

TITLE: Additional Water Conveyance Structures Under Tamiami Trail			
SUBREGION : 5	PROJECT ID: SW01	FINANCIAL REQUIREMENT:	
PROGRAM CATEGORY: Infrastructure	BUDGET CATEGORY: Infra Invest, Natl Res Man.	Potential cost shares: SFWMD, FDOT, FDEP, NPS, USGS	
PROJECT PLAN MANAGER: Feeder (941) 338-2341 Tears (941) 597-1505 Hibbard (941) 695-2000	BASIS: 2	TOTAL: \$4,355,000	APPROPRIATED TO DATE:
LEAD ORGANIZATION(S): FDOT		TOTAL: \$0	
SUPPORTING ORGANIZATION(S): SFWMD,NPS, FDEP, USGS		REMAINING FINANCIAL REQUIREMENT:	
COUNTY(S): Collier		TOTAL: \$4,355,000	
LINKED PROJECTS: Dependent on: SW24 Critical to: SW03, SW05, SW10, SW11 Associated with:		TOTAL: \$4,355,000	
START: 1998	END: 2002	APPROVED: 11/97	LAST REVISION: 7/98

DESCRIPTION: U.S. Highway 41 (Tamiami Trail), constructed in the 1920's, is a two-lane highway in south Florida that connects Miami to Naples. Currently, the Tamiami Trail impedes the north-south sheetflow in Ten Thousand Islands, Southern Golden Gate Estates, Fakahatchee Strand, Big Cypress National Preserve, Water Conservation Area 3A, and Everglades National Park, which is critical to supporting the regional wetland ecosystems. The existing bridges and water control structures are inadequate for transmitting surface water beneath the Tamiami Trail- The elevated roadbed of the Tamiami Trail is a physical barrier to the natural surface water sheetflow. The borrow canal immediately north of the Tamiami Trail intercepts this south-southwest flow and transfers it to an east-west flow direction until it exits south through bridges or water control structures. Currently, due to this channelization of flowways, some wetland habitats receive too much freshwater, while others do not receive enough. Also, the seasonal hydropatterns (quantity, timing and distribution of surface water flows) are interrupted.

This project will help to restore a more natural hydropattern to the southern Big Cypress Basin (Subregion 6) and Coastal Areas (Subregion 8). This project will be accomplished in three phases: Phase I - conduct a comprehensive assessment of the hydrological impacts from the Tamiami Trail (the USGS is currently working with FDOT to initiate this effort), Phase II - identify locations for additional water conveyance structures (i.e., bridges, culverts), and Phase III - install additional water conveyance structures and upgrade existing structures, as appropriate. The project area is located on the Tamiami Trail between Collier-Seminole State Park - immediately south of the Miller Canal - to the west, and 50-Mile Bend to the east (approximately 65 km), The L-28 Levee Modification project will address the hydrological impacts of the Tamiami Trail from 50-Mile Bend to the eastern boundary of Big Cypress National Preserve (40-Mile Bend). The Modified Water Deliveries to Everglades National Park project will address the hydrological impacts of the Tamiami Trail east of 40-Mile Bend. The conveyance types and number of structures, along with their cost estimates are now being finalized in consultation between SFWMD,NPS, FDOT, USACE, and USGS and a PCA is being developed.

RESTORATION BENEFITS: This project will improve the natural sheetflow of surface water within the watersheds of Ten Thousand Islands National Wildlife Refuge & Aquatic Preserve, Southern Golden Gate Estates, Fakahatchee Strand State Preserve, Big Cypress National Preserve, and Everglades National Park. By creating a more diffuse **flowway** beneath the Tamiami Trail, a **more** natural hydropattern will be established north and south of this highway. Improvement of the natural hydrology will also enhance biological restoration (i.e.. Cape Sable Sparrow habitat) for the region. This project will directly support objectives for several other south Florida Projects (i.e., Levee 28 Modification, Restoration of Southern Golden Gate Estates). In order for these projects to meet their respective design objectives, the additional water conveyance structures under the Tamiami Trail **will** need to be completed.

Time Line and Fiscal Year Budget (in thousands of dollars) for Additional Water Conveyance Structures Under Tamiami Trail																
Task	97	98	99	00	01	02	03	04	05	06	07	08	09	10	Unprog	Total
Phase I Hydrologic Assessment		■														
Design, Permit and Real Estate		■	■													
Phase II Construction				■												
Phase III Construction				■	■	■										
Final Report																
Project																
		175	470	1000	1500	1210										4,355
Subtotal																\$4,355

TITLE: Seminole Tribe Water Conservation Project for the Big Cypress Reservation			
SUBREGION : 5	PROJECT ID: SW03	FINANCIAL REQUIREMENT:	
PROGRAM CATEGORY:	BUDGET CATEGORY:		
Infrastructure	Infrastructure Investment	TOTAL: \$70,053,000	
PROJECT PLAN MANAGER: Tepper (954)966-630 X1120	BASIS: 1	APPROPRIATED TO DATE:	
LEAD ORGANIZATION(S): Seminole Tribe of Florida			
SUPPORTING ORGANIZATION(S): USACE, NRCS, BIA			
COUNTY(S): Hendry, Broward		TOTAL: \$0	
LINKED PROJECTS: Dependent on: Critical to: Associated with: SW14, TS85		REMAINING FINANCIAL REQUIREMENT:	
		TOTAL: \$48,307,000	
START: Jan 1998	END: 2005	APPROVED: 11/97	LAST REVISION: 5/98

DESCRIPTION: This project includes design and construction of water control, management, and treatment facilities for all seven basins of the Big Cypress Reservation. The funding needs for this project total \$70,053,000. Basins 1-4 of the Water Conservation Project have been submitted as a Critical Project under the procedures outlined by the USACE. This subset of the Water Conservation Project can be constructed and will function independently of the infrastructure required in Basins 5, 6 and 7 in the eastern portion of the Big Cypress Reservation and the BMP Project (BCB14-M). The Seminole Tribe is working with NRCS to design and construct the infrastructure for Basins 5, 6, and 7.

RESTORATION BENEFITS: The planned network of surface water management structures is designed to accomplish the following four objectives:

- (1) Remove phosphorus and other pollutants from water leaving the Reservation. The removal of these pollutants will be achieved using natural treatment processes, in pretreatment cells and water resource areas (WRA's). Unlike the stormwater treatment areas in the Everglades Construction Project, the Tribe's WRA's will take advantage of the natural treatment processes and will serve additional functions in the storage and conveyance of water.
- (2) Convey and store irrigation water. To make use of water provided by the District (to replace the Tribe's diverted Compact water rights), the Tribe needs to be able to take this water, when it is available, to move it and to store it. This will be accomplished through water conveyance improvements and irrigation storage cells.
- (3) Provide improved flood control. Stormwater must be controlled on the Reservation to prevent extended periods of flooding and limit impacts downstream. This will be accomplished by means of stormwater attenuation areas which will detain large storm events.
- (4) Rewater Big Cypress National Preserve. The Seminole Water Conservation Project will provide the opportunity to restore more natural hydroperiods in the Big Cypress National Preserve. Bypass structures will be placed under the West Feeder Canal that will sheetflow clean water south along the length of the Feeder Canal into the Big Cypress Addition.

Southwest Florida/Big Cypress- Sub- Region 5

Time Line and Fiscal Year Budget (in thousands of dollars) for Seminole Tribe Water Conservation Project for the Big Cypress Reservation																
Task	97	98	99	00	01	02	03	04	05	06	07	08	09	10	Unprog	Total
Studies																
Dev& Constr.																
Project																
			Bas 1	Bas 2	Bas 3	Bas 4	Bas 5	Bas 6	Bas 7							
Seminole Tribe		904	8588	7232	4520	1355	514	434	2780							26,327
COE		904	8588	7232	4532	1355										22,599
NRCS		0	0	0	0	0	2915	2460	15,752							21,127
Subtotal		1,808	17,176	14464	9040	2,710	3,429	2,894	18,532							\$70,053

TITLE: Belle Meade Land Acquisition			
SUBREGION: 5	PROJECT ID: SW04	FINANCIAL REQUIREMENT: (proposed)	
PROGRAM CATEGORY: Land Acquisition	BUDGET CATEGORY: Land Acquisition	State: 50 percent	Federal: 50 percent
PROJECT PLAN MANAGER: Boler 941-332-6975	BASIS: 2	TOTAL \$33,726,136 estimated	:
LEAD ORGANIZATION(S): FDEP		APPROPRIATED TO DATE:	
SUPPORTING ORGANIZATION(S): Big Cypress National Preserve		State: \$10,916,425	:
COUNTY(S): Collier		TOTAL \$10,916,425	:
LINKED PROJECTS: Dependent on: Critical to: Associated SW10, SW09		REMAINING FINANCIAL REQUIREMENT:	
with:		Federal:	:
START: 1997		State:	:
END: 1999		TOTAL \$22,809,711	:
		APPROVED: 11/97	LAST REVISION: 2/98

DESCRIPTION: This area of 17,987 acres, includes some of the most extensive examples of mature old-growth hydric pine flatwoods in southwest Florida not within other CARL projects. The hydrology of the hydric pine flatwoods and dwarf cypress communities within the project are relatively intact, as is the hydrology. Three archaeological sites have been recorded within the project boundaries, and additional sites may be present. The area is vulnerable to changes in the timing and amount of water flowing through it. Residential and commercial development spreading from Naples threaten it.

RESTORATION BENEFITS: The additional land would protect habitat for at least five FNAI Special Plants and a reported 23 Special Animals, including the Florida panther, red-cockaded woodpecker, and Florida black bear. The area is adjacent to the Save Our Everglades Golden Gate Estates project and would aid in protection of the primary watershed of the Rookery Bay National Estuarine Preserve. The project area also shares a 2-mile border with Collier-Seminole State Park. If acquired, Belle Meade will ultimately be an important part of a contiguous public conservation area extending across South Florida from the Gulf Coast to approximately 10 miles from the Atlantic Ocean. The project will provide a state forest with uses such as hiking, hunting, and nature appreciation. Use will be limited in the wet seasons.

