

TITLE: C&SF Project Comprehensive Review Feasibility Study			
SUBREGION : Total System	PROJECT ID: TS01	FINANCIAL REQUIREMENT:	
PROGRAM CATEGORY: Infrastructure	BUDGET CATEGORY: Infra Invest	USACE - \$12,826,500	
PROJECT PLAN MANAGER: Mike Ornella, 904-232-1600	BASIS: 1	SFWMD - \$12,826,500	
LEAD ORGANIZATION(S): USACE		TOTAL: \$25,653,000	
SUPPORTING ORGANIZATION(S): SFWMD		APPROPRIATED TO DATE:	
COUNTY(S): SFWMD Boundaries		USACE - \$8,250,000	
LINKED PROJECTS: Dependent on:		SFWMD - \$4,907,000	
Critical to :		TOTAL: \$13,157,000	
Associated with: CE01,CE04, CE13, GL01, GL03, GL19, GL52, GL30, SE07, SE28,		REMAINING FINANCIAL REQUIREMENT:	
		USACE - \$4,576,000	
		SFWMD - \$7,919,000	
		TOTAL: \$12,496,000	
START: 1997	END: 2004	APPROVED: 11/97	LAST REVISION: 8/98

DESCRIPTION: The Central and Southern Florida (C&SF) Project was authorized in 1948. Since that time, 13 additional Congressional authorizations have modified the project. The Comprehensive Review Study (Restudy) is the first comprehensive review of the entire project. The study is addressing the long-term water resources needs of South Florida with a view toward enhancing the region's natural resources while maintaining or enhancing other authorized project purposes. The Restudy will be accomplished through a series of interim reports. WRDA 96 requires that a report recommending a Comprehensive Plan be submitted to Congress in July 1999, along with a Programmatic EIS. More detailed studies will be continued after the report is submitted. The Water Preserve Areas study is being performed as a component of this study and its costs are included in this estimate.

RESTORATION BENEFITS: This study will develop a comprehensive plan for the entire project and will provide more detailed plans for the creation of water preserve areas in the east coast buffer strip area. The scope of work and plan of study is documented in a Project Study Plan dated May 1997. The studies will focus on restoring hydrologic conditions in South Florida's natural areas for the purpose of restoring historic patterns of diversity and abundance of native species of flora and fauna. At the same time opportunities to protect and enhance authorized project purposes of water supply and flood control will be investigated.

Time Line and Fiscal Year Budget (in thousands of dollars) for C&SF Project Comprehensive Review Study																
Task	97	98	99	00	01	02	03	04	05	06	07	08	09	10	Unprog	Total
Comprehensive Plan																
Water Preserve Areas Study																
L-28 Modification Study																
Project																
USACE		2814	1088	904	656	86										5548
SFWMD		2995	1846	1521	611	107										7080
																\$12,628

TITLE: Manatee Protection Gate Modifications			
SUBREGION : Total System	PROJECT ID: TS02	FINANCIAL REQUIREMENT:	
PROGRAM CATEGORY: Infrastructure	BUDGET CATEGORY: Infra Invest	USACE	\$10,564,00
PROJECT PLAN MANAGER: Melissa Dollar, 904-232-3848	BASIS: 2	SFWMD	\$2,117,000
LEAD ORGANIZATION(S): USACE		TOTAL:	\$12,681,000
SUPPORTING ORGANIZATION(S): USFWS, DEP, SFWMD		APPROPRIATED TO DATE:	
COUNTY(S): Charlotte, Glades, Martin, St Lucie, Palm Beach, Broward, Dade		TOTAL:	\$1,743,000
LINKED PROJECTS: Dependent on:		REMAINING FINANCIAL REQUIREMENT:	
Critical to: TS19		TOTAL:	\$10,938,000
Associated with:			
START: 1997	END: 2004	APPROVED: 11/97	LAST REVISION: 8/98

DESCRIPTION: Project Modification Reports (Parts 1 & 2) recommending modifications to 27 locks and water control structures in the Central and Southern Florida (C&SF) Project have been prepared and approved. Manatee mortality associated with the operations of the structures is a substantial problem. It is second in numbers only to manatee mortalities caused by boat collisions. Implementation will be on an incremental basis to allow for testing and refinement of the modifications during the process.

RESTORATION BENEFITS: The purpose of the modifications is to avoid or minimize manatee mortality caused by the operation of C&SF Project structures and locks. The Florida manatee is listed as an endangered species by the U.S. Fish and Wildlife Service. The proposed modifications would substantially reduce the second largest cause of manatee mortality and, therefore, would be instrumental in recovery of the species. Installed the mechanical pressure-sensing device on S25B for system check in July 1998. Development of plans and specifications for an acoustic sensing device is in progress. Will begin installation of an acoustic sensing device for a similar check on St. Lucie Lock in August 1998. Construction is scheduled to be completed in FY2002.

Time Line and Fiscal Year Budget (in thousands of dollars) for Manatee Protection Gate Modifications																
Task	97	98	99	00	01	02	03	04	05	06	07	08	09	10	Unprog	Total
Program																
Project																
		593	2799	3772	2339	1704	227	97								11,531
Subtotal																\$11,531

TITLE: Melaleuca Quarantine Facility			
SUBREGION : Total System	PROJECT ID: TS03	FINANCIAL REQUIREMENT:	
PROGRAM CATEGORY: Infrastructure	BUDGET CATEGORY: Infra. Investment	USDA	\$5,000,000
PROJECT PLAN MANAGER: Ted Center (954) 475-0541	BASIS: 2	TOTAL:	\$5,000,000
LEAD ORGANIZATION(S): ARS		APPROPRIATED TO DATE:	
SUPPORTING ORGANIZATION(S): USACE		TOTAL:	\$1,000,000
COUNTY(S): All		REMAINING FINANCIAL REQUIREMENT:	
LINKED PROJECTS: Dependent on:		TOTAL:	\$4,000,000
Critical to: TS01, TS50 Associated: TS11, TS12			
with:			
Start: 1997	END: 2002	APPROVED: 11/97	LAST REVISION: 7/98

DESCRIPTION: The project consists of constructing a quarantine facility to enable the testing of candidate organisms for biological control and reversal of the spread of exotic plant species, particularly melaleuca, in South Florida. The facility would be constructed on the University of Florida campus in Davie by the Corps and then turned over to the USDA for operation. Melaleuca trees are rapidly invading the natural Everglades habitat. Their growth is so dense that the typical characteristics of native habitat us completely destroyed. They currently are spreading at such a rapid rate, they represent a threat to the Everglades that is comparable to the problems of altered water conditions. There is an immediate need to test several insects identified in Australia as potential control agents. Currently, many Federal, State, and local agencies are devoting substantial resources and funding to conventional control, but biological techniques may be both more economical and more effective.

RESTORATION BENEFITS: Biological control agents have the potential of providing greater efficiency and improved economy. Ultimately, they may prove to be the only truly effective large-scale means of reversing and halting the effects of non-native species on the South Florida habitat.

Time Line and Fiscal Year Budget (in thousands of dollars) for Melaleuca Quarantine Facility																
Task	97	98	99	00	01	02	03	04	05	06	07	08	09	10	Unprog	Total
Construction																
Project																
ARS	1000			1000	1800	1200										5,000
Subtotal																\$5,000

TITLE: Agriculture Land Stewardship			
SUBREGION : Total System	PROJECT ID: TS04	FINANCIAL REQUIREMENT:	
PROGRAM CATEGORY: Management	BUDGET CATEGORY: Natural Resource management	USDA	
PROJECT PLAN MANAGER: Smola (561) 686 8800x2857	BASIS: 2	TOTAL: \$10,920,000	APPROPRIATED TO DATE:
LEAD ORGANIZATION(S): NRCS – DACS		TOTAL: \$0	
SUPPORTING ORGANIZATION(S): ERS, IFAS, FDEP			REMAINING FINANCIAL REQUIREMENT:
COUNTY(S): All		TOTAL: \$10,920,000	
LINKED PROJECTS: Dependent on: Critical to: TS05, TS22, TS26, TS27 Associated: TS06, TS10, TS17, with: TS21, TS25, TS29			APPROVED: 11/97
START: 1997	END: 2008		

DESCRIPTION: Assist the Florida Departments of Agriculture and Consumers Services, Commerce and Environmental Protection in developing incentives targeting farming operations that address sound land stewardship. 1) Whole Conservation Planning - A programs approach to meet environmental regulatory goals on private lands through delivery of conservation technical assistance and planning with landowners on a voluntary basis. 2) Team Agricultural Permitting - Procedures developed that allows State, regional, and local regulatory authorities to execute agreements and memorandums that will expedite and improve the agricultural permitting process for landowners/operators. 3) Development Rights Program for Agriculture - A cooperative program with the Florida DACS that will encourage local governments to pursue where applicable, purchase and transfer of development rights for agriculture land. 4) - Green Labeling - An Agricultural products labeling and marketing system that identifies farm products that have been grown, harvested, transported, processed and delivered to the grocery shelf which exceed minimum quality requirements established. These quality requirements will begin with on farm land stewardship practices and management procedures that ensure the public that these products have been produced without harming the local environment.

RESTORATION BENEFITS: Through these initiatives and incentives, agricultural producers will be more willing to participate, accept and implement state of the science technology and marketing procedures. These benefits will allow for a viable agricultural economy to function within the region, while not adversely impacting the Everglades ecosystem restoration efforts or its long -term sustainability.

Time Line and Fiscal Year Budget (in thousands of dollars) for Agriculture Land Stewardship																
Task	97	98	99	00	01	02	03	04	05	06	07	08	09	10	Unprog	Total
Program																
Project																
NRCS	300	300	300	300	300	300	300	300	300	300	300	300				3,600
DACS	300	300	300	300	300	300	300	300	300	300	300	300				3,600
ERS	10	10	10	10	10	10	10	10	10	10	10	10				120
IFAS	300	300	300	300	300	300	300	300	300	300	300	300				3,600
Subtotal	910	910	910	910	910	910	910	910	910	910	910	910	910			\$10,920

TITLE: BMPs for Agriculture			
SUBREGION : Total System	PROJECT ID: TS05	FINANCIAL REQUIREMENT:	
PROGRAM CATEGORY: Management	BUDGET CATEGORY: Natural Resource Management	USDA	\$32,050,000
PROJECT PLAN MANAGER: Greg Hendricks (561) 795-5451	BASIS: 3	TOTAL:	\$32,050,000
LEAD ORGANIZATION(S): NRCS		APPROPRIATED TO DATE:	
SUPPORTING ORGANIZATION(S): IFAS/ES, ARS, ERS, CSREES		USDA	\$6,000,000
COUNTY(S): All		TOTAL:	\$6,000,000
LINKED PROJECTS: Dependent on:		REMAINING FINANCIAL REQUIREMENT:	
Critical to: TS04, TS24, TS26, TS27, TS22		USDA	26,050,000
Associated: TS25, TS29		TOTAL:	26,050,000
with:			
START: 1997	END: 2007	APPROVED: 11/97	LAST REVISION: 8/98

DESCRIPTION: In cooperation and coordination with the Florida Department of Environmental Protection, the South Florida Water Management District, and other agencies as appropriate, NRCS will provide technical assistance to landowners and managers that will encourage the adoption of Best Management Practices (BMPs) into sustainable agricultural resource management systems. Barriers to adoption of BMPs will be determined and the effectiveness of incentives for adoption assessed. Landowners will integrate the latest technology and management techniques as a part of a dynamic resource management plan incorporating all aspects of their routine land management functions.

1. Develop Resource Management Plans - Develop practical agricultural resource management plans on all lands purchased as part of ecosystem restoration.
2. Farm-level economic and environmental impacts of BMPs will be characterized with respect to crop choices, water and chemical management, and economic costs and returns. The impacts of restoration options on farmers' choices of agricultural practices and changes in profitability will be estimated for each area. The effectiveness of the use of BMPs and incentives to encourage the adoption of practices to enhance water and nutrient flows will be assessed.
3. Technical Assistance to Beef Cattle Operators - Accelerate technical assistance to beef cattle operators to assure these landowners have the necessary information and guidance to meet State water quality standards.

