacent Loxahatchee Slough. This area proposed for hydroperiod restoration and exotic plant removal was purchased by Palm Beach County in 1996 as part of its Environmentally Sensitive Lands Acquisition Program. The Loxahatchee Slough is currently drained to elev. 15.0' by the C-18 canal. This proposed structure will permit management of some 12,000 acres to wet seasonal highs of about 18', while still maintaining flood protection for surrounding developed lands in the C-18 basin. In addition to environmental benefits, the project also enhances groundwater recharge for two major water supply utilities. Hydroperiod enhancement of this area was proposed in a USACE Environmental Assessment of the Loxahatchee Slough completed in 1983. The hydraulic and hydrologic models necessary for structure design are currently under construction as part of a \$300,000 cooperative agreement between the SFWMD and the City of West Palm Beach. Model work will be completed in FY98, including structure. Funding for structure construction is targeted for FY99. Melaleuca eradication is planned for FY98-FY99 to allow substantial completion prior to reflooding of the Slough.

**RESTORATION BENEFITS:** This project will provide immediate benefits to the Loxahatchee Slough, Loxahatchee River, and Loxahatchee River estuary. Ecosystem benefits include 1.) restoration of native vegetation, including improvement of snail kite habitat in the Loxahatchee Slough, 2.) reduction in excessive water losses associated with transpiration by melaleuca, 3.) restoration of natural hydroperiod to 12,000 acres of Loxahatchee Slough; 4.) delivery of critical minimum flows to the Northwest Fork of the Loxahatchee River (Florida's only federally designated Wild and Scenic River) which cannot currently be guaranteed from existing C-18 canal storage and 5.) reduction in adverse stormwater releases to the Loxahatchee River estuary via the Southwest Fork which are associated with existing drainage practices.

Time Line and Fiscal Year Budget (in thousands of dollars) for Loxahatchee Slough Ecosystem Restoration																
Task	97	98	99	00	01	02	03	04	05	06	07	08	09	10	Unprog	Total
Melaleuca Erad.		■	■													
Model Dev.	■	■														
Altern./Design		■														
Construction			■													
Levee Gaps				■												
<b>Project</b>																
SFWMD			600													600
City WPB	100	150	150													400
PB County	100	150	750													1,000
USACE																
<b>Subtotal</b>																<b>\$2,000</b>

<b>TITLE:</b> Cypress Creek Restoration Project			
<b>SUBREGION :</b> 2	<b>PROJECT ID:</b> GL28	<b>FINANCIAL REQUIREMENT:</b>	
<b>PROGRAM CATEGORY:</b> Infrastructure, Land Acquisition	<b>BUDGET CATEGORY:</b> Infrastructure, Land Acquisition		
<b>PROJECT PLAN MANAGER:</b> Sexton (The Conservation Fund)	<b>BASIS:</b> 2	<b>TOTAL:</b> \$15,000,000	
<b>LEAD ORGANIZATION(S):</b> DCA		<b>APPROPRIATED TO DATE:</b> SL Lucie County up to \$4,200,000 with a CARL match	
<b>SUPPORTING ORGANIZATION(S):</b> DEP, St. Lucie		<b>TOTAL:</b>	
<b>COUNTY(S):</b> St. Lucie		<b>REMAINING FINANCIAL REQUIREMENT:</b>	
<b>LINKED PROJECTS:</b> Dependent on:		<b>TOTAL:</b> \$10,800,000	
<b>Critical to:</b> GL21			
<b>Associated with:</b> GL18, GL19			
<b>START:</b> 1997	<b>END:</b> 1999	<b>APPROVED:</b> 11/97	<b>LAST REVISION:</b> 2/98

**DESCRIPTION:** The Cypress Creek basin is part of a hydrological system that once stretched from the St. Johns River watershed through the Allapattah flats but is now separated into three different drainage basins. The Cypress Creek Restoration Project is initially an acquisition project. Once acquired, the flow through the cypress basin can be restored under SR 70 and its primary southern drainage can be restored by modifying Bluefield Road and the Bluefield canal. The site contains a large rookery, listed plants such as *Hansella filiformis* and *Peperomia obtusifolia*, and at least four Native American archaeological sites.

**RESTORATION BENEFITS:** The Cypress Creek basin is a natural resource conservation and restoration project that has the potential to serve as the catalyst for a regional hydrological restoration/water preserve/water attenuation project. In the current water management regime, the Cypress Creek basin provides the headwaters for the St. Lucie River and will be a critical component of the Indian River Lagoon Restoration Project. The Cypress Creek Project will have consideration, greenways, and water attenuation benefits. Cypress Creek has been listed as a potential wildlife corridor in the Treasure Coast Regional Plan and DEP's Office of Greenways and Trafla is beginning a greenway planning process that will include the project area.

Time Line and Fiscal Year Budget (in thousands of dollars) for Cypress Creek Restoration Project																
Task	97	98	99	00	01	02	03	04	05	06	07	08	09	10	Unprog	Total
Restoration																
Project																
																15,000
<b>Subtotal</b>																15,000

<b>TITLE:</b> Allapattah Flats			
<b>SUBREGION:</b> 2	<b>PROJECT ID:</b> GL29	<b>FINANCIAL REQUIREMENT:</b>	
<b>PROGRAM CATEGORY:</b> Land Acquisition	<b>BUDGET CATEGORY:</b> Land Acquisition	<b>SFWMD</b>	\$60,000,000
<b>PROJECT PLAN MANAGER:</b> C. Rinaldi (561) 687-6537	<b>BASIS:</b> 2	<b>TOTAL:</b>	\$60,000,000
<b>LEAD ORGANIZATION(S):</b> SFWMD		<b>APPROPRIATED TO DATE:</b>	
<b>SUPPORTING ORGANIZATION(S):</b> USACE		<b>TOTAL:</b>	\$0
<b>COUNTY(S):</b> Martin		<b>REMAINING FINANCIAL REQUIREMENT:</b>	
<b>LINKED PROJECTS:</b> Dependent on: Critical to: Associated with: GL19		<b>SFWMD</b>	\$60,000,000
<b>START:</b> 1997	<b>END:</b> 2001	<b>TOTAL:</b>	\$60,000,000
		<b>APPROVED:</b> 11/97	<b>LAST REVISION:</b> 2/98

**DESCRIPTION:** The Allapattah Flats SOR project covers 22,560 acres in western Martin County. The site is dominated by poorly drained flatwoods soils, which are saturated for much of the wet season. Historically, this area was a flatwoods matrix, interspersed with depression marshes and wet prairies. With the exception of the four northern sections that drain to Canal-23, the entire site drains slowly to the southeast to the South Fork of the St. Lucie River. Over the past 30 years, the project area has undergone a change in land use from native range grazing to improved pasture, sod farms, and row crops. Most of the understory has been cleared and planted in non-native pasture grasses. Most of the depression marshes remain; however, most of the wet prairies have been drained and the depression marshes have been significantly impacted by drainage. An area of hydric hammock dominates the extreme western boundary. There is good species diversity and many large trees remain.

**RESTORATION BENEFITS:** Restoration of Allapattah Flats will play a key role in the effort to reduce flows from C-23 into the St. Lucie Estuary. Regional attenuation facilities, or Water Preserve Areas, are proposed which would store stormwater runoff from the agricultural areas of western St. Lucie County. This would reduce damaging wet season discharges into the St. Lucie Estuary. After acquisition, about 8,000 acres of the project adjacent to C-23 would be converted to a reservoir to provide approximately 32,000 acre-feet of water storage. Estimates indicate that this would reduce wet season stormwater flows into the estuary by 39%. It is estimated that an additional 14% reduction in discharge to the estuary could be achieved by not draining the property. Completely eliminating stormwater discharges is not possible; however, significant reductions could probably be made by blocking existing drainage ditches.

The Florida Game and Fresh Water Fish Commission would be the lead manager for the non-reservoir areas. The District will take the lead on all hydrologic restoration efforts.

Time Line and Fiscal Year Budget (in thousands of dollars) for Allapattah Flats							
Task	1998	1999	2000	2001	2002	Unprog	Total
Land Acquisition	--	--	--	--	--	60.0	60.0
Project							
<i>Subtotal</i>							

<b>TITLE:</b> Bolles and Cross Canal Improvements			
<b>SUBREGION:</b> 2	<b>PROJECT ID:</b> GL30	<b>FINANCIAL REQUIREMENT:</b>	
<b>PROGRAM CATEGORY:</b> Infrastructure	<b>BUDGET CATEGORY:</b> Infrastructure Investment	USACE: \$1,100,000	
<b>PROJECT PLAN MANAGER:</b> K. Brooks-Hall 904-232-3155	<b>BASIS:</b> 3	<b>TOTAL:</b> \$1,100,000	
<b>LEAD ORGANIZATION(S):</b> USACE		<b>APPROPRIATED TO DATE:</b>	
<b>SUPPORTING ORGANIZATION(S):</b> SFWMD		<b>TOTAL:</b> \$751,000	
<b>COUNTY(S):</b> Palm Beach		<b>REMAINING FINANCIAL REQUIREMENT:</b>	
<b>LINKED PROJECTS:</b> Dependent on : Critical to : GL31 Associated with: GL39		<b>TOTAL:</b> \$349,000	
<b>START:</b> 1997	<b>END:</b> 1999	<b>APPROVED:</b> 11/97	<b>LAST REVISION:</b> 2/98

**DESCRIPTION:** The Bolles and Cross Canals are east/west canals in the EAA constructed by the Everglades Drainage District prior to authorization of the C&SF Project. The C&SF Project design incorporated modifications to the original canal designs. However, construction was deferred. A General Reevaluation Report is being prepared to determine whether modifications are warranted based on existing conditions.