Time Line and Fiscal Year Budget (in thousands of dollars) for Belle Meade Land Acquisition																
Task	97	98	99	00	01	02	03	04	05	06	07	08	09	10	Unprog	Total
Appraisal	█															
Acquisition	█	█	█													
Project																
Subtotal	10,916	10,916	11,894													\$33,726

TITLE: Big Cypress National Preserve Addition			
SUBREGION : 5	PROJECT ID: SW05	FINANCIAL REQUIREMENT:	
PROGRAM CATEGORY: Land Acquisition	BUDGET CATEGORY: Land Acquisition	State: \$6,064,000 20 percent	Federal: \$24,256,000 80 percent
PROJECT PLAN MANAGER: Hibbard 941-695-2000	BASIS: 3	TOTAL \$30,320,000	:
LEAD ORGANIZATION(S): NPS		APPROPRIATED TO DATE:	
SUPPORTING ORGANIZATION(S): FDOT/FDEP		State: *\$8,900,000	Federal: \$9,620,000
COUNTY(S): Collier		TOTAL \$18,520,000	:
LINKED PROJECTS: Dependent on: Critical to: Associated TS17, TS06		REMAINING FINANCIAL REQUIREMENT:	
with:		State: 0	Federal: \$15,800,000 **
START: 1998	END: 2001	TOTAL \$15,800,000 **	:
		APPROVED: 11/97	LAST REVISION: 8/98

NOTE: THIS IFP PROJECT IS PART ONE OF TWO PARTS OF BASE LAND ACQUISITION NEEDS IN BIG CYPRESS NATIONAL PRESERVE. IT MUST BE ACCOMPANIED BY PROJECT ID SW07.

DESCRIPTION: Public law 100-301 provided for expansion of the Preserve by 146,120 acres, of which approximately 32,154 acres will be transferred by the State of Florida. Of the total, 85,000 acres have been transferred from the Collier Companies as a result of the Florida/Arizona land exchange. The remaining private lands (27,000 acres) are to be acquired by the Federal Government. As of March 1997, approximately 10,896 acres remain to be acquired.

RESTORATION BENEFITS: The acquisition will preclude uses of the remaining private land tracts incompatible with the preservation, conservation, and restoration management objectives of the NPS. Public ownership will assure consistent land management throughout the watershed. These remaining private tracts effectively preclude full implementation of restoration plans of the Seminole Tribe of Florida, SFWMD, and the NPS. The tracts are scattered throughout wetlands critical to restoration of the natural hydrologic regime upstream of WCA-3A, Big Cypress National Preserve, and Everglades National Park.

* The State of Florida has purchased the 32,154 acres at a cost of \$8,900,000.

** Some properties are "deferred " from acquisition (from willing sellers only). Approximately \$8,000,000 will be needed to acquire these properties but is not programmed. This applies to both this project (BCB5-L), and (BCB-L).

Time Line and Fiscal Year Budget (in thousands of dollars) for Big Cypress National Land Acquisition																
Task	97&Prior	98	99	00	01	02	03	04	05	06	07	08	09	10	Unprog	Total
Acquisition																
Project																
Acquisition	18,520	2000	2000	5800	6000											30,320
Subtotal	18,520	2000	2000	5800	6000											\$30,320

TITLE: Big Cypress National Preserve Mineral Rights			
SUBREGION : 5	PROJECT ID: SW06	FINANCIAL REQUIREMENT: TBD	
PROGRAM CATEGORY: Land Acquisition	BUDGET CATEGORY: Land Acquisition	Federal	100 percent
PROJECT PLAN MANAGER: Hibbard (941) 695-2000	BASIS: 2	TOTAL: unknown	
LEAD ORGANIZATION(S): NPS		APPROPRIATED TO DATE:	
SUPPORTING ORGANIZATION(S):		TOTAL: \$0	
COUNTY(S): Collier, Monroe & Dade		REMAINING FINANCIAL REQUIREMENT:	
LINKED PROJECTS: Dependent on: Critical to: Associated SW05, SW07		TOTAL: Unknown	
with:		APPROVED: 11/97	
START: On completion of determination of values	END:	LAST REVISION: 2/98	

DESCRIPTION: Acquire the value of and acquire non-Federal mineral rights on approximately 700,000 acres in Big Cypress Preserve. Until mineral interests are appraised, it is difficult to define the relative importance of acquisition to restoration of South Florida. In order to prevent potential harm, strict environmental standards need to be applied in the Preserve and throughout the ecosystem. This project would provide one additional safeguard to environmental integrity within the boundaries of the Preserve.

RESTORATION BENEFITS: Acquisition of all mineral interests would preclude surface disturbance associated with mineral exploration and development in relatively pristine wetlands.

Time Line and Fiscal Year Budget (in thousands of dollars) for Big Cypress National Preserve Mineral Rights																
Task	97	98	99	00	01	02	03	04	05	06	07	08	09	10	Unprog	Total
Appraisal																
Acquisition																
Project																
Subtotal																

TITLE: Big Cypress National Preserve Private Inholdings			
SUBREGION : 5	PROJECT ID: SW07	FINANCIAL REQUIREMENT:	
PROGRAM CATEGORY: Land Acquisition	BUDGET CATEGORY: Land Acquisition	Federal	100 percent
PROJECT PLAN MANAGER: Hibbard (941) 695-2000	BASIS: 2	TOTAL:	\$165,261,364
LEAD ORGANIZATION(S): NPS		APPROPRIATED TO DATE:	
SUPPORTING ORGANIZATION(S):			
COUNTY(S): Collier, Monroe, & Dade		TOTAL:	\$154,561,364
LINKED PROJECTS: Dependent on: Critical to: Associated TS06, TS17, with: WCA1-I, SW05		REMAINING FINANCIAL REQUIREMENT:	
START: Ongoing	END: 2001	TOTAL:	\$14,700,000*
		APPROVED: 11/97	LAST REVISION: 8/98

NOTE: THIS IFP PROJECT IS PART ONE OF TWO PARTS OF BASE LAND ACQUISITION NEEDS IN BIG CYPRESS NATIONAL PRESERVE. IT MUST BE ACCOMPANIED BY PROJECT ID SW05.

DESCRIPTION: This project consists of acquiring 180 privately owned tracts (597 acres) scattered throughout the original Preserve. Tracts average 3 acres in size with tracts ranging from less than 1 to over 250 acres. Several tracts involve businesses along U.S. Highway 41 and SR 29.

RESTORATION BENEFITS: Acquisition will allow the lands to be restored and managed consistent with the conservation mandates in the Big Cypress National Preserve enabling legislation (PL. 93-440, P.L. 100-301). Several of the tracts straddle surface water flow-ways (i.e. sloughs, strands) critical to sustaining natural hydropatterns. Private ownership of the scattered tracts precludes full implementation of ecological restoration and long-term management plans of the NPS.

* Some properties are "deferred" from acquisition (from willing sellers only). Approximately \$8,000,000 will be needed to acquire these properties but is not programmed. This applies to this project (BCB-7) and BCB-5L.

Time Line and Fiscal Year Budget (in thousands of dollars) for Big Cypress National Land Acquisition												
Task	95-97	98	99	00	01	02	03	04	05	06	Unprog	Total
Acquisition												
Project												
	154,561	2000	1000	6000	5700							165,261
Subtotal	154,561	2000	1000	6000	5700							\$165,261

TITLE: Corkscrew Regional Ecosystem Watershed			
SUBREGION : 5	PROJECT ID: SW08	FINANCIAL REQUIREMENT:	
PROGRAM CATEGORY: Land Acquisition	BUDGET CATEGORY: Land Acquisition	Lee County: \$10,000,000	FDEP: \$18,765,000
PROJECT PLAN MANAGER: Chuck Rinaldi (561) 682-6537	BASIS: 3	SFWMD: \$18,765,000	TOTAL: \$47,530,000
LEAD ORGANIZATION(S): SFWMD		APPROPRIATED TO DATE:	
SUPPORTING ORGANIZATION(S): Lee County		Lee County: \$10,000,000	FDEP: \$13,045,000
COUNTY(S): Collier, Lee		SFWMD: \$13,765,000	TOTAL: \$36,810,000
LINKED PROJECTS: Dependent on: Critical to: Associated SW12,SW13		REMAINING FINANCIAL REQUIREMENT:	
with:		Lee County: \$0	FDEP: \$5,720,000
		SFWMD: \$5,000,000	TOTAL: \$10,720,000
START: 1995	END: 2002	APPROVED: 11/97	LAST REVISION: 7/98

DESCRIPTION: The CREW covers nearly 55,968 acres in Lee and Collier counties and is located at the top of the western Big Cypress watershed. It conveys surface water to private, State, and federally protected natural areas, including Corkscrew Swamp Sanctuary, Florida Panther National Preserve, and the Everglades National Park. The area supports populations of at least two species of rare and endangered orchids and includes an unusual stand of dwarf bald cypress. Land management will be carried out by the SFWMD and the FGFWFC under contract with the SFWMD

RESTORATION BENEFITS: Hydrologic restoration of the CREW restore and protect important habitat for the Florida Panther and the Florida Black bear and will protect the quality of water delivered to Corkscrew Swamp Sanctuary, Florida Panther National Preserve, ENP, and Estero Bay.

Time Line and Fiscal Year Budget (in thousands of dollars) for: Corkscrew Regional Ecosystem Watershed													
Task	95-97	98	99	00	01	02	03	04	05	06	07	Unprog	Total
Acquisition													47,530
Project													
Subtotal	23,400	890	12,520	5,720	5,000								\$47,530

TITLE: Fakahatchee Strand Land Acquisition Project			
SUBREGION : 5	PROJECT ID: SW09	FINANCIAL REQUIREMENT: (proposed)	
PROGRAM CATEGORY: Land Acquisition	BUDGET CATEGORY: Land Acquisition	State: 50 percent match: \$11,655,447	Federal: 50 percent match: \$11,655,447
PROJECT PLAN MANAGER: Boler (941) 332-6975	BASIS: 2	TOTAL: \$23,310,945 (estimated)	
LEAD ORGANIZATION(S): FDEP		APPROPRIATED TO DATE:	
SUPPORTING ORGANIZATION(S): Big Cypress National Preserve		State: \$19,044,116	
COUNTY(S): Collier		TOTAL: \$19,044,116	
LINKED PROJECTS: Dependent on: Critical to: Associated SW10, SW34		REMAINING FINANCIAL REQUIREMENT:	
with:		TOTAL: \$4,266,929	
START: 1997	END: 1999	APPROVED: 11/97	LAST REVISION: 2/98

DESCRIPTION: Fakahatchee Strand is located in Collier County. Of the subtropical swamps in South Florida, Fakahatchee Strand is perhaps the most significant, being the richest in orchids and other rare tropical plants. It is the most critical to the survival of the Florida panther, and the most important for the mangrove swamps of the Ten Thousand Islands. The project area is probably the best example of the strand swamp found in the United States. It is linked hydrologically to the Everglades system and is important to the estuarine ecosystem of the Ten Thousand Islands.