RESTORATION BENEFITS: Through these initiatives agricultural and beef cattle landowners/operators will be given the necessary tools and technology to manage their lands, as well as those publicly acquired, for ecosystem restoration in a more environmentally friendly manner. Resource management plans developed with farmers/ranchers will meet their primary agricultural objectives while at the same time meeting all State, Federal and local environmental regulations and rules. Through the application of this technical assistance and conservation planning program agriculture will function economically and socially within the region, while not adversely impacting the Everglades ecosystem restoration efforts. Through these efforts agricultural lands will provide benefits and values to a restored south Florida ecology as a nutrient and pollution buffer between urban and natural areas, landscape diversity and wildlife habitat and corridors.

Time Line and Fiscal Year Budget (in thousands of dollars) for BMPs for Agriculture																
Task	97	98	99	00	01	02	03	04	05	06	07	08	09	10	Unprog	Total
Program																
Project																
NRCS-funded	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000					20,000
NRCS-unfunded	1000	1000	1000	1000	1000	1000	1000	100	1000	1000	1000					10,000
IFAS-unfunded	175	175	175	175	175	175	175	175	175	175	175					1,750
ERS-unfunded	20	20	20	20	20	20	20	20	20	20	20					200
ARS-unfunded	10	10	10	10	10	10	10	10	10	10	10					100
Subtotal	3205	3205	3205	3205	3205	3205	3205	3205	3205	3205	3205					\$32,050

TITLE: Comprehensive Wetlands Conservation, Mitigation, and Permitting Strategy			
SUBREGION : Total System	PROJECT ID: TS09	FINANCIAL REQUIREMENT:	
PROGRAM CATEGORY: Management	BUDGET CATEGORY: Habitat Restoration		
PROJECT PLAN MANAGER: Bob Barron (904) 232-2203	BASIS: 1	TOTAL: \$1,465,000	
LEAD ORGANIZATION(S): USACE & EPA		APPROPRIATED TO DATE:	
SUPPORTING ORGANIZATION(S): FDEP, SFWMD, USFWS, NRCS, and counties			
COUNTY(S): SFWMD Boundary		TOTAL: \$815,000	
LINKED PROJECTS: Dependent on: TS55S Critical to: TS17M, TS26M, TS49S, TS66M Associated with: TS11, TS13M, TS42S, TS53S, TS611		REMAINING FINANCIAL REQUIREMENT:	
		TOTAL: \$ 650,000	
START: 1997	END: 1999	APPROVED: 9/97	LAST REVISION: 8/98

DESCRIPTION: This is an interagency effort to develop a process and plan to improve agency decisions regarding the conservation, management, and restoration of lands. Major tasks include:

- 1 - implementation of GIS tools (FY97 - \$400,000)
- 2 - functional assessment implementation/calibration (FY97 - \$430,000)
- 3 - interagency coordination (FY97 - \$200,000)

Funding needed for FY98 - \$650,000; FY99 - \$650,000. The process will identify how the roles and activities of each agency can be improved during the decision-making process. The process will also identify a mechanism for sharing information among agencies and the information required for making sound decisions. The plan will establish how to complement the process and identify specific goals, objectives, actions, responsible agencies and time lines. Mechanisms for feedback, maintenance and refinement of the plan will also be established.

RESTORATION BENEFITS: The goal is to facilitate and coordinate ecosystem-based management of natural and developed areas by the participating agencies.

Time Line and Fiscal Year Budget (in thousands of dollars) for Comprehensive Wetlands Conservation, Mitigation, and Permitting Strategy																
Task	97	98	99	00	01	02	03	04	05	06	07	08	09	10	Unprog	Total
Program																
Project																
EPA	165	650	650													1,465
Subtotal	165	650	650													\$1,465

TITLE: Economic Analysis of Agricultural Land and Water Management			
SUBREGION : Total System	PROJECT ID: TS10	FINANCIAL REQUIREMENT:	
PROGRAM CATEGORY: Management	BUDGET CATEGORY: Natural Resource Management	USDA	\$1,845,000
PROJECT PLAN MANAGER: Caswell (202) 694-5500	BASIS: 2	TOTAL:	\$1,845,000
LEAD ORGANIZATION(S): USDA - ERS		APPROPRIATED TO DATE:	
SUPPORTING ORGANIZATION(S): NRCS, ARS, IFAS/ES		TOTAL:	\$0
COUNTY(S): All		REMAINING FINANCIAL REQUIREMENT:	
LINKED PROJECTS: Dependent on:		TOTAL :	\$1,845,000
	Critical to : TS1,TS4, TS5, TS26, TS27		
	Associated TS25, TS29		
with:			
START: 1997	END: 2004	APPROVED: 11/97	LAST REVISION: 8/98

DESCRIPTION: Economic analysis of regional agricultural activities as part of Everglades ecosystem restoration program. Assessments of allocations of land and water resources between agriculture, urban development and environmental services. Characterization of impacts of structural and non-structural options on land use, cropping patterns, water and chemical management, and the regional economy. Structural options could include canals, pumps, or reservoirs. Non-structural restoration policies could include easements, transfer of development rights or land acquisition. Estimation of economic trade-offs to agricultural producers, urban development, and environmental uses associated with land and water -use options and cropping practices.

RESTORATION BENEFITS: This project will contribute to the design of cost-effective policies to increase both the quantity and quality of water flowing to the Everglades ecosystem. Impacts on the agricultural sector and the regional economy of land retirement policies, water storage structures, and land-use changes will be available to decision makers.

Time Line and Fiscal Year Budget (in thousands of dollars) for Economic Analysis of Agricultural Land and Water Management																
Task	97	98	99	00	01	02	03	04	05	06	07	08	09	10	Unprog	Total
Program																
Project																
ERS			100	200	300	250	250	200								1300
NRCS			50	55	60	65	65									295
IFAS/ES			50	50	50	50	50									250
Subtotal			200	305	410	365	365	200								\$1,845

TITLE: Exotic Pest Plant Controls in South Florida Ecosystems			
SUBREGION : Total System	PROJECT ID: TS11	FINANCIAL REQUIREMENT:	
PROGRAM CATEGORY: Management	BUDGET CATEGORY: Water Quality, Habitat Protection/ Restoration Research	USDA: \$9,832,000	Dade Co. 485,000
PROJECT PLAN MANAGER: Center (954) 475-0541	BASIS: 1	TOTAL: \$10,317,000	APPROPRIATED TO DATE:
LEAD ORGANIZATION(S): ARS		TOTAL: \$1,190,000	
SUPPORTING ORGANIZATION(S): IFAS/ES, NRCS, USFS , Dade Co.			REMAINING FINANCIAL REQUIREMENT:
COUNTY(S): All		TOTAL: \$9,127,000	
LINKED PROJECTS: Dependent on: Critical to: TS01, TS03, TS14, TS27, TS61 Associated TS4, TS5			with:
START: 1998	END: 2006	APPROVED: 11/97	

DESCRIPTION: Assist in developing and enacting mitigation requirements that encourage fast removal of melaleuca and other exotic pest plants from private property (Governor's Commission Recommendation Nos. 42, and 44). Management strategies and biological control agents will be developed that are efficient, economical, and environmentally safe. Biological control agents will be mass-reared or collected and re-distributed throughout infested areas or provided to appropriate resource managers for distribution. This involves quarantine isolation to exclude parasites and diseases (requiring quarantine facilities) of insects introduced to control melaleuca and other invasive plant species that hamper restoration efforts; release and establishment of biological control agents integrated into management systems for melaleuca and other invasive plants; evaluation of biological control efficacy in conjunction with broader overall studies on the autecology of invasive weeds, particularly as this pertains to effects of weed invasions on ecosystem functioning; and development of methods to establish or encourage replacement native plant species in area where invasive species have been removed or suppressed.

RESTORATION BENEFITS: The project will provide research and biological control agents essential to the suppression of invasive noxious plants that displace native species in restored ecosystems thereby thwarting restoration efforts; will assist in the re-establishment of diverse native plant communities and provide information critical to the development of incentives that encourage removal or replacement of invasive species on private properties that serve as staging areas for invasions into restored ecosystems.

Time Line and Fiscal Year Budget (in thousands of dollars) for Exotic Pest Plant Controls in South Florida Ecosystems																
Task	97	98	99	00	01	02	03	04	05	06	07	08	09	10	Unprog	Total
Program																
Project																
Dade Co.		97	97	97	97	97										485
IFAS		60	60	60	60	60	60	60	60	60						540
ARS		1008	1008	1008	1008	1008	1008	1008	1008	100						9,072
NRCS		15	15	15	15	15	15	15	15	10						130
USFS		10	10	10	10	10	10	10	10	10						90
Subtotal																\$10,317

TITLE: Fire Management Plans for Public Lands			
SUBREGION : Total System	PROJECT ID: TS13	FINANCIAL REQUIREMENT:	
PROGRAM CATEGORY: Management	BUDGET CATEGORY:	FDEP	\$1,300,000
PROJECT PLAN MANAGER: John Folks (850)414-9928	BASIS: 3	DOI	\$1,300,000
LEAD ORGANIZATION(S): FDACS		TOTAL:	\$2,600,000
SUPPORTING ORGANIZATION(S): SFWMD, FDEP, NPS, USFWS, BIA, FGFWFC		APPROPRIATED TO DATE:	
COUNTY(S): Total System		TOTAL:	0
LINKED PROJECTS: Dependent on:		REMAINING FINANCIAL REQUIREMENT:	
Critical to: SW04, SW10		TOTAL:	\$2,600,000
Associated: SW09			
with:			
START: 2000	END: 2006	APPROVED: 11/97	LAST REVISION: 2/98

DESCRIPTION: The FDACS Division of Forestry, with input from the FDEP, FGFWFC, SFWMD, USFWS and BIA and local fire districts, will develop and implement, through their statutory and delegated authority addressing open burning, a Fire Management Plan for public lands. The plan (and associated model) will be based on a holistic, total ecosystem approach that will provide coordinated smoke management and assure prescribed burning will continue as a management tool in restoring and maintaining the fire-based ecosystem of South Florida.

RESTORATION BENEFITS: The plan will provide and assure the use of fire as a management tool; through the reduction of smoke related problems and wildfires, and the use of appropriate seasonal burns, in the restoration and maintenance of the South Florida ecosystem.

Time Line and Fiscal Year Budget (in thousands of dollars) for Fire Management Plans for Public Lands																
Agency	97	98	99	00	01	02	03	04	05	06	07	08	09	10	Unprog	Total
FDEP				550	175	125	120	120	110	100						1300
DOI				550	175	125	120	120	110	100						1300
Project																
Subtotal				1100	350	250	240	240	220	200						\$2,600

TITLE: Florida Greenways System Implementation – Federal Involvement			
SUBREGION : Total System	PROJECT ID: TS14	FINANCIAL REQUIREMENT:	
PROGRAM CATEGORY: Management	BUDGET CATEGORY: Natural Resources Management	USDA \$366,000	
PROJECT PLAN MANAGER: Debbie Caffin (904) 942-9376	BASIS: 2	TOTAL: \$366,000	
LEAD ORGANIZATION(S): USFS, FDEP		APPROPRIATED TO DATE:	
SUPPORTING ORGANIZATION(S): NRCS, IFAS/ES, ARS, ERS		TOTAL: \$0	
COUNTY(S): All		REMAINING FINANCIAL REQUIREMENT:	
LINKED PROJECTS: Dependent on:		USDA \$366,000	
Critical to: TS04, TS05, TS06		TOTAL: \$366,000	
Associated with:			
START: 1997	END: 2010	APPROVED: 11/97	LAST REVISION: 2/98

DESCRIPTION: Cooperate and communicate with the Florida Greenways Coordinating Council through the U.S. Forest Service and the regional greenways task force federal representatives in all aspects of agency programs: media; land acquisition and exchanges; management techniques; research projects; access; trails; etc. (Governor’s Commission Recommendation No. 63).

RESTORATION BENEFITS: Take advantage of the organization which already exists through the Florida Greenways Coordinating Council. Assure a continuity of communications among various agencies and organizations having interests in the restoration of South Florida ecosystems. Other related issues and activities which must be coordinated include Federal/State land acquisition, ecosystem management, mitigation opportunities, land management, public education and involvement, and exotic/invasive weed management.