**RESTORATION BENEFITS:** The purpose of the project would be to provide improved flood control in the EAA in a manner such that the project also provides: improved water supply conveyance; greater capability for interbasin transfers that might enhance the treatment capacity of the STAs; and enhanced implementation of best management practices. The project could contribute toward maintaining a sustainable agriculture in the EAA that could be managed consistent with Everglades restoration goals.

From an environmental restoration perspective, the project could play an important role in maximizing the water quality treatment capacities of the STAs. Improvements to the Bolles and Cross Canals could enhance interbasin transfers of excess flood waters from an STA basin that is at its capacity to another that is operating at less than capacity. As a result, the effectiveness of the STAs could be enhanced. Studies to develop a recommended plan are scheduled to be completed in FY99. No construction is scheduled at this time.

Time Line and Fiscal Year Budget (in thousands of dollars) for Bolles and Cross Canal Improvements																
Task	97	98	99	00	01	02	03	04	05	06	07	08	09	10	Unprog	Total
Program																
Project																
USACE	304	293	56													349
<b>Subtotal</b>																<b>349</b>

<b>TITLE:</b> Everglades Program			
<b>SUBREGION :</b> 2,3,4	<b>PROJECT ID:</b> GL31	<b>FINANCIAL REQUIREMENT:</b>	
<b>PROGRAM CATEGORY:</b> Infrastructure	<b>BUDGET CATEGORY:</b> Land Acquisition, Infrastructure Investment, Science, Water Quality Protection	State: \$710,900,000	Federal: (STA-1E): \$127,025,000
<b>PROJECT PLAN MANAGER:</b> Goforth (561)687-6280	<b>BASIS:</b>	(Includes construction, operations research, regulations, etc., but excludes Finance Charges)	
<b>LEAD ORGANIZATION(S):</b> SFWMD		<b>TOTAL:</b> \$837,925,000	
<b>SUPPORTING ORGANIZATION(S):</b> USACE, FDEP		<b>APPROPRIATED TO DATE:</b>	
<b>COUNTY(S):</b> Palm Beach, Hendry		<b>TOTAL:</b> \$214,148,000	
<b>LINKED PROJECTS:</b> Dependent on: GL35,SE03,TS23 Critical to: Associated with:		<b>REMAINING FINANCIAL REQUIREMENT:</b>	
<b>START:</b> 1994	<b>END:</b> 2014	<b>TOTAL:</b> \$623,777,000	
		<b>APPROVED:</b> 11/97	<b>LAST REVISION:</b> 2/98

**DESCRIPTION:** The Everglades Program, mandated by the 1994 Everglades Forever Act, is focused on restoring a significant portion of the remaining 1.5 million-acre central Everglades ecosystem through a program of construction, research, and regulation projects. The Everglades Program includes construction of six STAs covering approximately 47,250 acres in the EAA, with an effective treatment area of just over 42,000 acres. The sizes of the STAs were determined based on the projected effective treatment area required to achieve a long-term average annual phosphorus discharge of approximately 50 parts per billion. The locations were selected on the basis of their proximity to the primary canals within the EAA and the Everglades Protection Area. The program also includes construction projects to restore natural hydropatterns to WCA-2A, WCA-3A and the Rotenberger Wildlife Management Area. The Everglades Program is comprised of 55 interrelated projects which make up 7 program elements: Everglades Construction Projects (18 projects including operation and maintenance), Hydropattern Restoration (7 projects), Research and Monitoring (12 projects), Regulation (10 projects), Exotic Species Control (2 projects), Funding (5 projects), and Annual Progress Report (1 project). While achieving interim, or Phase I, goals, many of the projects also focus on evaluating Phase II, or long-term, restoration goals. Of particular note are the research activities designed to determine the ultimate phosphorus standard and to evaluate supplemental water quality treatment technologies designed to achieve the long-term phosphorus discharge limit.

**RESTORATION BENEFITS:** The overall purposes of the Everglades Program are to: (1) reduce the loads of phosphorus entering the Everglades Protection Area; (2) increase the quantity of water delivered to the Everglades Protection Area by approximately 28 percent over the 1979-1988 baseline period; (3) capture, store, and clean up approximately 350,000 acre feet per year of excess stormwater currently lost to tide; (4) improve the timing and distribution of freshwater flows to the Everglades Protection Area; (5) reduce harmful discharges of freshwater to the St. Lucie and Caloosahatchee estuaries; (6) provide a buffer between the EAA and the Everglades; and (7) protect wetlands and habitat values outside the Everglades, notably in the Holey Land and Rotenberger areas.

Time Line and Fiscal Year Budget (in thousands of dollars) for the Everglades Program																
Task	97	98	99	00	01	02	03	04	05	06	07	08	09	10	Unprog	Total
ECP Design																
ECP Land																
ECP Construction																
ECP Operation																
Research & Monitoring																
Exotic Species Control																
Regulation																
O & M																
<b>Project</b>																
SFWMD	54783	116896	11775	29649	17249	62710	77729	49754	14050	9467	9799	10142	10497	10864	47394	638,458
USACE (DOI)	0	46600	2241	3742	38614	35828										127,025
<b>Subtotal</b>																<b>\$765,483</b>

<b>TITLE:</b> EAA Lands/Water Management Area(s) - Land from Willing Sellers for Water Storage, Detention and Water Quality Treatment			
<b>SUBREGION :</b> 2	<b>PROJECT ID:</b> GL33	<b>FINANCIAL REQUIREMENT:</b>	
<b>PROGRAM CATEGORY:</b> Land Acquisition	<b>BUDGET CATEGORY:</b> Land Acquisition	Federal	\$100,000,000
<b>PROJECT PLAN MANAGER:</b> Rinaldi (561)687-6537	<b>BASIS:</b> 2	<b>TOTAL:</b>	\$100,000,000
<b>LEAD ORGANIZATION(S):</b> SFWMD , DOI		<b>APPROPRIATED TO DATE:</b>	
<b>SUPPORTING ORGANIZATION(S):</b> None		State:	\$0
<b>COUNTY(S):</b> Palm Beach		Federal:	\$3,100,000
<b>LINKED PROJECTS:</b> Dependent on: Critical to: Associated with: TS01		<b>TOTAL:</b>	\$3,100,000
<b>START:</b> 1997	<b>END:</b> 1999	<b>REMAINING FINANCIAL REQUIREMENT:</b>	
		Federal	\$96,900,000
		<b>TOTAL:</b>	\$96,900,000
		<b>APPROVED:</b> 11/97	<b>LAST REVISION:</b> 2/98

**DESCRIPTION:** This project will focus on acquisition of approximately 50,000 to 90,000 acres of land in the EAA that can be purchased at fair market value from willing sellers. Acquisition may be accomplished by outright purchase of 50,000 to 90,000 acres from willing sellers, or through a combination of purchases and land trades. After its purchase, this land could be leased to agriculture pending completion of the C&SF Project Comprehensive Review Study.

**RESTORATION BENEFITS:** The purpose of this project is to acquire strategically located lands in the EAA that can be used for regional water storage, detention, and water quality treatment facilities. Initially, this land could be placed in public ownership and leased back for agricultural operations. Presently, there is no technical consensus on the precise amount and location of EAA land required for ecosystem restoration. The precise amount and location of lands ultimately required for water storage, detention, and water quality treatment will be determined through the C&SF Project Comprehensive Review Study. If this study determines that not all of this land is necessary for ecosystem restoration or protection efforts, then excess land could be sold and these dollars could be used to fund other restoration projects. Leaseback of lands to agriculture would produce a revenue stream to stretch land acquisition/ecosystem restoration funds and would help to maintain agricultural economic viability in the EAA. Ecosystem restoration benefits include: regional water storage that would reduce water currently lost to tide and make it available for hydropattern restoration in the Everglades; pollution prevention through reduction of phosphorus loads; reduced loading of nutrients and other pollutants through implementation of water quality treatment facilities; reduced subsidence; and avoidance of adverse flooding of WCAs and tribal lands during wet years.

Time Line and Fiscal Year Budget (in thousands of dollars) for EAA Lands/Water Management Area(s) - Land from Willing Sellers for Water Storage, Detention and Water Quality Treatment																
Task	97	98	99	00	01	02	03	04	05	06	07	08	09	10	Unprog	Total
Land Acq																
Project																
Federal			96,900													96,900
<b>Subtotal</b>																<b>96,900</b>

<b>TITLE:</b> Rotenberger/Holey Land Wildlife Management Areas			
<b>SUBREGION:</b> 2	<b>PROJECT ID:</b> GL34	<b>FINANCIAL REQUIREMENT:</b> (proposed) State	
<b>PROGRAM CATEGORY:</b> Land Acquisition	<b>BUDGET CATEGORY:</b> Land Acquisition	<b>TOTAL:</b> \$16,200,662 (estimated)	
<b>PROJECT PLAN MANAGER:</b> Robert Hicks (850) 488-2351	<b>BASIS:</b> 1, and 3	<b>APPROPRIATED TO DATE:</b>	
<b>LEAD ORGANIZATION(S):</b> FDEP		<b>TOTAL:</b> \$11,650,838	
<b>SUPPORTING ORGANIZATION(S):</b> SFWMD, FGFWFC		<b>REMAINING FINANCIAL REQUIREMENT:</b>	
<b>COUNTY(S):</b> Palm Beach		<b>TOTAL:</b> \$4,549,824	
<b>LINKED PROJECTS:</b> Dependent on: Critical to: EFA implementation Associated with: GL35		<b>APPROVED:</b> 11/97	
<b>START:</b> 1984	<b>END:</b> Completion of acquisition	<b>LAST REVISION:</b> 2/98	

**DESCRIPTION:** This land consists of 3,717 acres of disturbed sawgrass marsh. It is adjacent to and south of the Talisman tract and acts as a buffer between the heavily disturbed agricultural area and the more natural Everglades system. The land is a designated Wildlife Management Area and managed by the Florida Game and Fresh Water Fish Commission.