The Strand has several archaeological sites and excellent potential for future archaeological investigations. It is threatened by unnatural patterns of water flow and unrestricted use in the private ownerships (several thousand). Acquisition started in 1972 through litigation and continued subsequently with EEL funds. The project is part of the Save Our Everglades initiative, with 5,815 acres remaining to be acquired.

RESTORATION BENEFITS: Completion of public acquisition efforts will help reduce the effects of unnatural patterns of water flow; help protect the largest concentration and the greatest diversity of native orchids in North America; and help protect several rare and endangered species, including the Florida panther.

Time Line and Fiscal Year Budget (in thousands of dollars) Fakahatchee Strand Land Acquisition Project																
Task	97	98	99	00	01	02	03	04	05	06	07	08	09	10	Unprog	Total
Appraisal	■															
Acquisition		■	■	■												
Project																
Subtotal																\$23,310

TITLE: Southern Golden Gate Estates Hydrologic Restoration			
SUBREGION : 05	PROJECT ID: SW10	FINANCIAL REQUIREMENT:	
PROGRAM CATEGORY: Land Acquisition & Infrastructure	BUDGET CATEGORY: WQ/Habitat Protection	Phase I Land Acquisition (Remaining)	\$38,200,000
		Phase II Project, Design and Construction	\$15,560,000
PROJECT PLAN MANAGER: Ed Kuester (850) 488-2351 Phase I Ananta Nath (941) 597-1505: phase II	BASIS: 2	TOTAL:	\$53,760,000
		APPROPRIATED TO DATE:	
		DEP:	\$13,200,000
		Farm Bill:	\$25,000,000
		SFWMD (BCB):	\$ 360,000
		WRDA	\$ 0
		TOTAL:	\$38,560,000
		REMAINING FINANCIAL REQUIREMENT:	
		Total Remaining Project Need	\$15,200,000
		WRDA Match at 50%	\$ 7,600,000
		SFWMD/DOF:	\$ 7,600,000
		TOTAL:	\$53,760,000
LEAD ORGANIZATION(S): FDEP , SFWMD, USACE		APPROVED: 11/97	LAST REVISION: 7/98
SUPPORTING ORGANIZATION(S): FDCA ,FDACS, and NRCS			
COUNTY(S): Collier			
LINKED PROJECTS: Dependent on:			
Critical to:			
Associated			
with:			
START: 1998	END: 2001		

DESCRIPTION: The primary objective of this project is to acquire land under public ownership and to implement structural measures to restore the ecology of the Southern Golden Gate Estates (SGGE). The SGGE encompasses an approximately 94 square mile area of sensitive environmental landscape in south central Collier County. It is an important surface water storage and aquifer recharge area with a unique ecology of cypress, wet prairie, pine and hardwood hammock and swamp communities, and includes three major flowways that contribute freshwater input to the Ten Thousand Island Estuary of the western Everglades watershed. The Faka Union Canal system, constructed in the 1960s to provide drainage for land development of approximately 173 square mile area, have overdrained the area resulting in reduction of aquifer storage, reduction of wetland functions invasion of upland vegetation, increased frequency of forest fires and increased fresh water discharges to the estuary. Variations of freshwater discharges at large amplitudes have resulted in large fluctuations of salinity level and have eliminated or displaced a high proportion of the benthic, midwater and fish plankton communities in the estuary.

Concern over the gradual degradation of environmental quality and water supply potential of the region prompted the State of Florida to include the area as a component of the Save Our Everglades (SOE) program in 1985. Subsequently, the project was included in the State's Conservation and Recreation Lands (CARL) Acquisition program initiative for acquiring the entire project area under public ownership. Out of a proposed 55,200 acres of land proposed for acquisition, the total area remaining to be acquired is approximately 36,000 acres. Approximately 7,500 acres are now being acquired under a settlement agreement. Active land acquisition is presently ongoing for the Fakahatchee Strand State Preserve adjacent on the east, and the Belle Meade CARL project to the west edge of the project. In 1996 the SFWMD developed a conceptual hydrologic restoration plan utilizing a continuous process hydrologic-hydraulic simulation model of the watershed. Five alternative restoration measures were evaluated. The structural elements of the most economic and environmentally sound plan consists of a combination of spreader channels, canal plugs, road removal and pump stations with a cost estimate of \$15,560,000 in 1998 dollars. The implementation of the project is entirely contingent upon acquisition of lands. Once the land acquisition is complete, the project can be expected to be implemented without public controversy.

NOTE: The land acquisition component of this project was rated #4 on the Farm Bill Priority List.

RESTORATION BENEFITS: The implementation of the SGGE restoration plan would improve the water quality of the coastal estuaries by converting the voluminous freshwater point discharges to the traditional overland sheetflow along

a six-mile wide front into the Ten Thousand Islands Estuaries Aquatic Preserve, part of the western Everglades. The reintroduction of overland flow through coastal marshes would increase marsh and mangrove productivity, moderate salinity fluctuations, provide a desirable mix of fresh and saline water environment conducive to the survival and protection of juvenile fishes and shellfish beds, and would enhance the recreational and commercial fishery values of the region. Improved groundwater recharge will protect the City of Naples eastern Golden Gate wellfield, provide for a long term water supply source and serve as a natural barrier to a saltwater intrusion. Adjacent sensitive lands, including the Fakahatchee Strand State Preserve and the Florida Panther National Wildlife Refuge, will benefit from this plan with enhanced habitat quality. Existing level of flood protection for the Northern Golden Gate Estates will be maintained, and tremendous costs associated with providing drainage infrastructure to a poorly planned urban development on a wetland environment will be avoided.

Time Line and Fiscal Year Budget (in thousands of dollars) for Southern Golden Gate Estates Hydrologic Restoration																
Task	97	98	99	00	01	02	03	04	05	06	07	08	09	10	Unprog	Total
Land Acquisition	█															
Engineering		█														
Project design			█													
Permitting				█												
Construction					█											
Final Report								█								
Project																
DEP	8800	4400	3000	5000	5000	5000	5000									38,200
BCB/DOF	360	125	100	175	1800	1800	1800	1800								7,960
WRDA				1520	1520	1520	1520	1520								7,600
Subtotal	9,160	4,525	5,100	6,695	8,320	8,320	8,320	3,320								\$53,760

TITLE: Lands Adjacent to Dade County Training Jetport			
SUBREGION : 5	PROJECT ID: SW11	FINANCIAL REQUIREMENT: May involve donation or swap.	
PROGRAM CATEGORY: Land Acquisition	BUDGET CATEGORY: Land Acquisition	TOTAL:	
PROJECT PLAN MANAGER: Hibbard (941) 695-2000	BASIS: 3	APPROPRIATED TO DATE:	
LEAD ORGANIZATION(S): NPS		TOTAL: \$0	
SUPPORTING ORGANIZATION(S): Dade County		REMAINING FINANCIAL REQUIREMENT:	
COUNTY(S): Collier, Dade		TOTAL:	
LINKED PROJECTS: Dependent on: Critical to: Associated TS17, TS06, with: WCA1-I, SW07		TOTAL:	
START: Upon agreement	END:	APPROVED: 11/97	LAST REVISION: 2/98

DESCRIPTION: The Dade-Collier County Transition and Training Airport (jetport), an approximately 25,000-acre area within the boundary of Big Cypress National Preserve, is owned by Dade County. The property consists of approximately 24,000 acres of undisturbed wetlands, and 1,000 acres of wetlands that were dredged and filled for the development of the airport. The construction of the runway and associated taxi ways and facilities, has altered the hydrologic regime of the eastern Big Cypress Swamp. In 1970, the "Jetport Pact" between the United States and Dade County recognized that impacts of the airport on the Everglades Ecosystem. This pact called for the parties to acquire a suitable site for a regional airport and upon completion the Jetport would be abandoned.

RESTORATION BENEFITS: Acquisition of these lands would bring them under management of the NPS and thus eliminate any potential for the expansion of this airport. Having the lands under the management of the NPS would allow for land management practices such as prescribed fire and exotic vegetation control to occur. In addition the acquisition of this area would allow for the restoration of the area, thus eliminating the hydrologic impacts.

NOTE: There is the potential for transferring these lands, or at a minimum, the 24, 000 acres of undeveloped lands, to the NPS without the necessity of expending financial resources.

Time Line and Fiscal Year Budget (in thousands of dollars) for Lands Adjacent to Dade County Training Jetport																
Task	97	98	99	00	01	02	03	04	05	06	07	08	09	10	Unprog	Total
Appraisal				■												
Acquisition					■	■	■									
Project																
<i>Subtotal</i>																

TITLE: Southern CREW Project Addition/Imperial River			
SUBREGION : 5	PROJECT ID: SW12	FINANCIAL REQUIREMENT: (proposed) Potential Co-sponsors: SFWMD, Lee County	
PROGRAM CATEGORY: Land Acquisition & Infrastructure	BUDGET CATEGORY: Land Acquisition & Infrastructure		
PROJECT PLAN MANAGER: Merriam (941)-338-2929	BASIS: 2 Ecosystem Restoration	TOTAL: \$30,484,000	
LEAD ORGANIZATION(S): SFWMD, USACE		APPROPRIATED TO DATE:	
SUPPORTING ORGANIZATION(S): Lee County		SFWMD: \$2,500,000	
COUNTY(S): Lee		TOTAL: \$2,500,000	
LINKED PROJECTS: Dependent on:		REMAINING FINANCIAL REQUIREMENT:	
Critical to: CREW, Save our Rivers, Estero Bay Aquatic Preserve OFW		Lee Co./ \$12,742,000	
Associated SW13, SW8		SFWMD	
with:		USACE: \$ 15,242,000	
START: 1997	END: 2001	TOTAL: \$27,984,000	
		APPROVED: 11/97	LAST REVISION: 8/98

DESCRIPTION: This project will involve acquisition of 4,670 acres of land that, after restoration of historical hydrological flows, will be added to the Corkscrew Regional Ecosystem Watershed (CREW). The proposed project site is located in the southern Flint Pen Strand region of Lee County and the historical Imperial River flow way to Estero Bay. The lands proposed for acquisition have been divided into 5 and 10-acre tracts that are being actively developed as single family homes by the landowners of the 5-acre tracts. This project will involve purchase of lands in the impacted region before additional homes are constructed and hydrologic restoration of the impacted areas. Hydrologic restoration will include the following structural modifications: removal of existing road beds, single family homes, junk debris, fill material, agricultural canal and berms; placement of equalizer culverts; and replacement of undersized culverts and bridges. Undersized culverts and bridges are currently responsible for increasing the depth and duration of storm water over the lower Flint Pen Strand.