Time Line and Fiscal Year Budget (in thousands of dollars) for Florida Greenways System Implementation – Federal Involvement																
Task	97	98	99	00	01	02	03	04	05	06	07	08	09	10	Unprog	Total
Program																
Project																
NRCS	15	15	15	15	15	15	15	15	15	15	15	15	15	15		210
FS	10	10	10													30
IFAS	5	5	5	5	5	5	5	5	5	5	5	5	5	5		70
ERS	2	2	2	2	2	2	2	2	2	2	2	2	2	2		28
ARS	2	2	2	2	2	2	2	2	2	2	2	2	2	2		28
Subtotal	34	34	34	24	24	24	24	24	24	24	24	24	24	24		\$366

TITLE: Multi-Species Recovery Strategy			
SUBREGION: Total System	PROJECT ID: TS19	FINANCIAL REQUIREMENT: USFWS TOTAL: \$25,600,000	
PROGRAM CATEGORY: Management	BUDGET CATEGORY:		
PROJECT PLAN MANAGER: Slack (561) 562-3909	BASIS:		
LEAD ORGANIZATION(S): USFWS		APPROPRIATED TO DATE: TOTAL: \$8,000,000	
SUPPORTING ORGANIZATION(S): EPA, USACE, USAF, USFS, NPS, NMFS, FGFC, FDEP, counties			
COUNTY(S): All			
LINKED PROJECTS: Dependent on: Critical to: Associated with:		REMAINING FINANCIAL REQUIREMENT: TOTAL: \$17,600,000	
START: 1995	END: until complete	APPROVED: 11/97	LAST REVISION: 10/98

DESCRIPTION: The multi-species recovery strategy will address the recovery needs of all of the federally-listed threatened and endangered species in the South Florida ecosystem. This strategy consists of two parts. The first part is the preparation of the Recovery Plan that will be one of the first recovery plans specifically designed to meet the needs of multiple species that do not occupy similar habitats. The strategy will provide information to support the design and construction of projects associated with the restoration of the South Florida ecosystem. The second part of the strategy will be the implementation of the Plan. Implementation will be ongoing activities that will be integrated into all program activities of the FWS, other Federal State and local agencies, and Tribal governments ultimately conserving and recovering threatened and endangered species in South Florida.

RESTORATION BENEFITS: The 68 federally threatened and endangered species in the South Florida Multi-Species Recovery Plan are indicators of the health of the ecosystem and its component habitats. There are very few terrestrial or aquatic communities in the South Florida Ecosystem that do not support one or more of these species or are not critical elements of their ecology. The recovery of most of these species will be indicative of the effectiveness of the coordinated restoration efforts.

Time Line and Fiscal Year Budget (in thousands of dollars) for Multi-Species Recovery Strategy																
Task	97	98	99	00	01	02	03	04	05	06	07	08	09	10	Unprog	Total
Preparation	■	■	■													
Implementation		■	■	■	■	■	■	■	■	■	■	■	■	■		
Project																
Subtotal																\$25,600

TITLE: Pollution Prevention			
SUBREGION : Total System	PROJECT ID: TS22	FINANCIAL REQUIREMENT:	
PROGRAM CATEGORY: Management	BUDGET CATEGORY: Natural Resources Mgmt.	USDA:	\$870,000
PROJECT PLAN MANAGER: Ron Smola (561).682-2857	BASIS: 2	TOTAL:	\$870,000
LEAD ORGANIZATION(S): NRCS, FDACS		APPROPRIATED TO DATE:	
SUPPORTING ORGANIZATION(S): IFAS, ARS, ERS			
COUNTY(S): All		TOTAL:	0
LINKED PROJECTS: Dependent on:		REMAINING FINANCIAL REQUIREMENT:	
	Critical to: CE20		
	Associated: SE15, SE19, CE22,		
with:		TOTAL:	\$870,000
START: 1999	END: 2003	APPROVED: 11/97	LAST REVISION: 8/98

DESCRIPTION: In cooperation with the FDEP, FDCA, and the EPA, develop a pollution prevention and control program for the South Florida Ecosystem. This project will target the development of an enhanced urban and agriculture pollution prevention control program through public and private cooperation in the development of best management practices. Expand existing programs such as Farm-A-Syst Program, and develop new and innovative agricultural BMP's. Develop and provide information materials targeted to the urban populace to reduce pollution to the ecosystem. (Governor's Commission recommendation #31.)

RESTORATION BENEFITS: This project will result in a reduction of the release of pollutants to water bodies from urban and rural residences and agricultural producers.

Time Line and Fiscal Year Budget (in thousands of dollars) for Pollution Prevention																
Task	97	98	99	00	01	02	03	04	05	06	07	08	09	10	Unprog	Total
NRCS			█	█	█	█	█									
IFAS			█	█	█	█	█									
ARS			█	█	█	█	█									
ERS			█	█	█	█	█									
Project																
NRCS			100	120	120	120	120									
IFAS			50	50	50	50	50									
ARS			10	10	10	10	10									
ERS			2	2	2	2	2									
Subtotal			162	182	182	182	182									\$870

TITLE: Supplemental Water Quality Treatment Technology Demonstration Projects			
SUBREGION: Total System	PROJECT ID: TS23	FINANCIAL REQUIREMENT: (Proposed)	
PROGRAM CATEGORY: Management	BUDGET CATEGORY: Water Quality and Habitat Protection	State:	
PROJECT PLAN MANAGER: Gray (561) 682-6919	BASIS: 2	Federal:	
LEAD ORGANIZATION(S): SFWMD, FDEP		TOTAL:	\$10,000,000 (Demonstration projects only)
SUPPORTING ORGANIZATION(S): USACE, NPS, EPA		APPROPRIATED TO DATE:	
COUNTY(S): Palm Beach, Broward, Dade, Hendry, Okeechobee		State:	\$ 3,153,425
LINKED PROJECTS: Dependent on:		Federal:	\$ 1,124,000
Critical to: GL31, CE06, CE10		TOTAL:	\$ 4,277,425
Associated		REMAINING FINANCIAL REQUIREMENT:	
with:		State:	
START: 1997	END: 2001	Federal:	
		TOTAL:	\$ 5,722,575
		APPROVED: 11/97	LAST REVISION: 7/98

DESCRIPTION: The purpose of these projects is to demonstrate the feasibility, define design criteria, and estimate long-term costs for a number of candidate water quality treatment technologies for reducing concentrations to levels that will not create adverse effects on (or an imbalance in) natural biological communities in the Everglades ecosystem. Stormwater Treatment Areas (STAs) are being designed to achieve an interim restoration target of 50 ppb phosphorus. Currently, the primary focus of Supplemental Technology projects is on reducing phosphorus concentrations to 10 ppb or less. This program will evaluate water treatment technologies that can be used: 1) as part of a treatment train in conjunction with STAs to reduce phosphorus concentrations below to 10 ppb or less, or 2) as stand-alone water quality treatment facilities. Candidate technologies include, but are not limited to, the following: managed wetlands, low-intensity chemical dosing, submerged aquatic vegetation/limerock, chemical treatment/direct filtration, chemical treatment/high-rate sedimentation, chemical treatment/dissolved-air floatation, microfiltration, and periphyton STAs. Based on recommendations developed by the Governor's Commission and the SFER Working Group, the need for water treatment technologies has been identified for the EAA (e.g., Everglades Program), the ECB/WPA, the Mod Waters Project (e.g., Water Control Structure S-9), the Canal 111 Project (e.g., Water Control Structure S-332), the Big Cypress Basin (Levee 28 Interceptor), the Caloosahatchee Basin, and the Upper East Coast. Depending on the location for implementation, inflow phosphorus concentrations may range from 20 to 150 ppb. Different technologies will likely be needed to handle site-specific conditions and requirements. Because of the many questions that must be answered before implementation of superior water quality treatment technologies (e.g., feasibility of achieving low P concentrations under a range of inflow concentrations; effectiveness at high flow rates; cost effectiveness; long-term performance and O & M costs; "marsh readiness" of effluent waters; permitability of technologies) and because of the many near-term needs and aggressive implementation schedules, funding is needed now to accelerate these demonstration projects.

RESTORATION BENEFITS: Ecosystem restoration benefits of these water quality treatment technologies will be improved water quality to receiving water bodies. Along with efforts to restore or maintain natural hydropatterns, these technologies will help to maintain or restore natural biological communities in the ecosystem.

NOTE: Cost estimates above cover only the actual demonstration projects. Detailed design, construction and operation costs associated with implementation of full-scale water treatment technologies will require substantially greater investments.

Total System: Kissimmee through the Keys

Time Line and Fiscal Year Budget (in thousands of dollars) for Superior Water Quality Treatment Technology Demos																	
Task	97	98	99	00	01	02	03	04	05	06	07	08	09	10	Unprog	Total	
Program																	
Project																	
Federal	1218	1935															
State	824	300															
Subtotal	2042	2235	1830	2435	1458												\$10,000

TITLE: Technical Assistance to Seminole and Miccosukee Indian Reservations			
SUBREGION : Total System	PROJECT ID: TS24	FINANCIAL REQUIREMENT:	
PROGRAM CATEGORY: Management	BUDGET CATEGORY: Management	USDA	
PROJECT PLAN MANAGER: Smola (561) 682-2857	BASIS:	TOTAL: \$3,850,000	
LEAD ORGANIZATION(S): NRCS		APPROPRIATED TO DATE:	
SUPPORTING ORGANIZATION(S): IFAS		TOTAL: \$100,000	
COUNTY(S):		REMAINING FINANCIAL REQUIREMENT:	
LINKED PROJECTS: Dependent on: TS01, TS05M Critical to: SW03, SW14, TS85, TS86 Associated: TS22,25,29,EAA7M		TOTAL: \$3,750,000	
with:			
START: 1998	END: 2009	APPROVED: 11/97	LAST REVISION: 7/98

DESCRIPTION: Accelerate technical assistance to the Seminole and Miccosukee Indian Reservations to plan and implement resource management systems on a volunteer basis. Technical assistance will be provided at the direction of the Tribal Councils to each agricultural producer to assist in their planning, design, application and management of appropriate BMPs that will improve water quality, land stewardship, agricultural outputs, and the ecological integrity of the landscape.

RESTORATION BENEFITS: This project activity will improve water quality and availability through application of BMPs and other natural resource management techniques. Technical assistance will center upon surface and ground water management infrastructure, irrigation water management facilities, pasture and rangeland management systems, livestock grazing systems, and wildlife habitat improvement practices. Through the application of this project, comprehensive land management actions will be applied which will complement other south Florida restoration efforts currently underway.

Time Line and Fiscal Year Budget (in thousands of dollars) for Technical Assistance to Seminole and Miccosukee Indian Reservations																
Task	97	98	99	00	01	02	03	04	05	06	07	08	09	10	Unprog	Total
Program																
Project																
NRCS funded		50	50	50	50	50	50	50	50	50	50	50				550
NRCS unfunded		200	200	200	200	20	200	200	200	200	200	200	200			2,400
IFAS funded		75	75	75	75	75	75	75	75	75	75	75	75			900
Subtotal		325	325	325	325	325	325	325	325	325	325	325	275			\$3,850

TITLE: Wetland Reserve Program			
SUBREGION : Total System	PROJECT ID: TS27	FINANCIAL REQUIREMENT:	
PROGRAM CATEGORY: Management	BUDGET CATEGORY: Natural Resources Management	NRCS	\$2,135,000
PROJECT PLAN MANAGER: Greg Hendricks (561) 795-5451	BASIS: 3	TOTAL:	\$2,135,000
LEAD ORGANIZATION(S): NRCS		APPROPRIATED TO DATE:	\$ 210,000
SUPPORTING ORGANIZATION(S):		TOTAL:	\$ 210,000
COUNTY(S): All		REMAINING FINANCIAL REQUIREMENT:	
LINKED PROJECTS: Dependent on:		NRCS	\$1,925,000
Critical to: TS04, TS05, TS5 TS26		TOTAL:	\$1,925,000
Associated: TS15, TS23, TS24			
with:			
START: 1997	END: 2008	APPROVED: 11/97	LAST REVISION: 8/98

DESCRIPTION: Accelerate assist to private landowners participating in the 1996 Farm Bill, Wetland Reserve Program (WRP). WRP is a voluntary program to restore wetlands. Participating landowners can establish conservation easements of either permanent or a 30-year duration, or can enter into restoration cost-share agreements without easements. In exchange for permanent easements, the landowner receives payment up to the agricultural value of the land and 100 percent of the restoration cost for restoring the wetland. In exchange for 30-year easements, the landowner receives payment up to 75 percent of the agricultural value of the land, and 75 percent of the wetland restoration cost. Voluntary cost-share agreements without easements are for a minimum 10-years duration, and provide up to 75 percent of the restoration cost to restore the wetlands. Easements, when applicable establish limitations on how the land can be used during the contract period. Restoration cost-share agreements establish wetland protection and restoration as the primary land use for the duration of the agreement.