**RESTORATION BENEFITS:** Public acquisition will be instrumental in restoring a more traditional, ecologically healthy flow and distribution of water into the Everglades ecosystem. The land is needed for the operation of STA 5.

Time Line and Fiscal Year Budget (in thousands of dollars)																
Task	97	98	99	00	01	02	03	04	05	06	07	08	09	10	Unprog	Total
Land Acquisition																
Project																
State DEP																4,549
<i>Subtotal</i>																<b>4,549</b>

<b>TITLE:</b> Stormwater Treatment Areas 1-West and 2 through 6 and C-51W			
<b>SUBREGION:</b> 2, 5	<b>PROJECT ID:</b> GL35	<b>FINANCIAL REQUIREMENT:</b>	
<b>PROGRAM CATEGORY:</b> Land Acquisition	<b>BUDGET CATEGORY:</b> Land Acquisition	SFWMD: \$118,148,534	
<b>PROJECT PLAN MANAGER:</b> Rinaldi (561) 687-6537	<b>BASIS:</b> 2	TOTAL: \$118,148,534	
<b>LEAD ORGANIZATION(S):</b> SFWMD		<b>APPROPRIATED TO DATE:</b>	
<b>SUPPORTING ORGANIZATION(S):</b> None		SFWMD: \$87,963,859	
<b>COUNTY(S):</b> Palm Beach		TOTAL: \$87,963,859	
<b>LINKED PROJECTS:</b> Dependent on :		<b>REMAINING FINANCIAL REQUIREMENT:</b>	
Critical to: GL31		SFWMD: \$30,184,675	
Associated with:		TOTAL: \$30,184,675	
<b>START:</b> 1994	<b>END:</b> 2001	<b>APPROVED:</b> 11/97	<b>LAST REVISION:</b> 2/98

**DESCRIPTION:** This project involves acquisition of approximately 45,000 acres within the EAA in western and central Palm Beach County. The locations and footprints for the STAs were originally developed in the mediated technical plan for Everglades restoration in 1993 by the USACE, SFWMD, DOI, and other stakeholder, and have been modified slightly during the design effort. The sizes of the STAs are determined based on the projected effective treatment area required to achieve a long-term average annual phosphorus discharge of approximately 50 parts per billion. The locations were selected on the basis of their proximity to the primary canals within the EAA and the Everglades Protection Area.

**RESTORATION BENEFITS:** These lands are needed to implement the restoration plan identified in the proposed modifications to the 1992 Federal Consent Decree and the 1994 Everglades Forever Act. The overall purposes of the project are to: (1) reduce the loads of phosphorus entering the Everglades Protection Area; (2) increase the quantity of water delivered to the Everglades Protection Area by approximately 28 percent over the 1979-1988 baseline period; (3) capture, store, and clean up approximately 350,000 acre feet per year of excess stormwater currently lost to tide; (4) reduce harmful discharges of freshwater to the St. Lucie and Caloosahatchee estuaries; (5) provide a buffer between the EAA and the Everglades; and (6) protect and conserve wetlands and habitat values outside the Everglades, notably in the Holey Land and Rotenberger areas.

Time Line and Fiscal Year Budget (in thousands of dollars) for Stormwater Treatment Areas 1 West and 2 through 6 and C-51W							
Task	1998	1999	2000	2001	2002	Unprog	Total
Land Acquisition Info Below							
C-51W	9,652,253	--	--	--	--	--	9,652,253
STA-1W	5,643,495	3,675	--	--	--	--	5,647,170
STA-2	4,373,129	3,675	--	--	--	--	4,376,804
STA-3 & 4	605,761	24,693,430	24,300	10,410	--	--	25,333,901
STA-5	1,033,741	3,675	--	--	--	--	1,037,416
STA-6	303,500	3,675	5,441,835	--	--	--	5,749,010
Land Acquisition Project	21.6	24.7	5.5	--	--	--	51.8
<i>Subtotal</i>							



<b>TITLE:</b> Monitoring of Organic Soils in the Everglades			
<b>SUBREGION:</b> 2, 3	<b>PROJECT ID:</b> GL37	<b>FINANCIAL REQUIREMENT:</b>	
<b>PROGRAM CATEGORY:</b> Management	<b>BUDGET CATEGORY:</b> Natural Resources Management	NRCS	\$1,500,000
<b>PROJECT PLAN MANAGER:</b> Greg Hendricks 561-795-5451	<b>BASIS:</b> Task Force Priority 1	ARS	\$25,000
<b>LEAD ORGANIZATION(S):</b> NRCS		IFAS	\$11,403
<b>SUPPORTING ORGANIZATION(S):</b> ARS, IFAS		<b>TOTAL:</b>	\$1,536,403
<b>COUNTY(S):</b> Palm Beach, Broward, Dade, Monroe		<b>APPROPRIATED TO DATE:</b>	
<b>LINKED PROJECTS:</b> Dependent on:		ARS	\$25,000
Critical to: CE05		IFAS	\$11,403
Associated with: GL38, GL39		<b>TOTAL:</b>	\$36,403
<b>START:</b> 1997	<b>END:</b> 2011	<b>REMAINING FINANCIAL REQUIREMENT:</b>	
		NRCS	\$1,500,000
		<b>TOTAL:</b>	\$1,500,000
		<b>APPROVED:</b> 11/97	<b>LAST REVISION:</b> 2/98

**DESCRIPTION:** This project proposes to monitor the accretion or subsidence of organic soils throughout the Everglades. ARS and IFAS have allocated funding to continue monitoring soils in the Everglades Agricultural Area (EAA) that had been monitored at approximately 5-year intervals from 1913 to 1978. It is hoped that this activity will provide training to NRCS staff to expand this monitoring throughout the Everglades if this long-term project is funded.

**RESTORATION BENEFITS:** A major goal is to restore the natural hydrology throughout the Everglades. Under natural conditions, the organic soils of the Everglades accreted very slowly. Under managed conditions, soils of the EAA have subsided rapidly, and some soils in the Water Conservation Areas have accreted more rapidly than under natural conditions while others have subsided. By monitoring organic soils as proposed in this project, scientists will be able to determine at both macro and micro levels the effects of projects aimed to restore natural hydrological conditions

Time Line and Fiscal Year Budget (in thousands of dollars) for Monitoring of Organic Soils in the Everglades																
Task	97	98	99	00	01	02	03	04	05	06	07	08	09	10	Unprog	Total
NRCS																
Project																
NRCS	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	1,500
<b>Subtotal</b>																<b>1,500</b>

<b>TITLE:</b> Soil Survey Update for the Everglades Agricultural Area			
<b>SUBREGION :</b> 2	<b>PROJECT ID:</b> GL38	<b>FINANCIAL REQUIREMENT:</b>	
<b>PROGRAM CATEGORY:</b> Science	<b>BUDGET CATEGORY:</b> Natural Resources Management	NRCS	\$1,500,000
<b>PROJECT PLAN MANAGER:</b> Greg Hendricks (561) 795-5451	<b>BASIS:</b> 3	<b>TOTAL:</b> \$1,500,000 (unfunded)	
<b>LEAD ORGANIZATION(S):</b> NRCS		<b>APPROPRIATED TO DATE:</b>	
<b>SUPPORTING ORGANIZATION(S):</b> USGS, IFAS		<b>TOTAL:</b> \$0	
<b>COUNTY(S):</b> Palm Beach		<b>REMAINING FINANCIAL REQUIREMENT:</b>	
<b>LINKED PROJECTS:</b> Dependent on: Critical to: GL31, GL36, GL37, TS5 Associated with: TS4		NRCS \$1,500,000	
<b>START:</b> 1997	<b>END:</b> 2000	<b>TOTAL:</b> \$1,500,000 (unfunded)	
		<b>APPROVED:</b> 11/97	<b>LAST REVISION:</b> 2/98

**DESCRIPTION:** This project will produce a new comprehensive soil survey of the Everglades Agricultural Area (EAA) that consists of approximately 700,000 acres. This soil survey will consist a of spatial representation of soil map units and series across the EAA landscape. A detailed soil series description will be developed that describes the soil profile, sequence of layers from the surface to rock, and other important physical, biological and ecological features.

**RESTORATION BENEFITS:** The current county level soil survey (Palm Beach) which includes the EAA is almost 20 years old, published in 1978. Significant changes have occurred over this period due to organic soil subsidence, as well as water and land management objectives currently being applied in the EAA. Benefits associated with a new comprehensive soil survey include better on-farm land and water management decision making by agricultural growers that would assist in south Florida ecosystem restoration efforts. Other benefits included from a new soil survey would be major soil characterization data gaps that currently exist in the present soil survey, as well as a key information that will be required for new hydrologic and ecologic models being developed.