Acquisition of these lands soon is critical because of extreme development pressures in this area. Currently, the possibility exists for an additional 800 to 1000 single-family homes to be constructed in the area targeted for acquisition. This has been evident not only in new home starts during 1996,1997 and 1998, but also in the application for a DRI for the Parklands adjacent to the southern section of this proposed project. New residential development will involve construction of improved roads and other infrastructure that will further adversely impact the ecosystem, and increase the cost of subsequent acquisition/restoration. The roads and house pads associated with this type of development will block or alter the surface water flow and create adverse impacts to this environmentally sensitive area. Additionally, the cumulative impact of these homes will increase the depth and duration of stream flow which would increase the demand for flood intervention. During heavy rains in the summer of 1995, approximately 1700 people were evacuated from this project area and adjacent lands to the west. There is a great deal of pressure from the surrounding business community to develop a secondary levee system to provide additional flood protection to these home sites and allow continuation of single-family home development that would further impact the natural system. Based on past experience with areas such as the 8.5 Square Mile Area, it is clear that if the level of protection offered by this type of construction is not substantial; the homes ultimately flood and agencies are left with buy-out as the only option after homes have been constructed.

RESTORATION BENEFITS: This project will provide the following ecosystem restoration benefits: 1) preserve the natural water storage potential provided by the natural attributes of these lands; 2) re-establish historical flows across these lands currently impeded by roads and residential structures - this will avoid forcing more water eastward through the CREW Project and the Corkscrew Swamp Sanctuary which could harm natural wetlands by increasing hydroperiods in these areas; 3) restore the historical flow way of the Imperial River by removing structures and filled areas reducing the depth and duration of stormwater impacting natural areas; 4) reduce existing loads of nutrients and other pollutants to the Imperial River (e.g., septic, fertilizers, pesticides) and preclude the exacerbation of this pollution

through increased development; and 5) preclude the development of another flood-prone residential development similar to the 8.5 Square Mile Area.

This acquisition not only mitigates future impacts, it becomes the ultimate solution for managing the prolonged health of a watershed of greater than 300 square miles. This project, coupled with proposed improvements to the Kehl Canal Weir, can reduce dry season flows (over drainage) to the Imperial River by acting as a natural storage area. Restoring the historical flow way of the Imperial River will return some of the normal water levels within the environmental areas reducing impacts created by the manmade impoundments.

Time Line and Fiscal Year Budget (in thousands of dollars) for Southern CREW Project Addition/Imperial River														
Task	98	99	00	01	02	03	04	05	06	07	08	09	Unprog	Total
Weir Construction														1,364
Land Acquisition														27,520
Demolition /Restoration														1,600
Project														
	4364	13982	12138											30,484
Subtotal														\$30,484

TITLE: Twelve Mile Slough			
SUBREGION : 5	PROJECT ID: SW13	FINANCIAL REQUIREMENT:	
PROGRAM CATEGORY: Land Acquisition	BUDGET CATEGORY: Land Acquisition	State:	\$3,300,000
PROJECT PLAN MANAGER: Chuck Rinaldi (561) 682-6537	BASIS: 3	TOTAL	\$3,300,000
LEAD ORGANIZATION(S): SFWMD		APPROPRIATED TO DATE:	
SUPPORTING ORGANIZATION(S): Federal (Potential) - Forestry		State	\$3,300,000
COUNTY(S): Hendry		TOTAL	\$3,300,000
LINKED PROJECTS: Dependent on:		REMAINING FINANCIAL REQUIREMENT:	
Critical to:		TOTAL	\$0
Associated SW12, SW08			
with:			
START: 1998	END: 2001	APPROVED: 11/97	LAST REVISION: 7/98

DESCRIPTION: This site contains 3,300 acres in Hendry County and is tributary to the much larger and regionally significant Okaloacoochee Slough. It contains a mosaic of uplands and wetlands, as well as improved pasture areas which appear to be reverting to native range. Based on a 1993 FGFWFC report, this single-owner tract provides habitat for the endangered Florida Panther. Significant restoration on the site is necessary to correct overdrainage of the wetland communities.

RESTORATION BENEFITS: Restoration and protection is important because the Twelve Mile Slough is a headwater tributary to Okaloacoochee Slough, which supplies a major source of water for Fakahatchee Strand State Preserve and Big Cypress National Preserve. Surface water storage in the numerous wetlands provides for ground-water recharge of the underlying surficial aquifer and provides surface water supply to the Caloosahatchee River.

Time Line and Fiscal Year Budget (in thousands of dollars) for Twelve Mile Slough																
Task	97	98	99	00	01	02	03	04	05	06	07	08	09	10	Unprog	Total
Acquisition																
Project																
Acquisition			3300													3300
Subtotal																\$3300

TITLE: Seminole Tribe Best Management Practices for the Big Cypress Reservation			
SUBREGION : 5	PROJECT ID: SW14	FINANCIAL REQUIREMENT:	
PROGRAM CATEGORY: Management	BUDGET CATEGORY: Water Quality, Natural Resources Management	Seminole Tribe:	
PROJECT PLAN MANAGER: Tepper (954)966-6300X1120	BASIS: 1	TOTAL: \$4,013,000	
LEAD ORGANIZATION(S): Seminole Tribe of Florida		APPROPRIATED TO DATE:	
SUPPORTING ORGANIZATION(S): NRCS, ARS, IFAS/ES			
COUNTY(S): Hendry, Broward		TOTAL: \$0	
LINKED PROJECTS: Dependent on: Critical to: Associated		REMAINING FINANCIAL REQUIREMENT:	
with: BCB3-I, BCB16-M, BCB15-M, BCB5-L			
START: 1998	END: 2001	TOTAL: \$4,013,000	
		APPROVED: 11/97	LAST REVISION: 7/98

DESCRIPTION: The Seminole Tribe has contracted with the NRCS to implement a comprehensive system of best management practices (BMP's) for all seven basins in the Big Cypress Reservation. Construction could be completed in 3 years starting in 1998. Enhanced water management will be accomplished through BMP's that include: conservation irrigation systems; nutrient loading reduction; application procedure training; fencing of WRA's and irrigation cells as detailed in the Water Conservation Plan; cross fencing for grazing management; livestock watering facilities; grazing management plans; closed-end irrigation systems; and a tail-water recovery system.

RESTORATION BENEFITS: The project will result in immediate, measurable improvements in the quality of water discharged to the Everglades Protection Area. It will also provide tangible improvement of the water quality leaving the Western Basins, an area not addressed completely by the Everglades Construction Project and the Everglades Forever Act. Although this project can be constructed and will function independently of the Water Conservation Project, the two will work best together to create the most benefit for the ecosystem.

Time Line and Fiscal Year Budget (in thousands of dollars) for Seminole Tribe BMP's for Big Cypress Reservation																
Task	97	98	99	00	01	02	03	04	05	06	07	08	09	10	Unprog	Total
Devel. & Constr.																
Const. Mgt.																
Project																
Seminole Tribe		1843	1364	806												4,013
Subtotal																\$4,013

TITLE: Seminole Tribe Exotic Species Removal			
SUBREGION : 2,5	PROJECT ID: SW15	FINANCIAL REQUIREMENT:	
PROGRAM CATEGORY: Management	BUDGET CATEGORY: Area Management	Seminole Tribe:	
PROJECT PLAN MANAGER: Tepper (954)966-6300X1120	BASIS: 1	TOTAL: \$988,000	
LEAD ORGANIZATION(S): Seminole Tribe of Florida		APPROPRIATED TO DATE:	
SUPPORTING ORGANIZATION(S): BCNP,BIA		Seminole Tribe of Florida: \$0	
COUNTY(S): Hendry, Broward, Glades		BIA: \$76,000	
LINKED PROJECTS: Dependent on:		TOTAL: \$76,000	
Critical to:		REMAINING FINANCIAL REQUIREMENT:	
Associated SW05, TS11		TOTAL: \$912,000	
with:			
START: 1/1998	END: 12/2010	APPROVED: 11/97	LAST REVISION: 2/98

DESCRIPTION: This program will eradicate and control exotic species, such as melaleuca and Brazilian pepper. An effort will be implemented to encourage growth of native species in appropriate vegetative communities on the Big Cypress and Brighton Reservation. The control of exotic and aquatic species, such as hydrilla, water hyacinth, and water lettuce on the Big Cypress and Brighton Reservation will be continued in order to maintain flows and facilitate the conveyance of the surface water management and conservation systems on the Reservations. The Tribe will also work in conjunction with the BCNP to control and eradicate exotic species along their common border.

RESTORATION BENEFITS: Exotic species, such as melaleuca and Brazilian pepper, occur in some of the degraded wetlands on the Big Cypress Reservation, adjacent to the Big Cypress National Preserve Addition, where natural hydro patterns have been disrupted. Controlling these exotics will result in reestablishment of native species and promote more beneficial wetland characteristics, including enhanced water quality functions and improved habitat for threatened and endangered species. The Brighton Reservation needs appropriate eradication and control to limit sources of exotic/aquatic vegetation being conveyed to Lake Okeechobee.