RESTORATION BENEFITS: Healthy and functioning wetlands are an essential part of a restored south Florida ecosystem. Wetlands provide habitat for migratory birds, threatened and endangered species, and important flora and fauna components. Wetlands contribute to the biological diversity, open space, floodwater retention, ground water recharge, and the buffering and filtration of nutrients. WRP potentially will increase the amount of wetlands available, as well as protect and enhance wetland ecosystems throughout south Florida's agricultural landscape.

Time Line and Fiscal Year Budget (in thousands of dollars) for Wetland Reserve Program																
Task	97	98	99	00	01	02	03	04	05	06	07	08	09	10	Unprog	Total
Program																
Project																
NRCS unfunded	100	110	120	135	145	160	175	195	215	235	260	285				2,135
Subtotal																\$2,135

TITLE: Regional Village and Public Outreach Communication System			
SUBREGION : Total System	PROJECT ID: TS38	FINANCIAL REQUIREMENT:	
PROGRAM CATEGORY: Public Information and Education	BUDGET CATEGORY: Public Outreach		
PROJECT PLAN MANAGER: Burger (305) 348-1665	BASIS:	TOTAL: \$200,000	APPROPRIATED TO DATE:
LEAD ORGANIZATION(S): OED		TOTAL: \$ 46,000	
SUPPORTING ORGANIZATION(S): USACE, SFWMD		REMAINING FINANCIAL REQUIREMENT:	
COUNTY(S): All			
LINKED PROJECTS: Dependent on: Critical to: Associated		TOTAL: \$154,000	
with:			
START: 1997	END: 2008	APPROVED: 8/96	LAST REVISION: 9/98

DESCRIPTION: Phase One: Purchase hardware and software for regional village information and communication management system. Work with the Information Management Council to upgrade web server system hardware/software and required operational/maintenance costs. Phase Two: Work with the Public Outreach Steering and Support Team to design and develop a state of the art Task Force home page on the Internet. WEB presentations will be expanded for new media, such as full animation segments, color images of restoration activities, and other electronic technologies via the Internet. The World Wide Web access to South Florida information will grow as a medium of communication. New developments in access tools, new bandwidth for faster access and the interest in a multi-media augmentation will drive the development of new WEB sites and expansion to existing WEB sites. Funding for the staff, hardware and software and system O&M will be required throughout the project.

RESTORATION BENEFITS: Phase one greatly enhances collaborative upgrade communication and also provides a medium to further meet the requirements of the Water Resources Development Act regarding public participation. Web users are very efficient in seeking and transferring information. Agency labor to service requests is drastically reduced because one installation of information can support thousands of requests. Access to information can be supported for twenty-four hours a day via the Internet. Phase two will move beyond administrative public information to the continued development and enhancement of the home page, listservers and video teleconferencing capabilities.

Time Line and Fiscal Year Budget (in thousands of dollars) for Regional Village and Public Outreach Communication System																
Task	97	98	99	00	01	02	03	04	05	06	07	08	09	10	Unprog	Total
Phase 1																
Phase 2																
Project																
OED	20	12	14	14	14	14	14	14	14	14	14	14	14	14		\$200
Subtotal	20	12	14	14	14	14	14	14	14	14	14	14	14	14		\$200

TITLE: Models and Model Enhancements			
SUBREGION : Total System	PROJECT ID: TS40	FINANCIAL REQUIREMENT:	
PROGRAM CATEGORY: Science	BUDGET CATEGORY: Water Quality, Habitat Protection, and Natural Resources Management	USGS \$13,545,000	NPS 1,940,000
PROJECT PLAN MANAGER: Higer, 561-687-6560	BASIS: 2	TOTAL: \$15,485,000	
LEAD ORGANIZATION(S): USGS,		APPROPRIATED TO DATE:	
SUPPORTING ORGANIZATION(S): USCOE, NPS, SFWMD		USGS \$8,359,000	
COUNTY(S): Broward, Collier, Dade, Hendry, Monroe		NPS 824,000	
LINKED PROJECTS: Dependent on:		TOTAL: \$9,183,000	
Critical to:		REMAINING FINANCIAL REQUIREMENT:	
Associated		USGS \$5,186,000	
with:		NPS 1,116,000	
START: 1995	END: 2001	TOTAL: \$6,302,000	
		APPROVED: 11/97	LAST REVISION: 7/98

DESCRIPTION: This program supports modeling and modeling requirements for regional models being developed or maintained by the SFWMD, the USACE, and the ENP. The program includes the following topics of research and applications: evapotranspiration modeling of the Everglades; seepage modeling under protective levees; surface geophysical delineation of fresh/saltwater interfaces; ground/surface water exchange fluxes in the Everglades; geochronology of the Buttonwood Ridge; defining and modeling vegetative resistance to flow; quantity of flow from the Shark River, Harney River, and Broad River; quantity of flow through the Seminole and Miccosukee Tribal Reservations; measurement of surface and ground-water flows from the Everglades into Florida Bay; modeling sheet flow entering Florida Bay; measurement of ground-water discharges into Biscayne Bay; measurement of surface water flow into Biscayne Bay and intercoastal waters; measurement of canal and wetland interactions; and defining the hydrogeology of the surficial aquifer in southwestern Florida. Hydrologic process results are integrated into the sheet flow model. Flow measurements continue and are expanding into ungaged areas. Technical work is shifting from field to analysis. Technical products are in preparation and synthesis products are being planned. Florida Bay boundary conditions are being provided for use in management models.

RESTORATION BENEFITS: Supports Across-Trophic Level System Simulation (ATLSS) Model, the Everglades Landscape Model (ELM), and the Natural Systems Model which are required for science-based decision making for the restoration of south Florida.

Time Line and Fiscal Year Budget (in thousands of dollars) for Models and Model Enhancements																
Task	97	98	99	00	01	02	03	04	05	06	07	08	09	10	Unprog	Total
Program																
Project																
USGS																15,485
Subtotal																\$15,485

TITLE: Distributed Information System and Mapping			
SUBREGION : Total System	PROJECT ID: TS41	FINANCIAL REQUIREMENT:	
PROGRAM CATEGORY: Science	BUDGET CATEGORY: All	USGS	\$7,901,000
PROJECT PLAN MANAGER: Higer, 561-687-6560	BASIS: 2	TOTAL:	\$7,901,000
LEAD ORGANIZATION(S): USGS,		APPROPRIATED TO DATE:	
SUPPORTING ORGANIZATION(S): FDEP, SFWMD, DOI		USGS	\$4,039,000
COUNTY(S): All		TOTAL:	\$4,039,000
LINKED PROJECTS: Dependent on: Critical to: Associated		REMAINING FINANCIAL REQUIREMENT:	
with:		USGS	\$3,862,000
START: 1995		END: 2001	APPROVED: 11/97
			LAST REVISION: 7/98

DESCRIPTION: This program provides digital mapping products and a data base with established transfer format definitions and spatial integration that promotes dissemination of scientific data and information in a cost effective manner. Cross sections of the digital data and other information available from ecosystem research will be accessible through a USGS gateway on the World Wide Web. The primary products from the program will include color infrared digital orthophoto maps, vegetative and elevation digital format maps, technical and synthesis reports, model results, audio and video explanations, and more.

RESTORATION BENEFITS: Mapping and informational products will enhance regional hydrologic models and landscape models such as the ATLSS and ELM. These are needed for the development of criteria to evaluate the success of restoration efforts. Research results and data will be easily accessible to everyone and provide a user-friendly means to learn about south Florida ecosystem research for management application.

Time Line and Fiscal Year Budget (in thousands of dollars) for Distributed Information System and Mapping																
Task	97	98	99	00	01	02	03	04	05	06	07	08	09	10	Unprog	Total
Program																
Project																
USGS																7,901
Subtotal																\$7,901

TITLE: High Density Topographic Surveys			
SUBREGION : Total System	PROJECT ID: TS42	FINANCIAL REQUIREMENT:	
PROGRAM CATEGORY: Science	BUDGET CATEGORY: Natural Resource Management	NPS	\$8,325,000
PROJECT PLAN MAANGER: Higer (561) 687-6560	BASIS: 2	TOTAL:	\$8,325,000
LEAD ORGANIZATI ON(S): USGS, NPS		APPROPRIATED TO DATE:	
SUPPORTING ORGANIZATION(S): USACE, SFWMD		NPS	\$2,360,000
COUNTY(S): all		TOTAL:	\$2,360,000
LINKED PROJECTS: Dependent on:		REMAINING FINANCIAL REQUIREMENT:	
Critical to:		NPS	\$5,965,000
Associated		TOTAL:	\$5,965,000
with:			
START: 1997	END: 2001	APPROVED: 11/97	LAST REVISION: 7/98

DESCRIPTION: To model sheet flow, highly accurate elevation data that defines the surface topography is required. It is also a critical input parameter to the landscape models, Natural Systems Model, and hydrologic models. These data are necessary for calculating water surface elevation, slope, depth, velocity, and direction of flow. Accuracy requirements are so stringent that any standard available data products would not suffice for this modeling application due to the flat terrain. Good progress is being made to define topography in ENP, South Dade County, and WCA's.

RESTORATION BENEFITS: These data represent a critical need for the infrastructure changes that will be part of the south Florida restoration.

Time Line and Fiscal Year Budget (in thousands of dollars) for High Density Topographic Surveys																
Task	98	99	00	01	02	03	04	05	06	07	08	09	10	11	Unpr og	Total
Program																
Project																
NPS	1600	1600	1600	1600												8,325
Subtotal																\$8,325

TITLE: Limitations of Environmental Stresses and Physiological Responses on Crop Productivity			
SUBREGION : Total System	PROJECT ID: TS43	FINANCIAL REQUIREMENT:	
PROGRAM CATEGORY: Science	BUDGET CATEGORY: Research	ARS	\$250,000
PROJECT PLAN MANAGER: Sinclair (352) 392-6180	BASIS: Task Force Priority 3	TOTAL:	\$250,000
LEAD ORGANIZATION(S): ARS		APPROPRIATED TO DATE:	
SUPPORTING ORGANIZATION(S): IFAS		ARS	\$70,000
COUNTY(S): All		TOTAL:	\$70,000
LINKED PROJECTS: Dependent on:		REMAINING FINANCIAL REQUIREMENT:	
Critical to: GL39, GL40		ARS	\$180,000
Associated with:		TOTAL:	\$180,000
START: 1995	END: 2000	APPROVED: 11/97	LAST REVISION: 2/98

DESCRIPTION: ARS scientists in Gainesville have developed a family of simple, mechanistic crop growth models that have proved beneficial in evaluating and predicting crop responses to the environment. These models have predicted crop responses to soil water availability and nutrient availability. Australian scientists have proposed extending this modeling approach to sugarcane.

Research has been initiated to identify sugarcane germplasm that might have the potential to withstand flooded conditions. The approach is to search for sugarcane lines that have well developed aerenchyma cells in their roots to facilitate oxygen transport when the roots are flooded.

RESTORATION BENEFITS: Models already in existence can be used to help predict evapo-transpiration and nutrient runoff impacts of several crop management options throughout the South Florida ecosystem. If this work is extended to higher water table conditions for sugarcane then these benefits can be extended to the Everglades Agricultural Area. Knowledge of agricultural evapo-transpiration and nutrient runoff could then be incorporated by hydrologists into regional and system-wide hydrological models. Since aerenchyma are critical in allowing crop plants such as rice to be productive under flooded or near-flooded conditions, the incorporation of this trait into commercial sugarcane lines opens the possibility of allowing sugarcane to be grown also under high water table conditions. The development of sugarcane lines with this trait would greatly expand the options for the water management of sugarcane fields. In particular, the necessity of pumping water from sugarcane fields following high rainfall events might be greatly decreased, or eliminated completely.