Time Line and Fiscal Year Budget (in thousands of dollars) for Wetland Determinations																
Task	97	98	99	00	01	02	03	04	05	06	07	08	09	10	Unprog	Total
Program																
Project																
NRCS unfunded	250	500	500	250												1,500
<b>Subtotal</b>																<b>1,500</b>

<b>TITLE:</b> Sustainable Agriculture in the Everglades Agricultural Area			
<b>SUBREGION :</b> 2	<b>PROJECT ID:</b> GL39	<b>FINANCIAL REQUIREMENT:</b>	
<b>PROGRAM CATEGORY:</b> Science	<b>BUDGET CATEGORY:</b> Research	ARS	\$20,000,000
<b>PROJECT PLAN MANAGER:</b> Miller (561) 924-5227	<b>BASIS:</b> 1	<b>TOTAL:</b>	\$20,000,000
<b>LEAD ORGANIZATION(S):</b> ARS		<b>APPROPRIATED TO DATE:</b>	
<b>SUPPORTING ORGANIZATION(S):</b> IFAS, FL Sugarcane League			
<b>COUNTY(S):</b> Palm Beach, Hendry		<b>TOTAL:</b>	\$0
<b>LINKED PROJECTS:</b> Dependent on: GL40 Critical to: Associated with: TS01		<b>REMAINING FINANCIAL REQUIREMENT:</b>	
		ARS	\$20,000,000
		<b>TOTAL:</b>	\$20,000,000
<b>START:</b> 1998	<b>END:</b> 2018	<b>APPROVED:</b> 11/97	<b>LAST REVISION:</b> 2/98

**DESCRIPTION:** ARS already has a world renowned sugarcane genetics program at Canal Point, FL. An annual increase of \$1 million would equip this program to include new genetic, agronomic, physiologic, and hydrologic research to improve sugarcane’s water tolerance and ability to reduce phosphorus runoff. This research aims to enable growers to gradually manage their water to better approximate the natural hydrology of the EAA while maintaining current profit levels.

**RESTORATION BENEFITS:** Benefits would occur simultaneously to EAA agriculture, regions of the natural Everglades linked hydrologically to the EAA, and to urban areas who would benefit from increased water storage in the EAA. The proposed research would allow EAA farmers to conserve their soils and thereby sustain their agriculture. Since conserving the soils would require restoring conditions similar hydrologically to natural conditions, and potentially increase water storage, the soil conservation would concurrently serve as a guide to restoring proper hydrologic links to the EAA with its linked regions. The genetics work on phosphorus utilization by sugarcane and the restoration of natural hydrological conditions would both help improve the ability of agriculture in the EAA to filter phosphorus from incoming water and to remove phosphorus from the Everglades.

Time Line and Fiscal Year Budget (in thousands of dollars) for Sustainable Agriculture in the Everglades Agricultural Area																
Task	97	98	99	00	01	02	03	04	05	06	07	08	09	10	Unprog	Total
Program																
Project																
ARS		1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	7000	20,000
<i>Subtotal</i>																

<b>TITLE:</b> Development of Diverse Sugarcane Germplasm and its Use in Development of Improved Varieties			
<b>SUBREGION :</b> 2	<b>PROJECT ID:</b> GL40	<b>FINANCIAL REQUIREMENT:</b>	
<b>PROGRAM CATEGORY:</b> Science	<b>BUDGET CATEGORY:</b> Research	ARS	\$20,000,000
		FSCL	\$8,000,000
		IFAS	\$1,250,000
<b>PROJECT PLAN MANAGER:</b> Miller (561) 924-5227	<b>BASIS:</b> 3	<b>TOTAL:</b>	\$21,250,000
<b>LEAD ORGANIZATION(S):</b> ARS		<b>APPROPRIATED TO DATE:</b>	
<b>SUPPORTING ORGANIZATION(S):</b> FSCL, IFAS		ARS	\$4,400,000
<b>COUNTY(S):</b>		FSCL	\$2,400,000
		IFAS	\$550,000
<b>LINKED PROJECTS:</b> Dependent on:		<b>TOTAL:</b>	\$6,550,000
Critical to: GL30		<b>REMAINING FINANCIAL REQUIREMENT:</b>	
Associated with:		ARS	\$15,600,000
		FSCL	\$5,600,000
		IFAS	\$700,000
		<b>TOTAL:</b>	\$14,700,000
<b>START:</b> 1990	<b>END:</b> 2010	<b>APPROVED:</b> 11/97	<b>LAST REVISION:</b> 2/98

**DESCRIPTION:** The objective of the sugarcane genetics program is to develop varieties for the Everglades Agricultural Area (EAA) which produces about 10 percent of the sugar consumed in the United States. ARS, IFAS, and two companies who represent more than half of the Florida sugarcane production have initiated research to select and develop sugarcane adapted to higher water tables and sugarcane that will improve the ability of sugarcane to filter and remove phosphorus from the ecosystem. Both of these efforts have been initiated with end of year funding that has totaled about \$270,000 over two years. Both efforts are very preliminary and need further funding if objectives are to be met.

**RESTORATION BENEFITS:** Restoration benefits from this project will come primarily from this project's link to the project titled Sustainable Agriculture in the Everglades Agricultural Area. Without this project as a foundation, the linked sustainable agriculture project will not be possible. Also, without this project as a foundation, future efforts to genetically modify sugarcane for ecological benefit in south Florida would not be possible.

Time Line and Fiscal Year Budget (in thousands of dollars) for Development of Diverse Sugarcane Germplasm and its Use in Development of Improved Varieties																
Task	97	98	99	00	01	02	03	04	05	06	07	08	09	10	Unprog	Total
ARS																
FSCL																
IFAS																
Project																
Program	1050	1050	1050	1050	1050	1050	1050	1050	1050	1050	1050	1050	1050	1050	6550	21,250
Subtotal																

<b>TITLE:</b> Lake Okeechobee Demonstration ASR Project			
<b>SUBREGION :</b> 2	<b>PROJECT ID:</b> GL41	<b>FINANCIAL REQUIREMENT:</b>	
<b>PROGRAM CATEGORY:</b> Infrastructure	<b>BUDGET CATEGORY:</b> Infrastructure Investment	USACE:	
<b>PROJECT PLAN MANAGER:</b> Devillon, (561) 687-6383	<b>BASIS:</b> 2	SFWMD:	
<b>LEAD ORGANIZATION(S):</b> Suggested SFWMD, USACE		<b>TOTAL:</b> \$5,500,000	
<b>SUPPORTING ORGANIZATION(S):</b> FDEP		<b>APPROPRIATED TO DATE:</b>	
<b>COUNTY(S):</b> Palm Beach		<b>TOTAL:</b> \$0	
<b>LINKED PROJECTS:</b> Dependent on:		<b>REMAINING FINANCIAL REQUIREMENT:</b>	
Critical to: TS01		USACE:	
Associated with:		SFWMD:	
<b>START:</b> 2000	<b>END:</b> 2002	<b>TOTAL:</b> \$5,500,000	
		<b>APPROVED:</b> 11/97	<b>LAST REVISION:</b> 2/98

**DESCRIPTION:** This project will implement a regional Aquifer Storage and Recovery (ASR) demonstration project at Lake Okeechobee to increase storage in the regional system. This increased storage by itself will provide additional water to meet local agricultural demands in the EAA. Historically, water is brought into the EAA from Lake Okeechobee to supply local agricultural interests. It is the intent of this demonstration project to evaluate the feasibility of storing Class 1 surface water within the basin for use during times of need. Full scale implementation of this option is not proposed at this time. The demonstration project would consist of four 5 MGD Floridan Aquifer System wells and one 20 MGD surface water pump to withdraw from Lake Okeechobee. Water will be withdrawn from Lake Okeechobee and injected into the Floridan Aquifer System for later retrieval. It is anticipated that extensive discussions with EPA and DEP will be required for permitting injection of Class 1 surface water into the Floridan Aquifer System.

**RESTORATION BENEFITS:** By creating additional storage in the region, less water will be required from the regional system to meet demands of the agricultural areas. Full scale implementation of this project may also help reduce excessive regulatory discharges to the coastal estuaries. Projected demands for the EAA approach 400,000 AF/yr on average. Full scale implementation of this option should store a significant volume of water for later use by the agricultural operations thereby freeing up a substantial amount of water for Everglades restoration. Anticipated volumes that can be potentially stored in the EAA will be determined once the results of the demonstration project have been fully evaluated.

No funds have been made available for this project.

Time Line and Fiscal Year Budget (in thousands of dollars) for Lake Okeechobee ASR Pilot Project																
Task	97	98	99	00	01	02	03	04	05	06	07	08	09	10	Unprog	Total
Permitting				■												
Construction				■	■	■										
Testing					■	■	■									
<b>Project</b>																
USACE																
SFWMD																
Subtotal																\$5,500

<b>TITLE:</b> Cayo Costa Island			
<b>SUBREGION :</b> 2	<b>PROJECT ID:</b> GL47	<b>FINANCIAL REQUIREMENT:</b>	
<b>PROGRAM CATEGORY:</b> Land Acquisition	<b>BUDGET CATEGORY:</b> Land Acquisition	State: 100 percent	
<b>PROJECT PLAN MANAGER:</b> Ilene Barnett (941) 332-6975	<b>BASIS:</b> 1, and 3	<b>TOTAL:</b> \$24,445,539 (estimated)	
<b>LEAD ORGANIZATION(S):</b> FDEP		<b>APPROPRIATED TO DATE:</b>	
<b>SUPPORTING ORGANIZATION(S):</b> USFWS		State:	
<b>COUNTY(S):</b> Lee		<b>TOTAL:</b> \$20,760,877	
<b>LINKED PROJECTS:</b> Dependent on: Critical to: Associated with:		<b>REMAINING FINANCIAL REQUIREMENT:</b>	
		State:	
		<b>TOTAL:</b> \$3,684,662	
<b>START:</b> 1980	<b>END:</b> Completion of acquisition	<b>APPROVED:</b> 11/97	<b>LAST REVISION:</b> 2/98

**DESCRIPTION:** The project area, involving 1,932 acres, includes Cayo Costa and North Captiva, both part of a small chain of barrier islands that provide protection for Charlotte Harbor, one of Florida’s most productive estuaries. The natural communities within the project are in excellent condition and have high species diversity; some may be unique to these islands. This project contains several archaeological and historical sites. Cayo Costa Island is subdivided into small lots and is threatened by rapid residential development.

**RESTORATION BENEFITS:** The project will protect the beaches, dunes, and hammocks of these islands. The maintenance of these islands in a natural state will provide protection for the bay, including relief from storm events, and minimize further water quality impacts from development.