Time Line and Fiscal Year Budget (in thousands of dollars) for Seminole Tribe Exotic Species Removal																
Task	97	98	99	00	01	02	03	04	05	06	07	08	09	10	Unprog	Total
Program																
Project																
BIA		76	76	76	76	76	76	76	76	76	76	76	76	76		988
Subtotal		76	76	76	76	76	76	76	76	76	76	76	76	76		\$988

TITLE: Picayune Strand State Forest Exotic Species Management			
SUBREGION : 5	PROJECT ID: SW16	FINANCIAL REQUIREMENT:	
PROGRAM CATEGORY: Management	BUDGET CATEGORY: Natural Resources Management	FDEP	\$12,457,000
PROJECT PLAN MANAGER: Folks (904) 414-9928	BASIS: 3	DOI	\$12,457,000
LEAD ORGANIZATION(S): FDACS		TOTAL:	\$24,914,000
SUPPORTING ORGANIZATION(S): FDEP, DOI		APPROPRIATED TO DATE:	
COUNTY(S): Collier		TOTAL:	\$0
LINKED PROJECTS: Dependent on:		REMAINING FINANCIAL REQUIREMENT:	
Critical to:		FDEP	\$12,457,000
Associated SW04, SW09, SW10		DOI	\$12,457,000
with:		TOTAL:	\$24,914,000
START: 1998	END: 2010	APPROVED: 11/97	LAST REVISION: 2/98

DESCRIPTION: Ecosystem restoration activities including the removal and control of approximately 18,500 acres of melaleuca and 3,400 acres of brazilian pepper. This process includes the use of prescribed burning on 20,000 acres per year and site preparation and replanting of almost 11,000 acres in areas destroyed by wildfire.

RESTORATION BENEFITS: This project will implement the control of invasive, exotic plant species. This will allow native species, including many threatened and endangered, to reestablish the populations destroyed by these invasive, exotic species. In addition, the encouragement of native plant growth and the reforestation of these areas will provide more favorable habitat to threatened and endangered animals such as the Florida Panther. The regular use of prescribed burning will reduce the threat of wildfire, the loss of property, and help provide long term control of exotics and maintenance of the fire-dependent natural communities.

Time Line and Fiscal Year Budget (in thousands of dollars) for Picayune Strand State Forest Exotic Species Management																
Task	97	98	99	00	01	02	03	04	05	06	07	08	09	10	Unprog	Total
FDEP																
DOI																
Project																
FDEP			1277	1000	1000	1250	1250	1250	1250	1250	1250	560	560	560		12,457
DOI			1277	1000	1000	1250	1250	1250	1250	1250	1250	560	560	560		12,457
Subtotal																\$24,914

TITLE: Assimilative Capacity for Phosphorus of C&SF Canals on the Big Cypress Reservation			
SUBREGION : 5	PROJECT ID: SW17	FINANCIAL REQUIREMENT:	
PROGRAM CATEGORY: Science	BUDGET CATEGORY: Research	NPS:	\$400,000
PROJECT PLAN MANAGER: Tepper (954)966-6300X1120	BASIS: 2	TOTAL:	\$400,000
LEAD ORGANIZATION(S): Seminole Tribe of Florida		APPROPRIATED TO DATE:	
SUPPORTING ORGANIZATION(S): EPA, BIA, SFWMD, NPS, COE, DOI		NPS:	\$100,000
COUNTY(S): Hendry, Broward		TOTAL:	\$100,000
LINKED PROJECTS: Dependent on: Critical to: Associated		REMAINING FINANCIAL REQUIREMENT:	
with: TS08, SW03, SW05 TS85, TS86		TOTAL:	\$300,000
START 1997	END: 12/2004	APPROVED: 5/97	LAST REVISION: 1/3/98

DESCRIPTION: This research is required to determine the assimilative capacity of the plants and sediments of the C&SF Canals running through Big Cypress Reservation for the nutrient phosphorus. Data on the assimilative capacity will be useful in the general design of the Big Cypress Water Conservation Plan. The research would include sampling of sediments and vegetation, model simulation to assess assimilative capacity and analysis of historical data. The Tribe obtained designs and proposals from universities, and other consultants in FY 1997. Assessments of existing water quality data will provide information needed for this project and the Impacts of Sludge Deposition on Phosphorus Levels on the Big Cypress Reservation (SW19). The Tribe will use \$100,000 from NPS in FY 1998 and plans to use \$90,000 from the FY 1999 CESI. The remaining \$210,000 is needed through FY 2004.

RESTORATION BENEFITS: A better understanding of the assimilative capacity of the C & SF Canals conveying surface waters through the Big Cypress Reservation is a necessary component in the Seminole Tribe's comprehensive effort of reducing the high levels of phosphorus both entering and leaving the Big Cypress Reservation. This research will directly lead to a reduction in the amount of phosphorus discharged to the Everglades.

Time Line and Fiscal Year Budget (in thousands of dollars) for Assimilative Capacity for Phosphorus of C&SF Canals on the Big Cypress Reservation																
Task	97	98	99	00	01	02	03	04	05	06	07	08	09	10	Unprog	Total
Design	█															
Permitting	█	█														
Implem.& Monit.		█	█	█	█	█	█	█								
Assessment		█	█	█	█	█	█	█								
Project																
Seminole Tribe		190	90	50	40	40	40	40								400
NPS																
Subtotal																\$400

TITLE: Forested Wetland Nutrient Uptake Research			
SUBREGION : 5	PROJECT ID: SW18	FINANCIAL REQUIREMENT:	
PROGRAM CATEGORY: Science	BUDGET CATEGORY: Research	Seminole Tribe:	
PROJECT PLAN MANAGER: Tepper (954)966-6300X1120	BASIS: 2	TOTAL: \$400,000	
LEAD ORGANIZATION(S): Seminole Tribe of Florida		APPROPRIATED TO DATE:	
SUPPORTING ORGANIZATION(S): EPA, BIA, SFWMD, NPS, USACE, DOI		NPS: \$100,000	
COUNTY(S): Hendry, Broward		TOTAL: \$110,000	
LINKED PROJECTS: Dependent on: Critical to: Associated SW03, TS08, TS85		REMAINING FINANCIAL REQUIREMENT:	
with: TS86, SW05		TOTAL: \$290,000	
START: 1/1998	END: 12/2004	APPROVED: 11/97	LAST REVISION: 7/98

DESCRIPTION: This research would analyze the level at which forested wetland, e.g. Cypress forest, can fix nutrients without causing any adverse effects on the natural wetland functions of the native flora and fauna. Because no data exists on the question of nutrient uptakes in forested (as opposed to sawgrass) wetlands, this research is critical in order to determine the effective loading levels for such wetland systems used for the restoration. The Tribe's Water Conservation Plan for the Big Cypress will use forested wetlands to treat nutrient laden water for release to the Everglades system. The Tribe's design may be applicable in other areas as well.

This research should begin during FY 1998; the Tribe plans to use \$110,000 of the funds provided through the National Parks Service (NPS) Critical Ecosystem Studies Initiatives (CESI) funding. Therefore, the funding requested in FY 1999 will provide the second year funding. Total funding needs for the completion of the research are estimated to be \$430,000. The funding needs remaining after FY 1999 total \$180,000 through 2004.

RESTORATION BENEFITS: A thorough understanding of the optimization of nutrient removal from Cypress or forested wetlands will be critical in determining how effective these wetland systems will be in accomplishing restoration goals. This information will be essential both in the Tribe's Surface Water Conservation System on the Big Cypress Reservation and other restoration efforts (STAs).

Time Line and Fiscal Year Budget (in thousands of dollars) for Nutrient Threshold Work for Cypress																
Task	97	98	99	00	01	02	03	04	05	06	07	08	09	10	Unprog	Total
Design		█														
Permitting		█	█													
Implem. & Monit.			█	█	█	█	█	█								
Assessment			█	█	█	█	█	█								
Project																
NPS		110	110	60	30	30	30	30								400
Subtotal																\$400

TITLE: Impacts of Sludge Deposition on Phosphorus Levels on the Big Cypress Reservation			
SUBREGION : 5	PROJECT ID: SW19	FINANCIAL REQUIREMENT: NPS: \$50,000	
PROGRAM CATEGORY: Science	BUDGET CATEGORY: Research		
PROJECT PLAN MANAGER: Tepper (954)966-6300X1120	BASIS: 2	TOTAL: \$30,000	
LEAD ORGANIZATION(S): Seminole Tribe of Florida		APPROPRIATED TO DATE:	
SUPPORTING ORGANIZATION(S): ARS, BIA, NRCS, BCNP/NPS, USGS, SFWMD		TOTAL: \$0	
COUNTY(S): Hendry, Broward		REMAINING FINANCIAL REQUIREMENT:	
LINKED PROJECTS: Dependent on: Critical to: Associated TS08		TOTAL: \$30,000	
with:			
START: 1/1998	END: 12/1998	APPROVED: 11/97	LAST REVISION: 7/98

DESCRIPTION: The Big Cypress Reservation has experienced high levels of phosphorus loading from the canals entering the Reservation from the north where sludge has historically been deposited as a means of disposal and fertilization. Studies are needed to determine if the sludge deposition is related to the high levels of phosphorus. Water quality data collected will be analyzed in the Tribe's Assimilative Capacity for Phosphorus of C&SF Canals on the Big Cypress Reservation (SW17) for determinations in meteorological, historical, seasonal, and/or event driven episodes of flushing excess surface water from local land uses.

RESTORATION BENEFITS: Understanding the implications of sludge deposition on lands in or adjacent to nutrient sensitive areas will lead to appropriate regulation of these practices, eventually leading to a reduction of the amount of phosphorus entering the Big Cypress Reservation and discharged to the Everglades.

Time Line and Fiscal Year Budget (in thousands of dollars) for Impacts of Sludge Deposition on Phosphorus Levels on the Big Cypress Reservation																
Task	97	98	99	00	01	02	03	04	05	06	07	08	09	10	Unprog	Total
Data Assessment																
Project																
NPS			30													30
Subtotal																\$30

TITLE: Melaleuca Control (Critical) on Big Cypress National Preserve			
SUBREGION: 05	PROJECT ID: SW20	FINANCIAL REQUIREMENT: TOTAL: \$1,400,000 APPROPRIATED TO DATE: Dade County \$700,000 TOTAL: \$700,000 REMAINING FINANCIAL REQUIREMENT: TOTAL: \$700,000	
PROGRAM CATEGORY: Management	BUDGET CATEGORY: Natural Resource Management		
PROJECT PLAN MANAGER: Hibbard (941) 695-2000	BASIS: 3		
LEAD ORGANIZATION(S): NPS			
SUPPORTING ORGANIZATION(S): Dade County			
COUNTY(S): Collier, Dade, Monroe			
LINKED PROJECTS: Dependent on: Critical to: Associated with:			
START: 1998	END: 2005	APPROVED: 11/97	LAST REVISION: 2/98

DESCRIPTION: The spread of invasive exotic plants is producing profound environmental consequences in the Big Cypress /Everglades ecosystem. Invasive exotic plants are “out competing” native plants and altering topography and soils at an alarming rate. *Melaleuca quinquenervia*, an introduction from Australia, is regarded as the most serious threat to the integrity of the Big Cypress/Everglades ecosystem. Melaleuca currently infests more than 150 square miles of fragile Big Cypress wetlands.