Time Line and Fiscal Year Budget (in thousands of dollars) for Limitations of Environmental Stresses and Physiological Responses on Crop Productivity																
Task	97	98	99	00	01	02	03	04	05	06	07	08	09	10	Unprog	Total
ARS																
Project																
ARS	35	35	35	35	35											175,000
Subtotal																\$175,000

TITLE: Ecosystem History			
SUBREGION : Total System	PROJECT ID: TS44	FINANCIAL REQUIREMENT:	
PROGRAM CATEGORY: Science	BUDGET CATEGORY: Research	USGS - \$5,597,000	
PROJECT PLAN MANAGER: Aaron Higer (561) 687-6560	BASIS: 2	TOTAL: \$5,597,000	
LEAD ORGANIZATION(S): USGS,SFWMD		APPROPRIATED TO DATE:	
SUPPORTING ORGANIZATION(S): ENP		USGS - \$3,091,000	
COUNTY(S): All		TOTAL: \$3,091,000	
LINKED PROJECTS: Dependent on:		REMAINING FINANCIAL REQUIREMENT:	
	Critical to: TS40	USGS - \$2,506,000	
	Associated: TS53	TOTAL: \$2,506,000	
with:			
START: 1995	END: 2001	APPROVED: 11/97	LAST REVISION: 7/98

DESCRIPTION: This program examines floral and faunal remnants in dated material from sediment cores to reconstruct the historic South Florida ecosystem and to provide an understanding of past changes in the system. The products from this program are essential for the completion of ecosystem models and for development of indicators of restoration success. Technical work is shifting from field to analytical. Technical products are in preparation and synthesis products are being planned.

RESTORATION BENEFITS: This science effort will provide restoration success targets.

Time Line and Fiscal Year Budget (in thousands of dollars) for Ecosystem History																
Task	97	98	99	00	01	02	03	04	05	06	07	08	09	10	Unprog	Total
Program																
Project																
USGS																5,597
Subtotal																\$5,597

TITLE: Biological Control and Ecology of Invasive Pest Plants			
SUBREGION : Total System	PROJECT ID: TS50	FINANCIAL REQUIREMENT:	
PROGRAM CATEGORY: Science	BUDGET CATEGORY: Water Quality, Habitat Protection/ Restoration, Research	USDA: \$9,067,000	others: 1,724,000
PROJECT PLAN MANAGER: Center (954) 475-0541	BASIS: 1	TOTAL: \$10,791,000	
LEAD ORGANIZATION(S): ARS		APPROPRIATED TO DATE:	
SUPPORTING ORGANIZATION(S): FDEP, USACE, SFWMD, NRCS, USFS		USDA: \$1,836,000	others: 925,000
COUNTY(S): All		TOTAL: \$2,761,000	
LINKED PROJECTS: Dependent on: TS03 Critical to: TS11 Associated: TS61 TS63		REMAINING FINANCIAL REQUIREMENT:	
with:		USDA: \$7,231,000	others: 799,000
		TOTAL: \$8,030,000	
START: 1997	END: 2006	APPROVED: 11/97	LAST REVISION: 7/98

DESCRIPTION: Expand research on the use of biological control agents to control melaleuca, hydrilla, waterhyacinth, waterlettuce, climbing ferns, and other invasive species that interfere with ecosystem restoration efforts. Research will develop safe biological control agents that stress these invasive weeds, and develop management strategies that are efficient, economical, and environmentally sound. The research includes field studies overseas; safety studies in domestic quarantine facilities; release and field colonization technique development; autecology of the targeted weeds, particularly with regard to the effects of the introduced biocontrol agents; development of methods to facilitate recovery of native species after removal of the exotics; and development of integrated management systems incorporation biological control agents.

RESTORATION BENEFITS: Expanded research efforts will increase the numbers of biological control agents available and will accelerate the efficient, economical, and environmentally sound reduction of infestations of invasive pest plant species as well as reduce their rate of spread. Water flow will be increased in many drainages and native habitat will be reclaimed, thus effectively increasing diversity of natural communities. Autecological studies of the invading species will aid in learning why some systems seem more susceptible than others and how to better protect these systems from unwanted plants. These studies will also increase our understanding of the biology of these invasive plants. This increased knowledge base is critical to identifying exploitable weakness of these species that can be used to develop affective management strategies.

Time Line and Fiscal Year Budget (in thousands of dollars) for Biological Control and Ecology of Invasive Pest Plants																
Task	97	98	99	00	01	02	03	04	05	06	07	08	09	10	Unprog	Total
Program																
Project																
USACE	65	65	65													195
FDEP	250	170	109	100	100	100	100									929
SFWMD	150	225	225													600
ARS	783	1008	1008	1008	1008	1008	1008	1008	1008							8,847
NRCS	10	15	15	15	15	15	15	15	15							130
FS	10	10	10	10	10	10	10	10	10							90
Subtotal	1268	1493	1493	1133	1133	1133	1133	1033	1033							\$10,791

TITLE: Geodetic Vertical Control Surveys			
SUBREGION : Total System		PROJECT ID: TS52	
PROGRAM CATEGORY: Science		BUDGET CATEGORY: Monitoring, Infrastructure Invest.	
PROJECT PLAN MANAGER: Randy Harrell (850) 488-2427		BASIS: 1	
LEAD ORGANIZATION(S): FDEP		FINANCIAL REQUIREMENT: TOTAL: \$2,155,500	
SUPPORTING ORGANIZATION(S): NOAA ,NPS, SFWMD, USGS		APPROPRIATED TO DATE:	
COUNTY(S): Broward, Charlotte, Collier, Dade, Lee, De Soto, Glades, Hendry , Highlands, Martin, Monroe, Okeechobee, Orange, Osceola, Palm Beach, Polk, St. Lucie		TOTAL: 0	
LINKED PROJECTS: Dependent on :		REMAINING FINANCIAL REQUIREMENT:	
with:		TOTAL: \$2,155,500	
START: 1999		END: 2004	
APPROVED: 5/97		LAST REVISION: 8/98	

DESCRIPTION: 1, 250 Miles of Second-order, Class I Geodetic Vertical Control Surveys

RESTORATION BENEFITS: Improved accuracy and precision of geodetic vertical control data is an acute need in South Florida. Improved geodetic vertical surveys are of importance for design and performance of infrastructure projects, and for improved accuracy of natural system data, analysis, modeling and restoration measures.

Time Line and Fiscal Year Budget (in thousands of dollars) for Geodetic Vertical Control Surveys																
Task	97	98	99	00	01	02	03	04	05	06	07	08	09	10	Unprog	Total
1st 250 Miles Level Line		█														
2nd 250 Mile Level Line		█	█													
3rd 250 Mile Level Line			█	█												
4th 250 Mile Level Line				█	█											
5th 250 Mile Level Line					█	█										
Project																
State		203	209.1	215.35	221.8	228.5	0									1077.75
Federal		203	209.1	215.35	221.8	228.5	0									1077.75
Subtotal		406	418.2	430.7	443.6	457	0									\$2,155.5

TITLE: Ecosystem History: Studies of Land Use and Ecological Change			
SUBREGION : Total System	PROJECT ID: TS53	FINANCIAL REQUIREMENT: TOTAL: \$1,062,000 APPROPRIATED TO DATE: TOTAL: \$0 REMAINING FINANCIAL REQUIREMENT: TOTAL: \$1,062,000	
PROGRAM CATEGORY: Science	BUDGET CATEGORY: Research, Information, Management and Assessment		
PROJECT PLAN MANAGER: Tim Patterson (850) 488-4910	BASIS: 3		
LEAD ORGANIZATION(S): FDEP, USGS			
SUPPORTING ORGANIZATION(S): SFWMD			
COUNTY(S): Broward, Charlotte, Collier, Dade, Lee, DeSoto, Glades, Hendry, Highlands, Martin, Monroe, Okeechobee, Orange, Osceola, Palm Beach, Polk, and St. Lucie			
LINKED PROJECTS: Dependent on: Critical to: T41S Associated with:			
START: 1998	END: 2004	APPROVED: 11/97	LAST REVISION: 8/98

DESCRIPTION: Ecosystem History: Studies of land use and ecological change using archived records transformed to digital data and analyzed through the use of imaging, data base and GIS technologies.

RESTORATION BENEFITS: Goals and objectives for ecosystem restoration require consideration of the original condition of surface resources at the time of initial European contact, or first historic record. Subsequent incremental change up to the present also provides knowledge important for restoration objectives.

Time Line and Fiscal Year Budget (in thousands of dollars) for Ecosystem History: Studies of Land Use and Ecological Change																
Task	97	98	99	00	01	02	03	04	05	06	07	08	09	10	Unprog	Total
Process Design		■	■													
Development			■	■												
Data Acquisition		■	■	■	■	■	■	■								
Data Analysis					■	■	■	■								
Project																
State		123	82	82	82	82	82	80								531
Federal		123	82	82	82	82	82	80								531
Subtotal		246	164	164	164	164	164	160								\$1,062

TITLE: Assessment of Endocrine-Disrupting Contaminants in the Florida Everglades			
SUBREGION : Total System	PROJECT ID: TS54	FINANCIAL REQUIREMENT: TOTAL: \$644,000 APPROPRIATED TO DATE: TOTAL: 0 REMAINING FINANCIAL REQUIREMENT: TOTAL: \$644,000	
PROGRAM CATEGORY: Science	BUDGET CATEGORY: Research, Water Quality and/or Habitat Protection		
PROJECT PLAN MANAGER: Don Axelrad 850-414-1347	BASIS: 1		
LEAD ORGANIZATION(S): FDEP			
SUPPORTING ORGANIZATION(S): EPA,FDACS,FGFC ,NPS, SFWMD, USGS,USFWS, UF			
COUNTY(S): Broward, Charlotte, Collier, Dade, Lee, De Soto, Glades, Hendry , Highlands, Martin, Monroe, Okeechobee, Orange, Osceola, Palm Beach, Polk, St. Lucie			
LINKED PROJECTS: Dependent on: Critical to: TS22, TS41 Associated: TS24			
with:			
START: 1999	END: 2002	APPROVED: 11/97	LAST REVISION: 7/98

DESCRIPTION: Breeding populations of long-legged wading birds have declined by over 90% in the Everglades since 1940, and a massive restoration effort is now underway aimed at ameliorating the hydrological conditions thought to have precipitated the decline. However, wading bird reproduction now remains depressed even during years with favorable hydrological conditions, and the populations are showing reproductive anomalies that are consistent with endocrine disruption (e.g., late breeding, low threshold to nest abandonment, poor reproductive success, large proportion of the population inactive during the breeding season, possible sex ratio skew). In addition, endocrine disrupting contaminants (EDCs - e.g. pesticides, dioxins, PCBs, mercury) have been implicated in reproductive anomalies of largemouth bass and Florida panthers within the ecosystem.

RESTORATION BENEFITS: Restoration of breeding populations of wading birds is one of the key objectives for south Florida ecosystem restoration.