<b>TITLE:</b> Charlotte Harbor Flatwoods			
<b>SUBREGION :</b> 2	<b>PROJECT ID:</b> GL48	<b>FINANCIAL REQUIREMENT:</b> (proposed)	
<b>PROGRAM CATEGORY:</b> Land Acquisition	<b>BUDGET CATEGORY:</b> Land Acquisition	State: 50 percent	Federal: 50 percent
<b>PROJECT PLAN MANAGER:</b> Ilene Barnett (941) 332-6975	<b>BASIS:</b> 1, and 3	<b>TOTAL:</b> \$35,037,868 (estimated)	
<b>LEAD ORGANIZATION(S):</b> FDEP		<b>APPROPRIATED TO DATE:</b>	
<b>SUPPORTING ORGANIZATION(S):</b> USFWS, FGFWFC		State: \$10,244,440	Federal:
<b>COUNTY(S):</b> Charlotte and Lee		<b>TOTAL:</b> \$10,244,440	
<b>LINKED PROJECTS:</b> Dependent on: Critical to: Associated with:		<b>REMAINING FINANCIAL REQUIREMENT:</b>	
		<b>TOTAL:</b> \$24,793,828	
<b>START:</b> 1992	<b>END:</b> Completion of acquisition	<b>APPROVED:</b> 11/97	<b>LAST REVISION:</b> 2/98

**DESCRIPTION:** The project area, located northwest of Fort Myers in Charlotte and Lee Counties, includes 18,708 acres containing the largest and highest quality slash-pine flatwoods left in Southwest Florida. The area contains pockets of old growth that provide habitat for red-cockaded woodpeckers, black bears, and bald eagles, and an occasional Florida panther ranges in the area. Additionally, the tract provides habitat for rare plant communities. Several drainages flow through these flatwoods into the Charlotte Harbor Aquatic Preserve.

**RESTORATION BENEFITS:** Acquisition will provide buffer and management area for wildlife, and habitat for many endangered species, those particularly vulnerable to development. It also will help protect the flatwoods and connect the Charlotte Harbor State Reserve with the Cecil M. Webb Wildlife Management Area, helping to protect both of these managed areas and the waters of the Aquatic Preserve.

The project will be designated as a wildlife management area, with such uses as hiking, environmental education and hunting. The area would be managed by Florida Game and Fresh Water Fish Commission.

<b>TITLE:</b> Ding Darling National Wildlife Refuge Complex			
<b>SUBREGION:</b> 10	<b>PROJECT ID:</b> GL49	<b>FINANCIAL REQUIREMENT:</b>	
<b>PROGRAM CATEGORY:</b> Land Acquisition	<b>BUDGET CATEGORY:</b> Land Acquisition	<b>TOTAL:</b> \$6,027,500	
<b>PROJECT PLAN MANAGER:</b> Johnson/Hinds (407) 562-3909	<b>BASIS:</b>	<b>APPROPRIATED TO DATE:</b>	
<b>LEAD ORGANIZATION(S):</b> USFWS		<b>TOTAL:</b> \$0	
<b>SUPPORTING ORGANIZATION(S):</b> SCCF, Lee County, TNC		<b>REMAINING FINANCIAL REQUIREMENT:</b>	
<b>COUNTY(S):</b>		<b>TOTAL:</b> \$6,027,500	
<b>LINKED PROJECTS:</b> Dependent on: Critical to: Associated with:		<b>APPROVED:</b> 11/97	
<b>START:</b> 1997	<b>END:</b> Until Complete	<b>LAST REVISION:</b> 2/98	

**DESCRIPTION:** This project involves adding 301 acres to various units that are managed by J.N. "Ding" Darling National Wildlife Refuge and also includes acquisition of parcels for Matlacha Pass, Caloosahatchee, Pine Island Sound, and Island Bay National Wildlife Refuges which are in the Charlotte Harbor region.

**RESTORATION BENEFITS:** The Charlotte Harbor estuary has undergone dramatic ecological changes as a result of the large volumes of fresh water that have been sent to tide through the Caloosahatchee River from Lake Okeechobee. The seagrass beds, mangrove forests, and oyster beds in the estuary have declined significantly as a result of this water delivery. This project would protect critical elements of the remaining mangroves and transitional wetlands in the Charlotte Harbor estuary.

<b>TITLE:</b> WCA-3A West Hydropattern Restoration			
<b>SUBREGION :</b> 2	<b>PROJECT ID:</b> GL52	<b>FINANCIAL REQUIREMENT:</b>	
<b>PROGRAM CATEGORY:</b> Infrastructure	<b>BUDGET CATEGORY:</b> Infra Invest	(funding is included in the budget for the Everglades Program) USACE, SFWMD	
<b>PROJECT PLAN MANAGER:</b> Hornung, 561-687-6616	<b>BASIS:</b> 2	<b>TOTAL:</b> \$1,700,000	
<b>LEAD ORGANIZATION(S):</b> USACE		<b>APPROPRIATED TO DATE:</b>	
<b>SUPPORTING ORGANIZATION(S):</b> SFWMD		<b>TOTAL:</b> 0	
<b>COUNTY(S):</b> Palm Beach		<b>REMAINING FINANCIAL REQUIREMENT:</b>	
<b>LINKED PROJECTS:</b> Dependent on : Critical to : GL31 Associated with: GL30		<b>TOTAL:</b> \$1,700,000	
<b>START:</b> 2000	<b>END:</b> 2003	<b>APPROVED:</b> 11/97	<b>LAST REVISION:</b> 2/98

**DESCRIPTION:** Compartmentalization of the Everglades has disrupted the hydrological and ecological patterns and relation. The hydropattern restoration project for WCA-3A West consists of reestablishing sheetflow along the northern perimeter of WCA-3A between the Miami Canal and levee L-28. The proposed project consists of degrading south levee L-4, breaching the existing north levee L-4, and adding control gates to an existing culvert. Treated discharges from STA- 5 and 6 will be used to restore the hydropattern in WCA-3A West.

**RESTORATION BENEFITS:** By restoring more natural hydropatterns and sheetflow, habitat quality is expected to increase for many of the species which are supported in the Everglades environment. Those species include the snail kite, wood stork, white ibis, white-tailed deer, Florida panther, and the American alligator. Maintenance of hydropattern are critical in maintaining the ecology necessary to restore and maintain high quality food sources for foraging wildlife. More importantly, the project will result in conditions similar to the original, undisturbed Everglades habitat.

Time Line and Fiscal Year Budget (in thousands of dollars) for WCA-3A West Hydropattern Restoration																
Task	97	98	99	00	01	02	03	04	05	06	07	08	09	10	Unprog	Total
Program																
Project																
USACE				75	200	500	500									1,275
SFWMD					75	175	175									425
<b>Subtotal</b>																<b>1,700</b>

<b>TITLE:</b> Seminole Tribe Best Management Practices for the Brighton Reservation			
<b>SUBREGION :</b> 2	<b>PROJECT ID:</b> GL53	<b>FINANCIAL REQUIREMENT:</b>	
<b>PROGRAM CATEGORY:</b> Management	<b>BUDGET CATEGORY:</b> Natural Res. Mgt., Water Quality	NPS	\$80,000
<b>PROJECT PLAN MANAGER:</b> Tepper (954)966-6300X1120	<b>BASIS:</b> <i>Ecosystem Restoration</i>	Seminole Tribe	\$338,000
<b>LEAD ORGANIZATION(S):</b> Seminole Tribe of Florida (STOF)		<b>TOTAL:</b>	\$418,000
<b>SUPPORTING ORGANIZATION(S):</b> NRCS, ARS, IFAS/ES		<b>APPROPRIATED TO DATE:</b>	
<b>COUNTY(S):</b> Glades		NPS	\$80,000
<b>LINKED PROJECTS:</b> Dependent on: Critical to: Associated with: TS08, SW03, SW18, SW19, GL53, GL54,		<b>TOTAL:</b>	\$80,000
<b>START:</b> 1/1998	<b>END:</b> 2004	<b>REMAINING FINANCIAL REQUIREMENT:</b>	
		<b>TOTAL:</b>	\$338,000
		<b>APPROVED:</b> 11/97	<b>LAST REVISION:</b> 2/98

**DESCRIPTION:** The Seminole Tribe will contract with NRCS to implement a comprehensive system of best management practices (BMP's) for the Brighton Reservation. Enhanced water management will be accomplished through application of field-level BMP's which might include: conservation irrigation systems; nutrient loading reduction; application procedure training; cross-fencing for grazing management; livestock watering facilities; grazing management plans; closed-end irrigation systems; and a tail-water recovery system, where appropriate.

**RESTORATION BENEFITS:** Implementation of the BMP's would provide immediate water quality benefits for the watershed which includes Lake Okeechobee. They would also compliment a comprehensive system of surface water management works planned for the Brighton Reservation.