An existing memorandum of agreement between Big Cypress National Preserve and Metropolitan Dade county provides for the development and implementation of a mitigation plan to satisfy the permitting requirements for a joint Dade County/Florida Department of Corrections jail facility. This mitigation plan will provide for the treatment of all melaleuca on 20,000 acres in the vicinity of Monroe Station.

Increased funding will enable BCNP to treat an additional 14,000 acres of adjacent melaleuca. This plan will provide for the treatment, re-treatment and subsequent monitoring and evaluation.

RESTORATION BENEFITS: The removal of melaleuca from sensitive BCNP wetlands will permit the re-establishment of native plant communities. This project is of greater ecosystem benefit in that it is compatible and compliments other agency efforts for melaleuca eradication.

Time Line and Fiscal Year Budget (in thousands of dollars) for Melaleuca Control (Critical)																
Task	97	98	99	00	01	02	03	04	05	06	07	08	09	10	Unprog	Total
Treatment		█	█													
Re-Treatment				█	█	█										
Monitoring					█	█	█	█	█							
Project																
		450	450	150	150	50	50	50	50							1,400
Subtotal																\$1,400

TITLE: Subsurface Sand Body Investigation (Sunniland)			
SUBREGION : 5	PROJECT ID: SW22	FINANCIAL REQUIREMENT:	
PROGRAM CATEGORY: Science	BUDGET CATEGORY: Research		
PROJECT PLAN MANAGER: Scott DEP (904)488-9380	BASIS: 1	TOTAL: \$10,000	
LEAD ORGANIZATION(S): FDEP, UM/RSMAS, SFWMD		APPROPRIATED TO DATE:	
SUPPORTING ORGANIZATION(S):		TOTAL: \$10,000	
COUNTY(S): Collier		REMAINING FINANCIAL REQUIREMENT:	
LINKED PROJECTS: Dependent on: Critical to: Associated TS03, TS41		TOTAL: 0	
with:			
START: 1996	END: 1997	APPROVED: 11/97	LAST REVISION: 2/98

DESCRIPTION: This project was designed to provide core samples from the sediments occurring up to 800 feet below the land surface in the updip portion of the sand body suspected to provide ground water to Florida Bay. This core was completed during the Spring, 1997, at a total depth of approx. 800 feet in the carbonate sediments that underlie the siliciclastic (sands, silts and clays) of the "River of Sand." Analysis of the sediments is ongoing at UM/RSMAS.

RESTORATION BENEFITS: In order to determine the possibility of the siliciclastic unit providing ground water into Florida Bay and the subsequent effects on the ecosystem, the lithostratigraphic and hydrostratigraphic framework of these sediments needs to be better understood.

Time Line and Fiscal Year Budget (in thousands of dollars) for Subsurface Sand Body Investigation (Sunniland)																
Task	97	98	99	00	01	02	03	04	05	06	07	08	09	10	Unprog	Total
Drilling core samples																
Project																
State	\$10															\$10
Subtotal																\$10

TITLE: Southwest Surficial Aquifer System Investigation			
SUBREGION : 5	PROJECT ID: SW23	FINANCIAL REQUIREMENT: TOTAL: \$60,000 APPROPRIATED TO DATE: TOTAL: \$60,000 REMAINING FINANCIAL REQUIREMENT: TOTAL: \$0	
PROGRAM CATEGORY: Science	BUDGET CATEGORY: Research		
PROJECT PLAN MANAGER: Scott (904) 488-9380	BASIS: 3		
LEAD ORGANIZATION(S): USGS, FDEP			
SUPPORTING ORGANIZATION(S): SFWMD			
COUNTY(S): Collier			
LINKED PROJECTS: Dependent on: Critical to: Associated TS41			
with:			
START: July, 1997	END: June, 1998	APPROVED: 11/97	LAST REVISION: 2/98

DESCRIPTION: Characterization of sediments of the surficial aquifer system, and potential function of the aquifer in the subregion's ecology. The project timeline has been extended into 1998.

RESTORATION BENEFITS: Obtain an understanding of geological and hydrological relationships between groundwater and other water resources of the Big Cypress Basin.

Time Line and Fiscal Year Budget (in thousands of dollars) for																
Task	97	98	99	00	01	02	03	04	05	06	07	08	09	10	Unprog	Total
Program																
Project																
State	20	40														60
Subtotal																\$60

TITLE: Henderson Creek/Belle Meade Restoration Project			
SUBREGION : 5	PROJECT ID: SW24	FINANCIAL REQUIREMENT: (proposed)	
PROGRAM CATEGORY Infrastructure	BUDGET CATEGORY: Infra Invest, WQ/Habitat Protect Natural Resource Man	WRDA: \$1,200,000	State: \$2,610,000
PROJECT PLAN MANAGER: Haner (941) 417-6310	BASIS: 2	County: \$380,000	USFWS: \$950,000
LEAD ORGANIZATION(S): FDEP		TOTAL: \$5,140,000	
SUPPORTING ORGANIZATION(S): SFWMD/Collier County /USFWS		APPROPRIATED TO DATE:	
COUNTY(S): Collier		County: \$380,000	State: \$2,610,000
LINKED PROJECTS: Dependent on:		USFWS: \$950,000	
	Critical to: Rookery Bay Aquatic Preserve and National Estuarine Research Reserve	TOTAL: \$3,940,000	
	Associated with:	REMAINING FINANCIAL REQUIREMENT:	
		WRDA: \$1,200,000	State: 0
		County: 0	USFWS: 0
		TOTAL: \$1,200,000.00	
START: 1997	END: 2002	APPROVED: 11/97	LAST REVISION: 2/98

DESCRIPTION: Collier County is currently facing unprecedented urban growth rates, with Naples leading the nation in metropolitan growth. Changes in land use within the primary watersheds draining into Rookery Bay have been identified in the Rookery Bay National Estuarine Research Reserve management plan as the highest priority resource issue that threatens the long term preservation of the research reserve's Estuarine resources. This project will return a portion of the historic timing, duration and volume of freshwater inflow, as well as providing much needed treatment of stormwater, into Rookery Bay.

Land acquisition, placement of culverts under SR 951, restoration of sheetflow, habitat preservation and exotic vegetation removal: Four additional culverts under this road (4 are currently existing and at times, overloaded), are proposed to restore historic surface water flows into the estuary, and alleviate some upstream flooding problems. Lands have been and are currently in the process of being purchased by DEP to allow this work, and a portion of the exotic vegetation removal/habitat enhancement is beginning within the next two months.

Henderson Creek Filter Marsh and Land Acquisition: The purchase of 25 acres (CARL) adjacent to Henderson Creek, and conversion to a filter marsh-water management system by regrading of lands and upgrading the weir structure in coordination with the SFWMD, will assist in treating the stormwater flowing from the upstream canal prior to discharge into the estuary. Ten acres have recently been purchased and the remaining portion is currently being assessed.

Manatee Basin Hydrologic Restoration: Purchase of 100 acres of land by State, USFWS and County adjacent to the Manatee Basin, an upwelling area at the headwaters of the south fork of Henderson Creek, and restoration of sheet flows and stormwater treatment by adding culverts, filling ditches, roadbed removal, exotic removal, and berm creation to prevent downstream flooding of private property. The County has purchased a 70 acre parcel and is currently donating that to the State. The State and USFWS will be purchasing the remainder of the area.

Swale and Spreader Systems: Two swale and spreader systems are proposed from US 41 canal into Mcllvane Marsh, which will enhance water quality, quantity, timing, and distribution of freshwater into the marsh. Engineered plans are complete at this point for this project.

Road to Nowhere Roadbed Removal: Removal of this old roadbed, or portions thereof, will restore historic sheetflow into Mcllvane Marsh. The area is currently being used by a breeding population of endangered American crocodiles. Work will be coordinated with GFC and USFWS to assure no adverse impact to the crocodiles.

RESTORATION BENEFITS: Immediate restoration of historic sheetflow into the estuary, treatment of stormwater, improvements to water quality, increased habitat value and wetland functions.

Southwest Florida/Big Cypress- Sub- Region 5

Time Line and Fiscal Year Budget (in thousands of dollars) for Henderson Creek/Belle Meade Restoration Project																
Task	94-97	98	99	00	01	02	03	04	05	06	07	08	09	10	Unprog	Total
SR 951 Culverts	█															
Filter Marsh and Land Acquisition	█															
Manatee Basin Hydro Restoration		█														
Spreader Systems	█															
Road Removal			█													
Project																
SR 951 Culverts	2000	190	190													
Filter Marsh and Land Acquisition	286	400	400	172	172											
Manatee Basin Hydro Restoration		360	85	250	250											
Spreader Systems	20	65	150	50												
Road Removal			100													
Subtotal	2306	1015	925	472	422											\$5,140

TITLE: Lake Trafford Restoration			
SUBREGION : 5	PROJECT ID SW26	FINANCIAL REQUIREMENT:	
PROGRAM CATEGORY: Management /Infrastructure	BUDGET CATEGORY: Water Quality, Habitat Protection, Natural Resource Mngt.	Phase I - Permitting an/sampling - \$143,000 Phase II - Pre-dredging Construction - \$100,000 Phase III - \$7,000,000 Phase IV - \$1,000,000	
PROJECT PLAN MANAGER: Boler (941) 332-6975	BASIS: 2	TOTAL: \$ 8,243,000	
LEAD ORGANIZATION(S): FGFWFC/SFWMD/ Collier County/DEP		APPROPRIATED TO DATE:	
SUPPORTING ORGANIZATION(S): IFAS/NRCS/National Audubon Society/FDACS/Immokalee Chamber of Commerce /USGS		FGFWFC: \$14,000, Collier CO.: 26,000 DEP: 3,000	
COUNTY(S): Collier		TOTAL: \$43,000	
LINKED PROJECTS: Dependent on: Critical to: Associated		REMAINING FINANCIAL REQUIREMENT:	
with:		Collier County/ SFWMD/ FGFWFC/ FDEP/ IFAS/ USGS/ NRCS/FDACS/other potential partners: 50% - \$4,100,000	
START: 1998	END: 2002	TOTAL: \$8,200,000	
		APPROVED: 11/97	LAST REVISION: 2/98

DESCRIPTION: Lake Trafford is the largest lake south of Lake Okeechobee (1,494 acres) and is located roughly three miles west of the City of Immokalee. The lake is the headwaters of the Corkscrew Swamp Sanctuary and CREW to the west-southwest and the Fakahatchee Strand system including Camp Keais Strand and the Florida Panther National Wildlife Refuge to the south.