Time Line and Fiscal Year Budget (in thousands of dollars) for Assessment of Endocrine-Disrupting Contaminants in the Florida Everglades																
Task	98	99	00	01	02	03	04	05	06	07	08	09	10	11	Unprog	Total
Program design		■														
Data Collection		■	■	■	■											
Analysis		■	■	■	■											
Produce Report					■											
Project																
State		20	20	20	20											80
Federal		189	186	189	0											564
Subtotal		209	206	209	20											\$644

TITLE: Natural System Boundary Alternatives and Natural Lands Information System			
SUBREGION : Total System	PROJECT ID: TS55	FINANCIAL REQUIREMENT:	
PROGRAM CATEGORY: Science	BUDGET CATEGORY: Information Management/Assess		
PROJECT PLAN MANAGER: Haddad (813) 896-826	BASIS: 1	TOTAL: \$310,000	APPROPRIATED TO DATE:
LEAD ORGANIZATION(S): FDEP			
SUPPORTING ORGANIZATION(S): EPA, SFWMD, USACE		TOTAL: \$0	REMAINING FINANCIAL REQUIREMENT:
COUNTY(S): Broward, Charlotte, Collier, Dade, De Soto, Glades, Hendry, Highlands, Lee, Martin, Monroe, Okeechobee, Orange, Osceola, Palm Beach, Polk, St.Lucie			
LINKED PROJECTS: Dependent on:		TOTAL: \$310,000	
Critical to: TS11, TS34, TS41 Associated: TS35, CE06, SE7			
with:			
START: 1998	END: 2000	APPROVED: 11/97	LAST REVISION: 2/98

DESCRIPTION: This project identifies and characterizes the natural areas and potential management boundaries of the south Florida ecosystem at a management level to assist in the priorities for land and water management. The project provides information that serves to maintain existing ecological functions and restores degraded ecological systems in order to have a sustainable ecosystem. This is currently an unfunded multi-institutional effort under the request of the Governor's Commission for a Sustainable South Florida. The effort is ARCVIEW GIS-based and includes selected natural systems information and other management-oriented data that can assist in planning, acquisition, and management for the south Florida ecosystem. The resultant ARCVIEW tool will allow investigators and managers to view priority natural and restorable places based on the relative ranking of management criteria. A prototype for south Florida has been developed and endorsed by the Governor's Commission. The tool contains land and wetland polygons representing natural, restorable places or places considered for purchase and describes the status of each polygon in terms of management criteria such as hydrologic conditions, habitat quality and use, wildlife distribution, and water quality. The Florida Department of Environmental Protection's Florida Marine Research Institute is conducting the data gathering and GIS system development in cooperation with the SFWMD, USEPA, FDEP Water Facilities Division, and USACE through the Comprehensive Wetlands and Permitting Strategy. The funding request is for a dedicated staff person, travel, and software refinement.

RESTORATION BENEFITS: This is a high priority project requested by the Governor's Commission for Sustainable South Florida. The interactive ARCVIEW GIS application will make accessible to public and private users information about natural resources and human impacts. This will facilitate both strategic and action planning for land acquisition, management, and restoration.

Time Line and Fiscal Year Budget (in thousands of dollars) for Natural System Boundary Alternatives and Natural Lands Information System																
Task	97	98	99	00	01	02	03	04	05	06	07	08	09	10	Unprog	Total
Natural system boundaries app.		█														
Natural lands information sys.		█	█													
Info. update/ Maintenance		█	█	█												
CDROM/Internet for distribution		█	█													
Interactive natu-ral system app.			█													
Project																
State		65	45	45												155
Federal		65	45	45												155
Subtotal		130	90	90												\$310

TITLE: Identification and Documentation of Ecosystem Reference Areas as a Biodiversity Monitoring Framework			
SUBREGION : Total System	PROJECT ID: TS56	FINANCIAL REQUIREMENT:	
PROGRAM CATEGORY: Science	BUDGET CATEGORY: Research, Information Management and Assessment		
PROJECT PLAN MANAGER: Leo Minasian (904) 488-8346	BASIS: 1	TOTAL: \$200,000	
LEAD ORGANIZATION(S): FDEP, NBS, NPS, USFWS, EPA		APPROPRIATED TO DATE:	
SUPPORTING ORGANIZATION(S): GFC, NOAA, NRCS, SFWMD			
COUNTY(S): Broward, Charlotte, Collier, Dade, Lee, De Soto, Glades, Hendry, Highlands, Martin, Monroe, Okeechobee, Orange, Osceola, Palm Beach, Polk, St. Lucie		TOTAL: 0	
LINKED PROJECTS: Dependent on :		REMAINING FINANCIAL REQUIREMENT:	
Critical to Associated : TS41			
with:		TOTAL: \$200,000	
START: 1999	END: 2000	APPROVED: 5/97	LAST REVISION: 08/98

DESCRIPTION: Biodiversity conservation needs a monitoring program which accounts for status and change in our best remaining natural areas. Ecosystem reference areas (ERAs), defined, identified and studied at appropriate scales, would serve as benchmarks for ecological integrity and change, as is now done for aquatic environments through FDEP's Biocriteria Program. This hierarchical framework of ERAs for the South Florida Ecosystem will address biodiversity in a broad ecological range of upland and wetland communities throughout South Florida, where biodiversity, endangerment and the need for knowledge is greatest. This proposes a two-year study to to develop integrative concepts and methodologies, and to identify highest quality remnant ecosystems/natural communities, on regional and local scales. These ERAs will help us focus future monitoring and research, to answer questions and aid in decisions about other ecosystems which are of comparable type, but usually lower quality.

RESTORATION BENEFITS: ERAs will serve as benchmarks for ecological integrity, biodiversity, landscape character, and similar measures representing minimal impairment of natural systems. Knowledge of ecosystem structure and function from such areas is an essential basis for ecosystem management and restoration objectives.

Time Line and Fiscal Year Budget (in thousands of dollars) for Identification and Documentation of Ecosystem Reference Areas as a Biodiversity Monitoring Framework																
Task	97	98	99	00	01	02	03	04	05	06	07	08	09	10	Unprog	Total
Process Design, analysis and Development																
Project																
State		100														100
Federal		100														100
Subtotal		200														\$200

TITLE: Integrated Management Program for Invasive Species within High Quality Natural Areas of South Florida			
SUBREGION : Total System	PROJECT ID: TS61	FINANCIAL REQUIREMENT:	
PROGRAM CATEGORY: Management	BUDGET CATEGORY: Area Mgmt/Habitat Protection	TOTAL: \$34,000,000	
PROJECT PLAN MANAGER: Bill Zattau 904/232-2215	BASIS:	APPROPRIATED TO DATE:	
LEAD ORGANIZATION(S): USACE, SFWMD, ENP, BCNP, FDEP		TOTAL: 0	
SUPPORTING ORGANIZATION(S): ARS, BIA, DOI, EPA, FDACS, FGFWFC, FDOT, IFAS/ES, NPS, NRCS, USDA, USFWS, USFS, USGS		REMAINING FINANCIAL REQUIREMENT:	
COUNTY(S): All		TOTAL: \$34,000,000	
LINKED PROJECTS: Dependent on: TS11 Critical to: TS31 Associated: TS01, GL03, SW15, CE09		TOTAL: \$34,000,000	
with:		APPROVED: 11/97	
START: 1999	END: 2003	LAST REVISION: 7/98	

DESCRIPTION: Implementation of a coordinated program of invasive species management in high quality natural areas of the south Florida ecosystem. This program will focus on efforts to protect such high quality natural areas as Everglades National Park and Big Cypress National Preserve. It will include management of invasives inside these natural areas and in adjacent lands to prevent re-infestation. The program will concentrate on actual removal operations targeting invasive species, such as melaleuca (*Melaleuca quinquenervia*), Australian pine (*Casuarina equisetifolia*), Brazilian pepper (*Schinus terebinthifolius*), latherleaf (*Colubrina asiatica*) and the old world climbing fern (*Lygodium microrphyllum*). An intergrated pest management strategy will be utilized relying heavily upon proven chemical control, mechanical control, biological control and environmental manipulation techniques. In the absence of such, new and/or emerging techniques will be developed and/or refined to provide the array of management methods necessary to meet the program goals. Additional program components may include the following: delineation of the extent of invasive plant populations; pre- and post-treatment site documentation; post-treatment monitoring and control of invasive species regrowth; and replanting with native species. Work may begin in FY 98 and continue through FY 02.

RESTORATION BENEFITS: The spread of invasive exotic species is producing profound environmental consequences in high quality natural areas of the South Florida ecosystem, such as the Everglades National Park and Big Cypress National Preserve. As invasives are controlled and deteriorated areas restored, beneficial vegetative communities will be reestablished. Native plant and animal diversity will return, with a resultant shift to a healthy ecosystem.

Time Line and Fiscal Year Budget (in thousands of dollars) for Integrated Management Program for Invasive Species within High Quality Natural Areas of South Florida																
Task	97	98	99	00	01	02	03	04	05	06	07	08	09	10	Unprog	Total
Program																
Project																
ENP			3000	3000	1500	1500	1200									10200
BCNP			1000	1000	500	500	400									3400
SFWMD			4000	4000	2000	2000	1600									13600
FDEP			750	750	375	375	300									2550
DOI-BIA			750	750	375	375	300									2550
Other/Misc.			500	500	250	250	200									1700
Subtotal			10000	10000	5000	5000	4000									\$34,000

TITLE: Public Education for the Restoration Project			
SUBREGION : Total System	PROJECT ID: TS62	FINANCIAL REQUIREMENT: \$25,000 match	
PROGRAM CATEGORY: Public Education	BUDGET CATEGORY: Natural Resource Management	(in kind contribution by Env. Ed. Director, Env. Ed specialist and graphics staff and printing, available awaiting federal match.)	
PROJECT PLAN MANAGER: Jim Lewis (904) 488-9334	BASIS: 2 and 3	TOTAL: \$50,000	APPROPRIATED TO DATE:
LEAD ORGANIZATION(S): FDEP			
SUPPORTING ORGANIZATION(S): SFWMD/EPA/COE/Audubon		TOTAL: \$0	
COUNTY(S): All		REMAINING FINANCIAL REQUIREMENT:	
LINKED PROJECTS: Dependent on:		Federal partner to be determined: \$25,000	
Critical to:		FDEP: \$25,000	
Associated TS30, TS33		TOTAL: \$50,000	
with:			
START: 1999	END: 2001	APPROVED: 11/97	LAST REVISION: 2/98

DESCRIPTION: Develop public education materials and programs for the overall Ecosystem Restoration effort, but with special concentration on each of the individual sub-regions. The effort will include, but would not necessarily be limited to materials and programs with the multiple aim of educating local citizens on what is being done, why it is being done, and how they can become involved and help in the effort. Any material or program developed under this effort must show how the restoration will affect citizens in the area or sub-region as well as how they would be adversely affected if it is not done. Educational emphasis would be placed on the benefits of the restoration to the entire sub-regional ecosystem. Products would include publications, development of local volunteer groups and programs to undertake community activities that educate the local population. Other means of bringing the message to the public include educating local media (print and broadcast) on the importance of the effort. Education staff would work with the Sub-region teams to develop programs that appropriately reflect the key issues and priorities of the sub-region.

RESTORATION BENEFITS: On-the-ground restoration will be much more difficult if the citizens who live in and around the area being restored do not understand, or support, the activities being undertaken. Properly conducted public education activities will increase citizen support for, and assistance with, the restoration activities for the South Florida Ecosystem as a whole and for the individual sub-regions. A citizenry that understands the reasons for the restoration effort and how it will benefit them, will be more willing to support--and even to help through volunteer activities--the effort. The result will be fewer delays in the implementation of projects in the sub-regions because of confrontation and controversy over the merits of the restoration effort.

Time Line and Fiscal Year Budget (in thousands of dollars) for Public Education for the Restoration Project																
Task	97	98	99	00	01	02	03	04	05	06	07	08	09	10	Unprog	Total
Development			■	■												
Implementation				■	■											
Project																
State		25														25
Federal		25														25
Subtotal																\$50

TITLE: Lygodium Microphyllum Control			
SUBREGION: Total System	PROJECT ID: TS63	FINANCIAL REQUIREMENT:	
PROGRAM CATEGORY: Management/Science	BUDGET CATEGORY: Natural Resource Management	TOTAL: \$2,960,000	
PROJECT PLAN MANAGER: Dan Thayer (561) 687-6129	BASIS: 2	APPROPRIATED TO DATE:	
LEAD ORGANIZATION(S): SFWMD		SFWMD: \$85,000	
SUPPORTING ORGANIZATION(S): USACE, FDEP, USDA		FDEP: \$20,000	
COUNTY(S): All		TOTAL: \$105,000	
LINKED PROJECTS: Dependent on:		REMAINING FINANCIAL REQUIREMENT:	
Critical to: TS11		TOTAL: \$2,750,000	
Associated: TS03			
with:			
START: 1998	END: 2011	APPROVED: 11/97	LAST REVISION: 7/98

DESCRIPTION: *Lygodium microphyllum* (Old World climbing fern), native to Australia, Asia and Africa was first found in Florida in the late 1960s. From its introduction site near the Martin/Palm Beach county line, this exotic twining fern has now spread into more than 39,000 acres of undisturbed south Florida wetlands. Undetected in 1990, *Lygodium microphyllum* now occupies more than 17,000 acres of the Loxahatchee National Wildlife Refuge.