Time Line and Fiscal Year Budget (in thousands of dollars) for Seminole Tribe Best Management Practices for the Brighton Reservation																
Task	97	98	99	00	01	02	03	04	05	06	07	08	09	10	Unprog	Total
Design		■	■													
Permitting		■	■													
Construction			■	■	■	■	■	■	■							
<b>Project</b>																
NPS		80														
Seminole Tribe			80	20	65	155	31	27	40							418
<b>Subtotal</b>																<b>418</b>

<b>TITLE:</b> Seminole Tribe Comprehensive Surface Water Management System for the Brighton Reservation			
<b>SUBREGION:</b> 2	<b>PROJECT ID:</b> GL54	<b>FINANCIAL REQUIREMENT:</b>	
<b>PROGRAM CATEGORY:</b> Infrastructure	<b>BUDGET CATEGORY:</b> Infrastructure Investment	<b>TOTAL:</b> \$15,818,000	
<b>PROJECT PLAN MANAGER:</b> Tepper (954)966-6300X1120	<b>BASIS:</b> 1	<b>APPROPRIATED TO DATE:</b> NPS \$150,000	
<b>LEAD ORGANIZATION(S):</b> Seminole Tribe of Florida (STOF)		<b>TOTAL:</b> \$150,000	
<b>SUPPORTING ORGANIZATION(S):</b> NRCS, COE, SFWMD, EPA		<b>REMAINING FINANCIAL REQUIREMENT:</b>	
<b>COUNTY(S):</b> Glades		<b>TOTAL:</b> \$15,668,000	
<b>LINKED PROJECTS:</b> Dependent on: Critical to: Associated with: SW17, SW18, SW19, GL06			
<b>START:</b> 1/1998	<b>END:</b> 2010	<b>APPROVED:</b> 11/97	<b>LAST REVISION:</b> 2/98

**DESCRIPTION:** A comprehensive surface water management system is to be designed and implemented for the Brighton Reservation which will include irrigation storage, flood control, surface water conveyance and water quality treatment. This Reservation is dependent upon surface water as its primary source of fresh water. The water is lifted from C&SF Canals and Lake Okeechobee into five sub-basins. These waters, upon distribution to agricultural land uses, are discharged to borrow canals leading directly to Lake Okeechobee.

**RESTORATION BENEFITS:** This plan would provide positive water management benefits to the Indian Prairie Basin which discharges into Lake Okeechobee.

- Water quality will be improved by reducing nutrient loadings through detaining discharges from Tribal lands in each sub-basin.
- Flood control will be enhanced through the implementation of additional sites in each sub-basin.
- Storage and conveyance of surface waters will be increased and enhanced in each and between sub-basins.
- Rehydration of sweet cabbage palm flatwood slough systems in each sub-basin will also be accomplished.

Time Line and Fiscal Year Budget (in thousands of dollars) for Seminole Tribe Comprehensive Surface Water Management System for the Brighton Reservation																
Task	97	98	99	00	01	02	03	04	05	06	07	08	09	10	Unprog	Total
Design																
Permitting																
Construction																
Operation & Maintenance																
<b>Project</b>																
NPS		150														150
Seminole Tribe			20	8687	1940	1358	1358	1705	100	100	100	100	100	100		15,818
<b>Subtotal</b>																<b>15.818</b>

<b>TITLE:</b> Palm Beach County Water Utilities Reclamation Project			
<b>SUBREGION :</b> 2	<b>PROJECT ID:</b> GL55	<b>FINANCIAL REQUIREMENT:</b>	
<b>PROGRAM CATEGORY:</b> Land & Infrastructure	<b>BUDGET CATEGORY:</b>	Land - \$3.0 million	
<b>PROJECT PLAN MANAGER:</b> G Demian, 561-641-3429	<b>BASIS:</b>	Engineering/Permitting/Construction - \$13.0 million	
<b>LEAD ORGANIZATION(S):</b> Palm Beach County		<b>TOTAL:</b> \$16.0 million	
<b>SUPPORTING ORGANIZATION(S):</b> SFWMD, FDEP, PBCERM		<b>APPROPRIATED TO DATE:</b> (Since 1992)	
<b>COUNTY(S):</b> Palm Beach		Palm Beach County Water Utilities Dept. Approved	
		Capital Improvements Budget	
		<b>TOTAL:</b> \$11.0 million	
		<b>REMAINING FINANCIAL REQUIREMENT:</b>	
<b>LINKED PROJECTS: Dependent on:</b>			
<b>Critical to:</b> Local wetlands restoration, ground water recharge, water reclamation and linkage to Greenways			
<b>Associated with:</b> PBCWUD's Existing 50-acre Wakodahatchee Wetland		<b>TOTAL:</b> \$5.0 million	
<b>START:</b> 10/97	<b>END:</b> 12/01	<b>APPROVED:</b> 11/97	<b>LAST REVISION:</b> 2/98

**DESCRIPTION:** Palm Beach County Water Utilities Department (PBCUWD) is proceeding with an aggressive water reclamation program water reclamation program which include golf course and residential irrigation and constructed wetlands. Over 40 acres of wetlands (named the Wakodahatchee Wetland) were constructed to treat and reclaim as much as 3 million gallons per day (mgd) of water from the County's Southern Region Water Reclamation Facility (SRWRF) located in southwestern Palm Beach County. The ultimate goal is to utilize the wetlands for additional treatment of the secondarily treated wastewater and to recharge the local ground water and canal systems. In addition, the wetland provides an aesthetic benefit and improves the quality of life to the local community.

Directly between the Wakodahatchee and the SRWRF is an approximately 290 acre parcel of land used primarily for pepper farming. PBCWUD has recently signed a contract with the owner to purchase 175 acres for purposes of constructing additional wetlands. These wetlands will be constructed similar to the Wakodahatchee including shallow marshes, deep zones, uplands, and habitat islands, all planted with native vegetation. Also similar to the Wakodahatchee, a boardwalk and nature trail will be constructed to provide limited public access for the purpose of educating the local community on the importance of reclaiming water and providing a habitat for wildlife including several species of wading birds. This new wetland will be linked with the Wakodahatchee to allow public access to both facilities, and increase the greenspace within the fast developing area of the County.

**RESTORATION BENEFITS:** Restoration benefits include:

- Reclamation of 10 mgd of water which would normally be disposed of in deep injection wells
- Recharging the local ground water which directly benefits the County's surficial aquifer wellfields
- Recharging the area canal network, thereby reducing reliance on the regional water supply system
- Creating additional habitat for local wildlife which include threatened and endangered species
- Increasing the amount of "greenspace" in the area, which helps to reduce the impact of over-drainage caused by encroaching development. This benefit aligns with the benefits associated with the proposed Water Preserve Areas located less than two miles west of this site.
- Providing a linkage with the "Greenways" concept in southeast Florida.

Collectively, these restoration benefits meet the applicability criteria for critical restoration projects.

Time Line and Fiscal Year Budget (in thousands of dollars) for Palm Beach County Water Utilities Reclamation Project																
Task	97	98	99	00	01	02	03	04	05	06	07	08	09	10	Unprog	Total
Land Purchase	1000	1000	1000													
Design/Permit			1500	1500												3000
<b>Project</b>																
	1000	1000	2500	6500	5000											16000
<i>Subtotal</i>																

<b>TITLE:</b> Floridan Aquifer Restoration		
<b>SUBREGION :</b> 2	<b>PROJECT ID:</b> GL56	<b>FINANCIAL REQUIREMENT:</b> USACE: \$500,000 SFWMD: \$500,000 USDA NRCS: \$200,000 <b>TOTAL:</b> \$1,200,000
<b>PROGRAM CATEGORY:</b> Management	<b>BUDGET CATEGORY:</b> Water Quality	
<b>PROJECT PLAN MANAGER:</b> Donna Smith 561-461-4546	<b>BASIS:</b> 2	<b>APPROPRIATED TO DATE:</b> USDA NRCS \$50,000 SFWMD \$50,000 <b>TOTAL:</b> \$100,000
<b>LEAD ORGANIZATION(S):</b> USDA NRCS		
<b>SUPPORTING ORGANIZATION(S):</b> SFWMD		<b>REMAINING FINANCIAL REQUIREMENT:</b>  <b>TOTAL:</b> \$1,100,000
<b>COUNTY(S):</b> St. Lucie		
<b>LINKED PROJECTS:</b> Dependent on: Critical to: UEC-21M Associated with: UEC-12M		<b>APPROVED:</b> 11/97
<b>START:</b> 1998	<b>END:</b> 2002	<b>LAST REVISION:</b> 2/98

**DESCRIPTION:** To restore the Florida aquifer in St. Lucie County by plugging Floridan aquifer wells, gathering data for regional ground water models, and by installing on-site water control structures on agricultural land. Each well will be logged before it is plugged. In addition, other wells on the property will be metered as part of the on-going SWIM study being carried out by SFWMD and St. Lucie Soil & Water Conservation District.

**RESTORATION BENEFITS:** By permanently plugging unused Floridan aquifer wells there will be less chance of contamination from other aquifers where damaged casing exists. In addition, it will eliminated the risk of future use or free-flow. Regional modeling efforts will allow for more informed permitting decisions.

Time Line and Fiscal Year Budget (in thousands of dollars) for Floridan Aquifer Restoration																
Task	98	99	00	01	02	03	04	05	06	07	08	09	10	11	Unprog	Total
ID Participants	█															
Write Individual Plans of Action	█	█														
Collect Data for GW Models	█	█	█	█	█											
Perform Cons. Measures	█	█	█	█	█											
Project																
<b>Subtotal</b>																<b>\$1,100</b>

<b>TITLE:</b> Urban Mobile Irrigation Lab			
<b>SUBREGION :</b> 2	<b>PROJECT ID:</b> GL57	<b>FINANCIAL REQUIREMENT:</b>	
<b>PROGRAM CATEGORY:</b> Management	<b>BUDGET CATEGORY:</b> Water Quality	USACE: \$250,000	IRLNEP/SJRWMD: \$250,000
<b>PROJECT PLAN MANAGER:</b> Donna Smith 561 461-4546	<b>BASIS:</b> 2	USDA NRCS: \$1,008,000	<b>TOTAL:</b> \$1,508,000
<b>LEAD ORGANIZATION(S):</b> USDA NRCS		<b>APPROPRIATED TO DATE:</b> (Since 1992)	
<b>SUPPORTING ORGANIZATION(S):</b> IRLNEP/ SJWMD		USDA NRCS: \$180,000	
<b>COUNTY(S):</b> Okeechobee, St Lucie, Martin		<b>TOTAL:</b> \$1,688,000	
<b>LINKED PROJECTS:</b> Dependent on: Critical to: UEC-13M Associated with: UEC-12M.		<b>REMAINING FINANCIAL REQUIREMENT:</b>	
<b>START:</b> 1997	<b>END:</b> 2011	<b>TOTAL:</b> \$1,508,000	
		<b>APPROVED:</b>	<b>LAST REVISION:</b> 10/97

**DESCRIPTION:** To add an urban MIL component to the two existing MIL's in the IRL basin in order to reduce water used and subsequent runoff in urban areas. Public information as well as system efficiency checks will be emphasized. Public buildings, golf courses, condominiums and private home systems will be included. Public workshops will be held at homeowners meetings, environmental fairs, and as part of the Florida Yards and Neighborhoods program promoting urban BMP's. Other public information activities will include mailouts and a rain-shutoff device program.