Approximately 7 million cubic yards of unconsolidated muck on the bottom of the lake was created in the 1970s after herbiciding a hydrilla bloom. During storm events, the sediments are disturbed causing an increase in suspended solids, dissolved nutrients and BOD. Loss of water clarity, unconsolidated sediments and low DO has resulted in a decimated fishery.

A multi-agency task force has evaluated the project and determined that a one - time dredge event would restore the lake. Sediment analysis has found that the spoil material is suitable for disposal on farmland. Additionally, long term management of the lake and surrounding lands will assure continued benefits of the restoration. The long-range plan includes restoration of native aquatic plant communities to enhance habitat for fish and wildlife populations, control of nonpoint source pollution through BMPs, and development of a long-term management plan to ensure that the benefits of the project are maintained through time. Components of the project will include (1) physical and biological assessment of the lake and watershed, (2) development of restoration needs and options, (3) selection of initial restoration strategy in cooperation with all stakeholders, (4) design of restoration engineering and biological components (5) development of management programs for adjacent homeowners, landowners, fishermen, and other lake users (6) implementation of a first-generation restoration and real-time modeling/management program for the lake and adjacent lands, (7) assessment of restoration results, (8) revision of restoration strategies and designs, (9) implementation of the second-generation restoration strategies, and (10) implementation of on-going management programs.

RESTORATION BENEFITS: The objective of this project is to restore water quality and habitat functions of Lake Trafford. Removal of the muck to farmland will immediately improve lake quality and enhance farmland productivity. Reoccurrence of the muck layer is unlikely due to improved aquatic plant control methods. Furthermore, surrounding agricultural development have committed to using BMPs to reduce pollutant loading into the lake, to allow for a long-term improvement to the lake habitat. The lake provides recreational fishing activities and supports a tourism industry for an economically depressed region. Restoration of the Lake would be consistent with the Governor's Commission for a Sustainable South Florida recommendations for quality and sustainable communities.

Southwest Florida/Big Cypress- Sub- Region 5

Time Line and Fiscal Year Budget (in thousands of dollars) for Lake Trafford Restoration																
Task	97	98	99	00	01	02	03	04	05	06	07	08	09	10	Unprog	Total
Permit Sampling And Engineering																
Predredging earthwork																
Dredging																
Long range mgmt																
Project																
Permit Sampling And Engineering	43	100														
Predredging earthwork		50	50													
Dredging			4000	3000												
Long range mgmt		200	200	200	200	200										
Subtotal	43	350	4250	3200	200	200										\$8,243

TITLE: Estero Bay Land Acquisition Program			
SUBREGION : 5	PROJECT ID: SW28	FINANCIAL REQUIREMENT:	
PROGRAM CATEGORY: Land Acquisition	BUDGET CATEGORY: Land Acquisition	State	
PROJECT PLAN MANAGER: Boler (941) 332-6975	BASIS: 3	TOTAL: \$20,784,050 (estimated)	
LEAD ORGANIZATION(S): FDEP		APPROPRIATED TO DATE:	
SUPPORTING ORGANIZATION(S): USFWS, The Nature Conservancy		State \$7,973,750	
COUNTY(S): Lee		TOTAL: \$7,973,750	
LINKED PROJECTS: Dependent on: Critical to: Associated SW35		REMAINING FINANCIAL REQUIREMENT:	
with:		TOTAL: \$12,810,300	
START: 1997	END: Completion of acquisition	APPROVED: 11/97	LAST REVISION: 2/98

DESCRIPTION: Much of the Estero Bay Project is comprised of wetlands fronting Estero Bay (mangrove swamp, salt marsh, and salt flats). These communities provide nutrients to the Bay, contributing substantially to its biological productivity. The Bay, one of the most productive estuaries in the State, supports a diversity of wildlife, including the federally endangered bald eagle. These communities provide an important nutrient for the Bay, thus contributing to biological productivity. The wetlands are in a natural condition and help maintain high quality of water in the Estero Bay Aquatic Preserve. The project also includes the largest remaining block of rosemary scrub in southwest Florida. Several archaeological sites attributed to the Calusa Indians and their prehistoric ancestors are known to be within the project area. The project is threatened by the rapid residential development in the area.

RESTORATION BENEFITS: The area will be managed as a buffer preserve. Because the wetlands still are in a natural condition, the project will protect the Bay's high-quality water and the area's native plants and animals and archaeological sites. Additionally, it will provide recreational opportunities to the people of the rapidly growing Fort Myers area.

Time Line and Fiscal Year Budget (in thousands of dollars) for Estero Bay Land Acquisition Project																
Task	85-97	98	99	00	01	02	03	04	05	06	07	08	09	10	Unprog	Total
Appraisal	■															
Acquisition		■	■	■												
Project																
Subtotal	7,974	4,270	4,270	4,270												\$20,784

TITLE: Lakes Park Restoration Project			
SUBREGION : 5	PROJECT ID: SW29	FINANCIAL REQUIREMENT:	
PROGRAM CATEGORY: Infrastructure	BUDGET CATEGORY: Water Quality/ Habitat Protection, Natural Resources Mngt.	County/private	\$2,541,000
PROJECT PLAN MANAGER: Boler (941) 332-6975	BASIS: 2	WRDA:	\$2,459,000
LEAD ORGANIZATION(S): Lee County/Private		TOTAL:	\$5,000,000
SUPPORTING ORGANIZATION(S): FDEP/SFWMD		APPROPRIATED TO DATE:	
COUNTY(S): Lee		Lee County:	\$2,391,000
LINKED PROJECTS: Dependent on:		FDEP:	\$150,000
Critical to:		TOTAL:	\$2,541,000
Associated		REMAINING FINANCIAL REQUIREMENT:	
with:		WRDA 50 %:	\$2,459,000
START: 1997	END: 2003	Lee County:	\$0
		TOTAL:	\$2,459,000
		APPROVED: 11/97	LAST REVISION: 2/98

DESCRIPTION: Lee County Lakes Regional Park is owned and managed by Lee County for conservation and recreational purposes. The project consists of a public/private effort to construct a 40-acre marsh/flow-way in an abandoned rock mine to improve present habitat conditions and water quality trends discharging to Hendry Creek and Estero Bay. Lee County is attempting to secure necessary funds for construction, Private contributions include land donations for project expansion and funding for long-term maintenance.

RESTORATION BENEFITS: The project is expected to enhance surface water runoff quality by creating a meandering flow-way with shallow littoral zones, removing aquatic and upland exotic infestation while allowing public access into upland areas of improved native habitat.

The project will remove exotic vegetation and replant native vegetation on 11 acres of uplands and 9 acres of littoral zone. The creation of a filter marsh and connection of the islands to form a meandering flow-way will increase residence time of the surface water and enhance pollution removal and oxygen content. The systems should adequately treat the inflow from the existing watershed of approximately 2,560 acres with the potential to accept additional flow diverted from other watersheds. The restoration will provide immediate habitat and water quality benefits at Lakes Park and improve downstream conditions in Hendry County and the Estero Bay Aquatic Preserve.

Time Line and Fiscal Year Budget (in thousands of dollars) for Lakes Park Restoration Project																
Task	97	98	99	00	01	02	03	04	05	06	07	08	09	10	Unprog	Total
Pollutant calcs	█															50
Exotic removal	█															50
Finalize Plans	█															50
Earthwork	█	█	█	█	█	█	█									3,900
Maintenance																50
Project																
Subtotal																\$5,000

TITLE: Town of Ft. Myers Beach Stormwater Retrofit Project			
SUBREGION : 5	PROJECT ID: SW30	FINANCIAL REQUIREMENT:	
PROGRAM CATEGORY: Infrastructure	BUDGET CATEGORY: Water Quality, Habitat Protection, Infrast Investmnt		
PROJECT PLAN MANAGER: Boler (941) 332-6975,	BASIS: 2	TOTAL: \$120,000	
LEAD ORGANIZATION(S): Town of Ft. Myers Beach		APPROPRIATED TO DATE: (Conversion of 48,000 square feet of asphalt to pavers, completed, \$177,000.)	
SUPPORTING ORGANIZATION(S): FDEP, SFWMD, Charlotte Harbor NEP		TOTAL: \$0	
COUNTY(S): Lee		REMAINING FINANCIAL REQUIREMENT: Possible grants from FDEP, SFWMD, and Charlotte Harbor NEP \$60,000 and WRDA 50% match - \$60,000	
LINKED PROJECTS: Dependent on: Critical to: Associated		TOTAL: \$120,000	
with:			
START: 1998	END: 2000	APPROVED: 11/97	LAST REVISION: 2/98

DESCRIPTION: The newly incorporated (1/95) Town of Ft. Myers Beach has identified that the protection of Estero Bay and the local beaches requires the management of pollutants carried by stormwater runoff from the island. Because the majority of the Town is already urbanized with no stormwater management system in place, the town is beginning the environmental enhancement and restoration process by identifying stormwater hot spots through an inventory and sampling, reducing non-stormwater discharges by inspection, and highlighting urban rehabilitation through one or more retrofit projects. The town has already converted 48,000-sq. ft. of asphalt to pervious pavers at cost of \$177,000. Specific project components are as follows: Inventory of stormwater system, sediment sampling, illicit connection screening, and implementation of urban retrofit project.

This project is strictly for environmental enhancement of Estero Bay with full support of local government and citizens. There is no drainage or flood control component. There is no other alternative for stormwater treatment, such as filter marsh creation, due to lack of space.

RESTORATION BENEFITS: This project will have immediate water quality and ecological benefits to Estero Bay Aquatic Preserve (ranked 6th on the CARL list) by reducing pollutant loading into the bay.