Lygodium microphyllum can climb tens of meters into cypress forests, overtop and smother everglades tree islands, and spread horizontally into open wetland marshes. Once established, this plant seriously alters fire ecology. Prescribed burns and wildfires that normally terminate at cypress sloughs in the wet season now continue through. Burning mats of fern break free during fires, and are kited away by heat plumes, leading to distant fire spotting. Additionally, the plant acts as a "ladder" carrying fire into native tree canopies. Preliminary data on spore counts (724 spores/cubic meter/hour) indicates that *Lygodium microphyllum* is capable of long distance dispersal. Plants have recently been discovered in Collier County's Fakahatchee Strand.

This project will develop chemical and biological controls for *Lygodium*. Preliminary herbicide trials have resulted in variable control, and long-term results are not yet available. Investigations into herbicidal and physical control methods need to be explored further in areas where *Lygodium microphyllum* already has a strong foothold. The successful establishment of biological controls will be important in reducing the exponential rate of expansion now occurring in south Florida. The potential for biocontrol of *Lygodium microphyllum* is high due to few native and economic plant conflicts. Preliminary and brief examinations of a few populations in its native range have already identified several natural enemies. Biocontrol is essential if this invader is to be effectively contained, much less controlled.

RESTORATION BENEFITS: The uncontrolled expansion of *Lygodium microphyllum* in south Florida constitutes a serious threat to the Everglades ecosystem. Ecosystem restoration benefits of *Lygodium microphyllum* control research will be conservation of native plant communities and improved maintenance of historic fire regimes.

Time Line and Fiscal Year Budget (in thousands of dollars) for Lygodium Microphyllum Control																	
Task	97	98	99	00	01	02	03	04	05	06	07	08	09	10	Unprog	Total	
Program																	
Project																	
Biocontrol	0	75	75	150	150	150	150	150	150	150	150	150	150	150			
Monitoring	15	0	15	50	50	50	50	50	50	50	50	50	50	50			
Herbicide Trials	10	10	10	50	50	50	50	50	50	50	50	50	50	50			
Subtotal																	\$2,960

Note: FY 97,98 & 99 are actual appropriations. Out-year dollars are projections of need.

TITLE: The Governor's Commission for a Sustainable South Florida			
SUBREGION : TS	PROJECT ID: TS66	FINANCIAL REQUIREMENT:	
PROGRAM CATEGORY: Management	BUDGET CATEGORY: Natural Resource Management	Federal:	\$1,003,707
PROJECT PLAN MANAGER: Kranzer (941) 338 2929	BASIS: 2	In-kind match:	\$1,369,873
LEAD ORGANIZATION(S): FDEP, SFWMD		TOTAL:	\$2,373,580 per year
SUPPORTING ORGANIZATION(S): NOAA, DCA, SFERTF, USEPA, Americorps, DACS, Audubon, SFRPC		APPROPRIATED TO DATE:	
COUNTY(S): All		Federal:	\$1,003,707
LINKED PROJECTS: Dependent on: Critical to: Associated with:		In-kind match:	\$1,369,873
START: 1994	END: When no longer needed	TOTAL:	\$2,373,580 From June 1994-June 30 1999
		REMAINING FINANCIAL REQUIREMENT:	
		TOTAL:	
		APPROVED:	LAST REVISION: 11/98

TBD Commission is currently authorized through June 1999.

DESCRIPTION: The Governor's Commission for a Sustainable South Florida was created by Executive Order 94-54 to make recommendations for achieving a healthy Everglades Ecosystem that can coexist and be mutually supportive of a sustainable South Florida economy and quality communities. Moreover, the Commission is specifically referenced in the 1996 Water Resources and Development Act as a body to receive guidance from in the development of the Comprehensive Plan for the Restudy of the central and Southern Florida Project. Since its inception, the Commission has set a precedent in consensus building resulting in the unanimous adoption of three documents (Initial Report, A Conceptual Plan for the C&SF Restudy, and the Interim Report for the C & SF Restudy), which set the vision and framework for sustainability in the South Florida region. The Commission will be responsible for completing a number of projects including a sustainability video in December 1998, a supplement to the Initial Report that presents a conceptual plan for the human system, and a second report to the COE on the Restudy. By Executive Order, Commission members are appointed to two-year terms, with the opportunity for reappointment. The Commission will continue to meet until June 30, 1999.

RESTORATION BENEFITS: The Commission is critical to building consensus among various interests in South Florida. One of the roles of the Commission is to improve coordination among and within the private and public sectors regarding activities impacting the Everglades ecosystem. To accomplish this, the Commission is involved in many efforts with the Working Group, such as public outreach strategies, social science issues, and advisory work with the Restudy. It is also charged with developing recommendations to improve the quality of life in South Florida, including the economy, environment and society. Through these recommendations, it has spurred the development and subsequent adoption of the sustainable communities legislation, and Eastward Ho! Initiative geared toward reducing urban sprawl in Dade, Broward and Palm Beach Counties. The Commission will continue to provide guidance on the integration of land use and water planning issues as they relate to the restoration of the Everglades ecosystem.

Time Line and Fiscal Year Budget (in thousands of dollars) for The Governor's Commission for a Sustainable South Florida																
Task	97	98	99	00	01	02	03	04	05	06	07	08	09	10	Unprog	Total
Commission																
Project																
																295,044
Subtotal																295,044

TITLE: Mercury, Geochemistry, and Nutrient Process Studies			
SUBREGION : Total System	PROJECT ID: TS67	FINANCIAL REQUIREMENT:	
PROGRAM CATEGORY: Science	BUDGET CATEGORY: Research	USGS	\$8,038,000
PROJECT PLAN MANAGER: Higer, 561-687-6560	BASIS: 1	TOTAL:	\$8,038,000
LEAD ORGANIZATION(S) USGS, SFWMD		APPROPRIATED TO DATE:	
SUPPORTING ORGANIZATION(S): WIDNR, USEPA		USGS	\$4,916,000
COUNTY(S): Broward, Dade, Monroe, and Palm Beach		TOTAL:	\$4,916,000
LINKED PROJECTS: Dependent on:		REMAINING FINANCIAL REQUIREMENT:	
Critical to:		USGS	\$3,122,000
Associated		TOTAL:	\$3,122,000
with:			
START: 1995	END: 2001	APPROVED: 11/97	LAST REVISION: 7/98

DESCRIPTION: This program is determining the effect that environmental factors such as concentration of dissolved organic carbon, nutrients, and sulfur as well as hydrologic conditions have on the transport, sedimentation, volatilization, and methylation of mercury in the Everglades and its ultimate entry into the food chain. The results will be useful for predicting the effects of restoration on environmental mercury levels in the Everglades. Process studies are shifting from field to analytical work. Technical products are in preparation and synthesis products are being planned. Long-term monitoring networks are being designed.

RESTORATION BENEFITS: This effort will provide managers with geochemical process information to help make crucial decisions on changes to the infrastructure in South Florida.

Time Line and Fiscal Year Budget (in thousands of dollars)for Mercury, Geochemistry, and Nutrient Process Studies																
Task	97	98	99	00	01	02	03	04	05	06	07	08	09	10	Unprog	Total
Program																
Project																
USGS																8,038
Subtotal																\$8,038

TITLE: Coordinated Management Program For Invasive Plant Species On Public And Private Lands In South Florida			
SUBREGION : Total System	PROJECT ID: TS83	FINANCIAL REQUIREMENT:	
PROGRAM CATEGORY: Management	BUDGET CATEGORY: Natural Resource Mgmt.	TOTAL: \$40,000,000	
PROJECT PLAN MANAGER: Bill Zattau 904/232-2215	BASIS: 2,3	APPROPRIATED TO DATE:	
LEAD ORGANIZATION(S): USACE		TOTAL: 0	
SUPPORTING ORGANIZATION(S): ARS, BCNP, BIS, DOI, ENP, EPA, FDACS, FDEP, FGFWFC, FDOT, IFAS/ES, NPS, NRCS, SFWMD, USDA, USFWS, USFS, USGS		REMAINING FINANCIAL REQUIREMENT:	
COUNTY(S): All		TOTAL: \$40,000,000	
LINKED PROJECTS: Dependent on: Critical to: Associated TS01, TS03, TS11, GL03		TOTAL: \$40,000,000	
with:			
START: 1999	END: 2003	APPROVED: 11/97	LAST REVISION: 7/98

DESCRIPTION: Implementation of a coordinated program of invasive species management on public and private lands of the South Florida ecosystem that are not included in the project targeting high quality natural areas. The program will concentrate on actual removal operations targeting invasive species, such as melaleuca (*Melaleuca quinquenervia*), Australian pine (*Casuarina equisetifolia*), Brazilian pepper (*Schinus terebinthifolius*), latherleaf (*Colubrina asiatica*), torpedograss (*Panicum repens*) and the old world climbing fern (*Lygodium microrphyllum*). An intergrated pest management strategy will be utilized relying heavily upon proven chemical control, mechanical control, biological control and environmental manipulation techniques. In the absence of such, new and/or emerging techniques will be developed and/or refined to provide the array of management methods necessary to meet the program goals. Additional program components may include the following: delineation of the extent of invasive plant populations; pre- and post-treatment site documentation; post-treatment monitoring and control of invasive species regrowth; and replanting with native species. Work may begin in FY 99 and continue through FY 03.

RESTORATION BENEFITS: Invasive exotic plants, of one species or another, are located throughout the entire South Florida ecosystem. In order to truly protect any area of the ecosystem from the habitat degradation associated with the invasion, colonization and subsequent proliferation of these invasive plants, they will need to be managed throughout the entire ecosystem. This project will allow a coordinated, ecosystem-wide management program to be established which targets all invasive exotic plant species. As invasives are controlled and deteriorated areas restored, beneficial vegetative communities will be reestablished. Native plant and animal diversity will return, with a resultant shift to a healthy ecosystem.

Time Line and Fiscal Year Budget (in thousands of dollars) for Invasive Coordinated Management Program For Plant Species On Public And Private Lands In South Florida																
Task	97	98	99	00	01	02	03	04	05	06	07	08	09	10	Unprog	Total
Program																
Project																
USACE			1000	833	666	500	333									3332
SFWMD			2000	1667	1334	1000	667									6668
DOI			1000	833	666	500	333									3332
FDEP			1000	832	666	500	333									3331
Other Misc.			7000	5835	4668	3500	2334									3337
Subtotal																\$40,000

TITLE: Biological Control For Melaleuca And Other Invasive Exotic Species Enhancement Program				
SUBREGION : Total System	PROJECT ID: TS84	FINANCIAL REQUIREMENT:		
PROGRAM CATEGORY: Management	BUDGET CATEGORY: Natural Resource Mgmt.			
PROJECT PLAN MANAGER: Bill Zattau 940/232-2215	BASIS: 1			TOTAL: \$5,310,000
LEAD ORGANIZATION(S): USACE, USDA-ARS				APPROPRIATED TO DATE:
SUPPORTING ORGANIZATION(S): DOI, SFWMD, FDEP, FDACS, FGFWFC, USFWA				TOTAL: 0
COUNTY(S): All				REMAINING FINANCIAL REQUIREMENT:
LINKED PROJECTS: Dependent on: Critical to: Associated TS03, TS11, GL03, with: SW15, CE09		TOTAL: \$5,310,000		
START: 1999	END: 2003	APPROVED: 11/97	LAST REVISION: 7/98	

DESCRIPTION: The project addresses three avenues to increase the capability of land managers to utilize biological control technologies in the management of melaleuca and other invasive exotic species in the south Florida ecosystem. Two avenues are detailed below:

- 1) Upgrading and retrofitting of the current quarantine facility in Gainesville, Florida.
- 2) Large-scale rearing of approved biological control organisms for release at multiple sites against a number of invasive species.

RESTORATION BENEFITS: Melaleuca trees and other invasive exotic species are rapidly invading the natural Everglades habitat. Their growth is so dense that the typical characteristics of native habitat are completely destroyed. Biological control agents re needed to provide a truly integrated management approach to many of the invasive species problems facing the ecosystem today. This approach will provide the means to establish a viable biological control program.