**RESTORATION BENEFITS:** Reduce fresh water attenuation to the IRL. Since the agricultural MIL's were setup in 1992, approximately 450 evaluations have been performed on 15,000 acres of agricultural land with an estimated potential water savings of 940 million gallons.

Time Line and Fiscal Year Budget (in thousands of dollars) for Urban Mobile Irrigation Lab																
Task	98	99	00	01	02	03	04	05	06	07	08	09	10	11	Unprog	Total
Staff And Equip																
2 Urban Mil's																
Perform Urban Evaluations- & Public Info																
Project																
<b>Subtotal</b>																<b>1,508</b>

<b>TITLE:</b> Caloosahatchee River			
<b>SUBREGION :</b> 2	<b>PROJECT ID:</b> GL58	<b>FINANCIAL REQUIREMENT:</b>	
<b>PROGRAM CATEGORY:</b> M/I/S	<b>BUDGET CATEGORY:</b> Area Management	<b>SFWMD</b>	\$104,250,000
<b>PROJECT PLAN MANAGER:</b> Dawdy (941) 338-2929	<b>BASIS:</b> 1,2,3	<b>USACE</b>	\$100,100,000
<b>LEAD ORGANIZATION(S):</b> SFWMD		<b>TOTAL:</b>	\$204,350,000
<b>SUPPORTING ORGANIZATION (S):</b> CRCA, USACE, IFAS, CHNEP		<b>APPROPRIATED TO DATE:</b>	
<b>COUNTY(S):</b> Lee, Hendry, Glades, Charlotte		<b>TOTAL:</b>	\$500,000
<b>LINKED PROJECTS:</b> Dependent on: Critical to: Caloosahatchee Estuary, USACE Restudy Associated with: Charlotte Harbor NEP		<b>REMAINING FINANCIAL REQUIREMENT:</b>	
<b>START:</b> 1997	<b>END:</b> 2005	<b>TOTAL:</b>	\$203,850,000
		<b>APPROVED:</b>	<b>LAST REVISION:</b> 9/97

**DESCRIPTION:** The C-43 canal project was originally intended to provide a minimum 8-foot navigable waterway between Lake Okeechobee to the Gulf of Mexico, remove runoff from the project area during a storm equal to 30% of the standard project flood, reduce the depth and duration of floods of greater magnitude than the 30% standard project flood, permit discharge of 9.300 cubic feet per second from Lake Okeechobee during periods when canal capacity was not required for tributary area drainage, and to provide salinity control between Ortona and Olga by maintaining the normal pool stage above Olga at optimum water levels. These objectives were accomplished at some expense to the natural functioning of the watershed.

**RESTORATION BENEFITS:** The Caloosahatchee Water Management Plan was initiated in 1997 to restore, preserve and protect the ecosystem of the estuary and watershed, while providing for the present and future water supply needs of urban and agricultural users. Components of the project include; (1) assessment of existing data in the watershed, (2) identification of additional data needs, (3) development of a watershed management plan to meet natural system goals, (4) dissemination of implementation strategies to ensure adequate water supplies for all users and the natural system, (5) enhancement of recreational opportunities, and (5) restoration of natural hydro-patterns. The Caloosahatchee Water Management Plan will benefit the Caloosahatchee Estuary restoration, Charlotte Harbor National Estuarine Program, and will complement the Corps of Engineers Comprehensive Restudy goals for water supply and water quality.

Time Line and Fiscal Year Budget (in thousands of dollars) for Caloosahatchee River												
Task	97	98	99	00	01	02	03	04	05	Unprog	Total	
Nutrient Monitoring		█	█	█								
Water Supply Assessment	█											
Water Demand Assessment	█											
Water Storage Modeling		█										
Water Supply & Demand Modeling		█										
Environmental Assessment	█											
Plan Implementation			█	█	█	█	█	█	█			
<b>Project</b>												
SFWMD	500	1,700	1,100	950	10,000	20,000	30,000	25,000	15,000		104,250	
USACE	0	0	0	100	10,000	20,000	30,000	25,000	15,000		100,100	

**TITLE:** Stock Structure and Abundance of Bottlenose Dolphins along Florida's West Coast

Greater Lake Okeechobee – Sub-Region 2

<b>SUBREGION :</b> 2	<b>PROJECT ID:</b> GL59	<b>FINANCIAL REQUIREMENT:</b>	
<b>PROGRAM CATEGORY:</b> Science	<b>BUDGET CATEGORY:</b> Research		
<b>PROJECT PLAN MANAGER:</b> Steve Swartz 305/361-4487	<b>BASIS:</b> 3	<b>TOTAL:</b> \$296,717	
<b>LEAD ORGANIZATION(S):</b> NMFS		<b>APPROPRIATED TO DATE:</b>	
<b>SUPPORTING ORGANIZATION(S):</b> Chicago Zoological Society, Mote Marine Laboratory, Earthwatch			
<b>COUNTY(S):</b> Lee (and Charlotte, Sarasota, Manatee, Hillsborough)		<b>TOTAL:</b> \$132,000	
<b>LINKED PROJECTS:</b> Dependent on: Critical to: Associated with:		<b>REMAINING FINANCIAL REQUIREMENT:</b>	
<b>START:</b> 1990	<b>END:</b> 2000	<b>TOTAL:</b> \$164,717	
		<b>APPROVED:</b> 11/97	<b>LAST REVISION:</b> 2/98

**DESCRIPTION:** The NMFS is responsible for establishing quotas for incidental takes of bottlenose dolphins (*Tursiops truncatus*) and for monitoring their populations. In 1987, NMFS began funding several local research efforts in the southeast U.S. to detect large-scale changes in abundance and establish archival databases for trend detection. The Charlotte Harbor/Pine Island Sound area has been of particular interest because of its past use for commercial dolphin collection. It is also near the long-term study sites of Sarasota Bay and Tampa Bay. Extension of the survey to include this area completed a nearly 200-km section of contiguous coastline for which movement patterns of dolphins could be determined. Since 1990, various surveys have been conducted both inside and offshore of Charlotte Harbor and Pine Island Sound, primarily using the methodology of photographic identification. Objectives were to establish a current population size and vital rate parameter database for long-term population trend detection, investigate long-term residency and movement of dolphins, and establish a current dorsal fin photograph catalog of identifiable dolphins in the area. During 1997-98, a monthly photo-ID survey is being conducted offshore of the well-studied inshore stocks to optimize the ability to discern interactions between stocks. In 1998, photo-ID surveys will be made in Charlotte Harbor/Pine Island Sound to investigate seasonal changes in abundance relative to stock structure, evaluate interactions between inshore and Gulf dolphins, and update abundance estimates. As part of a larger study during 1998-2000, similar surveys will attempt to relate ranging patterns to stock structure of dolphins in offshore waters between Tampa Bay and Charlotte Harbor. A planned network of study sites to target bottlenose dolphin populations could include locations further south on Florida's Gulf Coast.

**RESTORATION BENEFITS:** The status of bottlenose dolphins along the Gulf Coast are of concern because of several large mortality events since 1990, habitat degradation due to coastal development, and pervasive pollution. Inshore stocks are currently identified on the basis of bay and estuary boundaries and coastal stocks on the basis of geography and water depth. Interactions between inshore and coastal stocks remain largely undefined. Risk assessment must account for stock interactions, and to fully understand the implications of management decisions or catastrophic events the biological basis of stock designations must be evaluated. The origins of individuals determine their exposure to disease and risk of transmission; movement of individuals between stocks can have potentially serious impacts. Stock designations could provide information on dolphins' history of exposure to contaminants and potentially lead to mitigation of pollution sources.