Time Line and Fiscal Year Budget (in thousands of dollars) for Biological Control For Melaleuca And Other Invasive Exotic Species Enhancement Program																
Task	97	98	99	00	01	02	03	04	05	06	07	08	09	10	Unprog	Total
Upgrade facility			█													
Operations			█	█	█	█	█									
Project																
Upgrade facility			560													560
Operations			950	950	950	950	950									4750
Subtotal			1510	950	950	950	950									\$5,310

TITLE: Seminole Tribe Data Collection and Monitoring			
SUBREGION : Total System	PROJECT ID: TS85	FINANCIAL REQUIREMENT:	
PROGRAM CATEGORY: Management	BUDGET CATEGORY: Water Quality		
PROJECT PLAN MANAGER: Craig Tepper, 954-966-6300	BASIS: 3	TOTAL:	\$2,356,000
LEAD ORGANIZATION(S): Seminole Tribe of Florida		APPROPRIATED TO DATE:	
SUPPORTING ORGANIZATION(S): BIA, USGS, EPA, SFWMD, BCNP/NPS		BIA	\$40,000
COUNTY(S): Hendry, Glades, Broward, Collier, St. Lucie		NPS	\$156,000
		EPA	\$100,000
LINKED PROJECTS: Dependent on: Critical to: Associated TS8, CB16, BCB3, BCB14, TS82, BCB20, BCB21, BCB22, BCB23, BCB24		Seminole tribe	\$104,000
		TOTAL:	\$400,000
with:		REMAINING FINANCIAL REQUIREMENT:	
		TOTAL:	\$1,956,000
START: 1997	END: 2010	APPROVED: 11/97	LAST REVISION: 7/98

DESCRIPTION: Water quality monitoring consists of water sampling, analyses, data management, and reporting. Data collection and water quality monitoring efforts are needed for the Big Cypress, Brighton, Immokalee, and Hollywood Reservations as well as the Coconut Creek and Fort Pierce Trust Lands. The Tribe will also work with the Big Cypress National Preserve to conduct water quality, water quantity, and biological monitoring along the common border. In addition, under an agreement with the SFWMD, the Tribe is required to monitor the quality of the water discharged from the Big Cypress Reservation. The Tribe has been conducting water quality monitoring for some time, however, the Tribe plans a more comprehensive program. Due to funding below requested levels and expectations, the Tribe's water quality monitoring work is behind the Tribe's internal schedule. This monitoring effort is a major undertaking with an appropriate price tag through FY 2010, the tribe estimates that its comprehensive data collection and monitoring program will cost \$2,356,000. The bulk of that funding need is unmet.

RESTORATION BENEFITS: Data analysis and reporting is necessary for Tribal development and implementation of protective surface water quality standards and establishment of baseline conditions. Biological, meteorological, and air quality sampling is needed to provide feedback on proposed success criteria necessary for operation and adaptive management of the Big Cypress Reservation Water Conservation Plan and implementation of BMP's on the Big Cypress Reservation. It will also be necessary to characterize the surface water for the L-28 Borrow canal, L-28 Interceptor Canal, North and West Feeder canals, and for the proposed network of 22 wetland monitoring sites on the Big Cypress Reservation. For the Brighton Reservation, a comprehensive monitoring and assessment program will be designed which will help evaluate the impacts of Tribal activities and support adaptive management.

Total System: Kissimmee through the Keys

Time Line and Fiscal Year Budget (in thousands of dollars) for Seminole Tribe Data Collection & Monitoring																
Task	97	98	99	00	01	02	03	04	05	06	07	08	09	10	Unprog	Total
Big Cypress																
Brighton																
Immokalee																
Hollywood																
Trust Lands																
Project																
NPS	78	78	78	78	78	78	78	78	78	78	78	78	78	78		1,092
BIA	20	20	20	20	20	20	20	20	20	20	20	20	20	20		280
EPA	28	72	0	0	0	0	0	0	0	0	0	0	0	0		100
Seminole Tribe	39	65	65	65	65	65	65	65	65	65	65	65	65	65		884
Subtotal	165	235	163	163	163	163	163	163	163	163	163	163	163	163		\$2,356

TITLE: Seminole Tribe Development of Water Quality Standards				
SUBREGION : Total System	PROJECT ID: TS86	FINANCIAL REQUIREMENT:		
PROGRAM CATEGORY: Management	BUDGET CATEGORY: Water Quality			
PROJECT PLAN MANAGER: Craig Tepper, 954-966-6300	BASIS: 1			TOTAL: \$108,000
LEAD ORGANIZATION(S): Seminole Tribe of Florida				APPROPRIATED TO DATE:
SUPPORTING ORGANIZATION(S): EPA, SFWMD				STOF \$64,000
COUNTY(S): Hendry, Glades, Collier, Broward, St. Lucie				TOTAL: \$64,000
LINKED PROJECTS: Dependent on: Critical to: Associated TS81, TS08		REMAINING FINANCIAL REQUIREMENT:		
with:		TOTAL: \$44,000		
START: 1995	END: 2000	APPROVED: 11/97	LAST REVISION: 7/98	

DESCRIPTION: The Environmental Protection Agency (EPA) certified the Seminole Tribe to be "treated as a State" under the Clean Water Act (CWA). The Tribe is authorized to establish and enforce water quality Standards on its Reservation under Section 518(e) of the CWA. Standards for the Big Cypress Reservation were adopted by the tribal Council in September, 1996 and were certified by the EPA in October 1997. Development of standards for the Brighton Reservation began August, 1997 and are expected to be adopted by the Tribal Council in July, 1998. Standards for the Hollywood and Immokalee Reservation, as well as the Fort Pierce and Coconut Creek Trust Lands, will be completed by December 2000.

RESTORATION BENEFITS: Establishment and enforcement of water quality standards will improve the quality of water entering and leaving the Reservations. Required certification of restoration activities in and around the Reservations will insure compliance with water quality standards and supply additional opportunities for public input.

Time Line and Fiscal Year Budget (in thousands of dollars) for Seminole Tribe Development of Water Quality Standards																
Task	97	98	99	00	01	02	03	04	05	06	07	08	09	10	Unprog	Total
Hollywood																
Immokalee																
Ft. Pierce																
Coconut Creek																
Project																
Seminole Tribe		64	33	11												108
Subtotal		64	33	11												\$108

TITLE: NOAA South Florida Ecosystem Restoration Research and Modeling Program			
SUBREGION : TS	PROJECT ID: TS96	FINANCIAL REQUIREMENT:	
PROGRAM CATEGORY: Science	BUDGET CATEGORY: Research		
PROJECT PLAN MANAGER: Nancy Thompson 305-361-4284	BASIS: 1,3	TOTAL:	\$21,300,000
LEAD ORGANIZATION(S): NOAA		APPROPRIATED TO DATE:	
SUPPORTING ORGANIZATION(S): FDEP, NPS, USGS, FWS, EPA, COE, SFWMD			
COUNTY(S): Palm Beach, Broward, Dade, Monroe, Collier		TOTAL:	\$15,400,000
LINKED PROJECTS: Dependent on:		REMAINING FINANCIAL REQUIREMENT:	
Critical to: TS01			
Associated			
with:		TOTAL:	\$5,900,000
START: 1995	END: 2002	APPROVED:	LAST REVISION: 8/98

DESCRIPTION: The NOAA South Florida Ecosystem Restoration Research Program consists of two major components supported through two NOAA line offices: the Coastal Ocean Program (COP), and the National Marine Fisheries Service (NMFS). Each component supports research and monitoring in support of restoration within the region. While the focus of the COP component remains Florida Bay, the NMFS component is inclusive of all marine and estuarine waters within South Florida. NOAA is the only agency that focuses entirely on the marine and estuarine waters of South Florida and is unique in this respect and recognizes that changes upstream must be evaluated relative to impacts in the marine and estuaries of the region. The COP component supports monitoring of ocean processes and rainfall through an expanded network of ocean measurements buoys and through the use of NEXRAD over the total Everglades System. COP research includes: a) measuring the physical dynamics of Florida Bay and boundary waters; b) sediment dynamics and core analysis to describe historical conditions; c) nutrient dynamics and fates and including atmospheric inputs; d) trophic dynamics from secondary productivity to higher trophic levels; and e) the fate and biological impacts of non-point source contaminants. NMFS research and monitoring focuses on living marine resources (LMR) and their habitats and includes: a) expanded fishery dependent and fishery independent monitoring; b) determining causes of shifts in biodiversity and trophic dynamics; c) protected resources research utilizing sea turtles and bottlenose dolphins as indicators of coastal health; d) modeling fishery populations to predict environmental determinants and predict productivity under changes implemented upstream. Both components support research and monitoring under the Coral Reef Initiative within the Florida Keys National Marine Sanctuary and waters of South Florida. Specific research projects are supported by multiple investigators to describe and model changes in the marine/estuarine waters of S. Florida as the timing, quantity, quality of freshwater delivery changes. Each of the components supports and education /outreach project which provides coordination of the annual science panel reviews, workshops, and supports minority participation in research, monitoring, and other S. Florida activities.

RESTORATION BENEFITS: This research is critical to recovery of the marine/estuarine waters and habitats of S. Florida and management of fishery resources and protected resources within S. Florida waters. The effort will improve models and predictions of benefits and changes to the South Florida marine ecosystem resulting from restoration. It will assess changes resulting from restoration efforts and will allow those efforts to be fine-tuned or altered as necessary in a more efficient, more timely, and less costly manner.

Total System: Kissimmee through the Keys

Time Line and Fiscal Year Budget (in thousands of dollars) for NOAA South Florida Ecosystem Restoration Research and Modeling Program																
Task	97	98	99	00	01	02	03	04	05	06	07	08	09	10	Unprog	Total
Program																21,300
Project																
<i>Subtotal</i>	8300	4200	2900	2900	1500	1500										\$21,300

TITLE: South Florida Nonpoint Source Pollution Prevention Learning Center			
SUBREGION : Total System	PROJECT ID: TS97	FINANCIAL REQUIREMENT:	
PROGRAM CATEGORY: Public Information, Environmental Education	BUDGET CATEGORY: Water Quality,, Natural Resource Mgmt, Pollution Prevention		
PROJECT PLAN MANAGER: Setti (954) 792-1984	BASIS: 2, 3	TOTAL: \$952,000	
LEAD ORGANIZATION(S): Broward Soil and Water Conservation District (BSWCD)		APPROPRIATED TO DATE:	
SUPPORTING ORGANIZATION(S): School Board of Broward County USDA-NRCS, USDA-UCAP, SFC-URP, SFWMD,EPA			
COUNTY(S): ALL		TOTAL: \$300,000	
LINKED PROJECTS: Dependent on:		REMAINING FINANCIAL REQUIREMENT:	
Critical to:			
Associated SE31		TOTAL: \$652,000	
with:			
START: 1998	END: 2000	APPROVED:	LAST REVISION: 9/98

DESCRIPTION: Over the past 25 years, the United States has made significant inroads to clean the aquatic environment by controlling pollution from industries and sewage treatment, however, very little has been to control pollution from diffuse or nonpoint sources. This project will provide the necessary vehicles to stimulate environmental awareness and education for curbing Nonpoint Source Pollution (NSP) and the use of Best Management Practices (BMP's) in South Florida through meetings, seminars and workshop. The construction of the learning Center will serve as the conduit for dissemination of information and knowledge on NPS and BMP's. The Learning Center will be centrally located in the 650 acres complex known as the South Florida Education Center in Davie, Florida. The learning Center is approximately two acres south of the Broward County Public Schools Instructional Television Center, west of McFatter Vocational Center, north of Broward Community College and east of the University of Florida-- Agricultural Research and Educational Center.

RESTORATION BENEFITS: Improve the quality of stormwater discharge to the Everglades Protection Area, Coral Reef Systems, lakes, rivers, canals, groundwater and surface water. Serve as a learning center for teachers, students, governmental agencies, organizations, businesses and interested people for the implementation of Best Management Practices. Reduce Nonpoint Source Pollution from urban, municipal, rural and agricultural runoff. Provide information and educate the new generation of students to protect and conserve the quality of water and natural resources by preventing pollution.

Time Line and Fiscal Year Budget (in thousands of dollars) for South Florida Nonpoint Source Pollution Prevention Learning Center																
Task	97	98	99	00	01	02	03	04	05	06	07	08	09	10	Unprog	Total
Program																
Project																
Subtotal		300	326	326												\$952