Time Line and Fiscal Year Budget (in thousands of dollars) for Stock Structure and Abundance of Bottlenose Dolphins along Florida's West Coast															
Task	98	99	00	01	02	03	04	05	06	07	08	09	10	Unprog	Total
Coastal Survey Harbor/Sound Survey															
Coastal Survey Project															
12-month Coastal Survey	24.0														24.0
Harbor/Sound Survey	49.9	12.2													62.1
Coastal Survey	10.4	64.6	27.6												102.6
<b>Subtotal</b>	<b>84.3</b>	<b>76.8</b>	<b>27.6</b>												<b>188.7</b>

<b>TITLE:</b> Fish Abnormalities as Environmental Quality Indicators in the St. Lucie - Lower Indian River			
<b>SUBREGION :</b> 2	<b>PROJECT ID:</b> GL60	<b>FINANCIAL REQUIREMENT:</b>	
<b>PROGRAM CATEGORY:</b> Science	<b>BUDGET CATEGORY:</b> Research	<b>TOTAL:</b> \$100,000	
<b>PROJECT PLAN MANAGER:</b> Joan Browder 305/361-4270	<b>BASIS:</b> 1, 2	<b>APPROPRIATED TO DATE:</b>	
<b>LEAD ORGANIZATION(S):</b> NMFS		<b>TOTAL:</b> \$9,200	
<b>SUPPORTING ORGANIZATION(S):</b> AmeriCorps, FDEP/FMRI		<b>REMAINING FINANCIAL REQUIREMENT:</b>	
<b>COUNTY(S):</b> Martin		<b>TOTAL:</b> \$ 90,800	
<b>LINKED PROJECTS:</b> Dependent on: Critical to: Associated with: UEC12-M		<b>APPROVED:</b>	
<b>START:</b> 1996	<b>END:</b> Until completed	<b>LAST REVISION:</b> 10/17/97	

**DESCRIPTION:** This study was prompted by observations of abnormalities in fish of the St. Lucie - Lower Indian River estuary. Occurrence of morphological deformities (both skeletal and scale), tumors, and lesions suggests that the fish communities in this system are considerably stressed. A growing body of scientific information indicates that the prevalence of these types of abnormalities is an indication of the degree of stress. Any or all of several potential anthropogenic stressors present in the St. Lucie-Lower Indian River estuary might be the cause of poor fish health. These include sporadic and extraordinarily high freshwater discharges, excessive nutrients, and accumulation of contaminants such as organic pesticides and heavy metals in bottom sediments. This field survey is the first to quantitatively determine the scope and magnitude of the problem. Objectives of the first phase of the project are to: 1) determine prevalences of fish with externally visible abnormalities, such as scale disorientation, deformed or missing dorsal spines, saddleback, miniature tail, lesions, ulcers, tumors, and parasites; 2) describe the variation in prevalences among species; and 3) describe the spatial and temporal variation in prevalences of types of abnormalities. This study will provide a baseline from which to evaluate the effectiveness of the South Florida Ecosystem Restoration initiative in improving ecological conditions in the St. Lucie-Indian River estuary. Future work will attempt to relate prevalences to habitat quality, as characterized by such factors as sediment contaminant concentrations, proximity to dredging, influence of high fresh water discharges, and presence of toxic dinoflagellates.

**RESTORATION BENEFITS:** Quantifiable measures of ecological integrity are sought by the South Florida Ecosystem Restoration Program in order to identify areas needing restoration action and evaluate results of restoration efforts. Fish health appears to be a reliable indicator of the health of coastal waters. Readily recognizable signs of condition of aquatic organisms can provide the basis for one quantifiable index of a system's ecological integrity for use in South Florida's coastal waters. A quantitative estimate of the prevalence of fish deformities will enable decisionmakers and water management planners to understand this problem and expedite efforts to stop degradation of a significant aquatic habitat. Development of a long-term monitoring program will allow determination of success of restoration efforts.

Time Line and Fiscal Year Budget (in thousands of dollars) for Fish Abnormalities as Environmental Quality Indicators in the St. Lucie - Lower Indian River															
Task	98	99	00	01	02	03	04	05	06	07	08	09	10	Unprog	Total
Quantitative survey	■	■													
Relation to habitat	■	■	■	■											
Project															
NMFS	20.0	35.0	30.0	5.8											90.8
<i>Subtotal</i>	20.0	35.0	30.0	5.8											90.8

<b>TITLE:</b> Charlotte Harbor National Estuary Program			
<b>SUBREGION :</b> 2 (and 5)	<b>PROJECT ID:</b> GL61	<b>FINANCIAL REQUIREMENT:</b>	
<b>PROGRAM CATEGORY:</b> Management	<b>BUDGET CATEGORY:</b> Water Quality and/or Habitat Protection, Information Management, Monitoring		
<b>PROJECT PLAN MANAGER:</b> Tiffany Lutterman 941/995-1777	<b>BASIS:</b> 1, 3	<b>TOTAL:</b> \$3,707,000	
<b>LEAD ORGANIZATION(S):</b> USEPA (Southwest Florida Regional Planning Council is local administrator)		<b>APPROPRIATED TO DATE:</b>	
<b>SUPPORTING ORGANIZATION(S):</b> SWFWMD, SWFWMD, Central Florida Regional Planning Council, FDEP, FDCA, and many county and municipal governments (see counties below).			
<b>COUNTY(S):</b> Lee, Charlotte, Highlands, Polk, Hardee, DeSoto, Manatee, Sarasota		<b>TOTAL:</b> \$1,460,000	
<b>LINKED PROJECTS:</b> Dependent on: Critical to: Associated with:		<b>REMAINING FINANCIAL REQUIREMENT:</b>	
		<b>TOTAL:</b> \$2,247,000	
<b>START:</b> 10/96	<b>END:</b> Until complete	<b>APPROVED:</b> 11/97	<b>LAST REVISION:</b> 2/98

**DESCRIPTION:** The Charlotte Harbor National Estuary Program (CHNEP) is addressing three categories of issues on a regional basis. Together with existing public and private institutions, the program is developing management strategies and implementing solutions for 1) fish and wildlife habitat loss, 2) hydrologic alterations, and 3) water quality degradation. The CHNEP study area includes the watersheds of the tidal Caloosahatchee River, along with Charlotte Harbor, Pine Island Sound, and San Carlos Bay; watershed of Estero Bay (Subregion 5); and watersheds of the Peace River, Myakka River, Lemon Bay, and coastal Venice areas (under jurisdiction of the Southwest Florida Water Management District). The CHNEP supports monitoring efforts, regional data management initiatives, science and data collection, habitat restoration, and development of a “Comprehensive Conservation and Management Plan.”

**RESTORATION BENEFITS:** The CHNEP will contribute to ecological protection and restoration in the Charlotte Harbor basin by improving fish and wildlife habitat, water quality, and hydrology through public support, improved interagency communication, and additional funding for local projects.

Time Line and Fiscal Year Budget (in thousands of dollars) for Charlotte Harbor National Estuary Program																
Task	97	98	99	00	01	02	03	04	05	06	07	08	09	10	Unprog	Total
Early Action Demonstration Projects	■	■	■													533
Conservation & Management Plan Development	■	■	■													1,574
Plan Implementation				■	■	■	■									1,600
Project																
<b>Subtotal</b>	813	647	647	400	400	400	400									3,707

<b>TITLE:</b> Seagrass Studies in Indian River Lagoon			
<b>SUBREGION :</b> 2 (and 4)	<b>PROJECT ID:</b> GL62	<b>FINANCIAL REQUIREMENT:</b>	
<b>PROGRAM CATEGORY:</b> Science	<b>BUDGET CATEGORY:</b> Research, Natural Resources Management		
<b>PROJECT PLAN MANAGER:</b> Jud Kenworthy 919/728-8750	<b>BASIS:</b> 3	<b>TOTAL:</b>	\$554,400
<b>LEAD ORGANIZATION(S):</b> NMFS, FWS		<b>APPROPRIATED TO DATE:</b>	
<b>SUPPORTING ORGANIZATION(S):</b> SFWMD, FDEP/FMRI, SJRWMD, FIT, HBOI, Smithsonian Marine Station		NMFS	\$ 48,000
<b>COUNTY(S):</b> Martin, St. Lucie, Palm Beach (and Indian River)		SFWMD	\$ 50,000
		FWS	\$120,000
<b>LINKED PROJECTS:</b> Dependent on: Critical to: Associated with: GL19		<b>TOTAL:</b>	\$218,000
<b>START:</b> 1987	<b>END:</b> Until completed	<b>REMAINING FINANCIAL REQUIREMENT:</b>	
		NMFS	\$251,400
		FWS	\$ 85,000
		<b>TOTAL:</b>	\$336,400
		<b>APPROVED:</b> 11/97	<b>LAST REVISION:</b> 2/98

**DESCRIPTION:** In the Indian River Lagoon, a goal of preservation or restoration of seagrass habitability to depths of 2 m has been established. To accomplish this goal, information is needed on topics such as minimum light requirements for seagrasses, light attenuation, and water quality effects on transparency and seagrass distribution. The Beaufort, N.C., laboratory of the NMFS has been investigating seagrasses of the southern IRL since the late 1980s. Published studies include the light requirements of *Halodule wrightii* and *Syringodium filiforme* and application of an optical water quality model to determine seagrass depth limits. Extensive field work in the IRL, including Hobe and Jupiter Sounds and the Fort Pierce Inlet, led NMFS to propose that *Halophila johnsonii* (Johnson's seagrass) be added as a threatened species to the U.S. List of Endangered and Threatened Plants. This is the rarest seagrass species in Florida and has one of the most limited geographical distributions of any seagrass species in the world, limited to the east coast of Florida from central Biscayne Bay north to Sebastian Inlet. Critical habitat has been proposed for five areas that encompass the largest known contiguous populations of Johnson's seagrass: Sebastian, Fort Pierce, St. Lucie, Jupiter, and Lake Worth inlets. Proposals include research to develop and evaluate light requirements and successful transplanting methodologies for Johnson's seagrass and to determine its genetic and reproductive characteristics.

**RESTORATION BENEFITS:** Seagrass has been identified as the most critical habitat in the IRL, but seagrass beds in the lagoon have declined dramatically since the 1940s. Based on its rarity and limited distribution, Johnson's seagrass is being evaluated for Federal listing as a threatened species. Results of proposed work on light targets and transplanting techniques would be incorporated into long-range protection and recovery plans for this species. Light targets could be implemented for this species to protect existing populations, and transplantation could be used for restoration in impacted areas.

Time Line and Fiscal Year Budget (in thousands of dollars) for Seagrass Studies in Indian River Lagoon															
Task	98	99	00	01	02	03	04	05	06	07	08	09	10	Unprog	Total
Light intensity monitoring	█														
Transplants	█	█													
Genetics			█												
Mesocosms			█												
Recovery Team			█												
Analyses, report			█												
<b>Project</b>															
FWS	36														36
Cooperators	49														49
NMFS	111.4	85	55												251.4
<b>Subtotal</b>	196.4	85	55												336.4