Time Line and Fiscal Year Budget (in thousands of dollars) for Town of Ft. Myers Beach Stormwater Retrofit Project																
Task	97	98	99	00	01	02	03	04	05	06	07	08	09	10	Unprog	Total
Inventory of Stormwater Sys		█														20
Sediment Sample			█													18
Illicit screening			█													7
Retrofit project			█	█												75
Project																
		20	60	50												120
Subtotal																\$120

TITLE: Rookery Bay Land Acquisition Project			
SUBREGION : 5	PROJECT ID: SW31	FINANCIAL REQUIREMENT: State 100 percent TOTAL: \$38,826,750 (estimated)	
PROGRAM CATEGORY: Land Acquisition	BUDGET CATEGORY: Land Acquisition		
PROJECT PLAN MANAGER: Boler (941) 332-6975	BASIS: 3	APPROPRIATED TO DATE: State TOTAL: \$31,355,418	
LEAD ORGANIZATION(S): FDEP			
SUPPORTING ORGANIZATION(S):		REMAINING FINANCIAL REQUIREMENT: State TOTAL: \$7,471,332	
COUNTY(S): Collier			
LINKED PROJECTS: Dependent on: Critical to: Associated SW04			
with:			
START: 1997	END: 1999	APPROVED: 11/97	LAST REVISION: 2/98

DESCRIPTION: This project consists of 12,006 acres in Collier County and provides an outstanding example of a subtropical estuarine system. Its mangroves shelter important nesting colonies of water birds, and feed and protect many aquatic animals, which are the foundation of a commercial and sport fishery. The natural communities associated with the estuary are relatively undisturbed and range from mangrove and marsh to flatwoods and maritime hammock. As part of the national estuarine research reserve system, Rookery Bay is representative of the West Indian biogeographic type. The area is believed to have good potential for archaeological investigations. The area is threatened by dredging and filling associated with the rapid development of the area.

RESTORATION BENEFITS: Acquisition will protect the Bay's water quality and its native plants and animals and will provide recreational opportunities to the people of southwest Florida. Additionally, the project will further coastal ecosystem research and environmental education.

Time Line and Fiscal Year Budget (in thousands of dollars) : Rookery Bay Land Acquisition Project																
Task	97	98	99	00	01	02	03	04	05	06	07	08	09	10	Unprog	Total
Appraisal	█															
Acquisition		█	█	█												
Project																
Subtotal	15677	15677	7,471													\$38,826

TITLE: Collier- Seminole Resource Management/Acquisition			
SUBREGION : 6	PROJECT ID: SW 33	FINANCIAL REQUIREMENT: USACE - \$404,000 Florida Park Service - \$16,850 State Lands - \$355,311 DEP - \$37,150 TOTAL: \$813,311	
PROGRAM CATEGORY: Management /Acquisition	BUDGET CATEGORY: Water Quality / Habitat Protection		
PROJECT PLAN MANAGER: Bob Henry (941) 394-3397	BASIS: 2		
LEAD ORGANIZATION(S): Florida Park Service District 4		APPROPRIATED TO DATE: State Lands \$350,000 DEP \$37,150 Fl Park Service \$16,850 TOTAL: \$404,000	
SUPPORTING ORGANIZATION(S): Dept of Environmental Protection			
COUNTY(S): Collier			
LINKED PROJECTS: Dependent on: Critical to: Associated		REMAINING FINANCIAL REQUIREMENT: USACE \$404,000 TOTAL: \$404,000	
with:			
START: 1997	END: 2000	APPROVED: 11/97	LAST REVISION: 7/98

DESCRIPTION: Collier-Seminole State Park, a 6,423 acre unit, is part of the Everglades system. Its attributes include tropical hammock, cypress swamp, freshwater marsh, and the Blackwater River which flows through a mangrove swamp. The property is linked hydrologically and geographically to the Rookery Bay and Cape Haze/10,000 Islands Aquatic Preserves and to Belle Meade, Southern Golden Gate Estates and Picayune Strand State Forest, and Fakahatchee Strand. The park features tropical and temperate plants and animals mixing together, as do fresh and salt water. Sandy soil is present with deep mucky organic soil. Life is held together here in a delicate balance. Twelve different natural communities have been mapped and described, and are intermixed in the park in a mosaic of habitat types. Among them is the finest remaining tropical hardwood hammock on the west coast of Florida, noted for its stand of native royal palms.

Exotic plant species threaten the existence of this rich resource. Melaleuca trees and Brazilian pepper can eventually crowd out native species, creating a monoculture of the exotic species. The Park Service continues to control infestation by exotic plants; however, the control aspect of the exotic problem is hampered by forced reductions on the Service over the last 8 years. The hope is that by contracting exotic removal on a large scale, and continued maintenance by the Park Service as part of its routine management, the problem can be solved.

Urban development is also rapidly approaching Collier-Seminole State Park. Property adjacent to the park is commercially valuable and is highly vulnerable to intensive development. This proposal also seeks funds to acquire additional buffering lands around the park.

RESTORATION BENEFITS: RESTORATION BENEFITS: Additional funds will enable the DEP Florida Park Service to make greater strides against exotic plants' serious encroachment on the native communities of the park. Approval of this project will ensure the complete eradication of melaleuca from Collier-Seminole State Park.

Further land acquisition will exclude commercial development from inholdings in the park and provide a buffer against development to the north. It will also ensure the integrity of surface water flow and help to create a natural corridor between Collier-Seminole State Park and Fakahatchee Strand State Preserve.

Southwest Florida/Big Cypress- Sub- Region 5

Time Line and Fiscal Year Budget (in thousands of dollars) for Seminole Resource Management/Acquisition																
Task	97	98	99	00	01	02	03	04	05	06	07	08	09	10	Unprog	Total
Exotic removal																
Land Acquisition																
DEP																
Florida PK																
USACE																
State Lands																
Project																
Exotic removal		54	54													108
Land Acquisition	350	175	175													700
DEP		37,150														37,150
Florida PK		16,850														16,850
USACE			229,000	175,000												404,000
State Lands	355,311															355,311
Subtotal																\$813,311

TITLE: Fakahatchee Strand State Preserve Exotic Removal Project (Critical)			
SUBREGION: 05	PROJECT ID: SW34	FINANCIAL REQUIREMENT:	
PROGRAM CATEGORY: Management	BUDGET CATEGORY: Natural Resource Management		
PROJECT PLAN MANAGER: Greg Toppin (941) 695-4593	BASIS: 3	TOTAL: \$200,000	APPROPRIATED TO DATE: approx DEP: . \$5,000/yr. for maintenance
LEAD ORGANIZATION(S): DEP		TOTAL: 0	
SUPPORTING ORGANIZATION(S):		REMAINING FINANCIAL REQUIREMENT:	
COUNTY(S): Collier		DEP: \$100,000	WRDA: \$100,000 TOTAL: \$200,000
LINKED PROJECTS: Dependent on: Critical to: Associated SW09			
with:			
START: 1998	END: 2001	APPROVED: 11/97	LAST REVISION: 2/98

DESCRIPTION: Invasion by exotic plants is a severe threat to the natural biota of Fakahatchee Strand State Preserve. The 66,997 acre preserve contains a rich assemblage of plants and animals, **boasting the greatest biological diversity of any swamp community in the United States.** Fakahatchee Strand is noted for an abundance of imperiled plant and wildlife species, including the Florida Panther. The preserve is hydrologically important as its waters flow into Everglades National Park, nourishing the Ten Thousand Islands' estuarine ecosystem.

Fakahatchee Strand State Preserve continues to control and monitor exotic plant infestations as part of its ongoing activities. Currently, there is a 75 acre tract of Melaleuca monoculture which requires additional funds to remove, as well as an unspecified acreage of Brazilian pepper. Once the initial removal and follow-up treatments occur, ongoing management activities will assure that re-infestation does not occur.

RESTORATION BENEFITS: The removal of melaleuca and Brazilian pepper from the Fakahatchee Strand wetlands will permit the re-establishment of native plant communities. This project is of greater ecosystem benefit in that it is compatible and compliments other agency efforts for melaleuca and other exotic pest plant eradication.

Time Line and Fiscal Year Budget (in thousands of dollars) for Fakahatchee Strand State Preserve Exotic Removal Project (Critical)																
Task	97	98	99	00	01	02	03	04	05	06	07	08	09	10	Unprog	Total
exotic removal and retreatment		50	50	50	50											200
Subtotal																\$200

TITLE: Estero Bay Aquatic Preserve and Buffer Preserve Enhancement and Exotic Removal Project			
SUBREGION : 05	PROJECT ID: SW35	FINANCIAL REQUIREMENT:	
PROGRAM CATEGORY: Management/acquisition	BUDGET CATEGORY: Natural Resource Management/habitat protection	WRDA \$682,500	DEP \$682,500
PROJECT PLAN MANAGER: Heather Stafford (941) 463-3240	BASIS: 3	TOTAL:	\$1,365,000
LEAD ORGANIZATION(S): DEP		APPROPRIATED TO DATE:	
SUPPORTING ORGANIZATION(S):		DEP:	\$50,842
COUNTY(S): Lee		TOTAL:	
LINKED PROJECTS: Dependent on:		REMAINING FINANCIAL REQUIREMENT:	
Critical to:		DEP:	\$631,658 CARL match
Associated with: SW28		WRDA:	\$682,500
		TOTAL:	\$1,314,518
START: 1998	END: 2001	APPROVED: 11/97	LAST REVISION: 7/98

DESCRIPTION:

I. Melaleuca removal: Removal, treatment, monitoring, and follow-up treatment of 450 acres of Melaleuca within the 5,494 acre Estero Bay State Buffer Preserve.

II. Dog Key Exotic Removal: Removal, treatment, monitoring, and follow-up treatment of exotic vegetation on Dog Key, a 40 acre island within the Estero Bay Aquatic Preserve and part of the Estero Bay State Buffer Preserve with documented Calusa Indian middens/mounds.

RESTORATION BENEFITS:

Removal of stands of Melaleuca in the buffer preserve will allow the return of natural functioning of an ecosystem composed of pine flatwood, salt marsh, salt flats, and mangroves, and regaining pre-infestation condition of water and nutrient flow to the Estero Bay Aquatic Preserve. The exotic removal and control program on Dog Key will allow the area to regain its native plant communities on this culturally and historically important site.

Time Line and Fiscal Year Budget (in thousands of dollars) for Estero Bay Aquatic Preserve and Buffer Preserve Enhancement and Exotic Removal Project																
Task	97	98	99	00	01	02	03	04	05	06	07	08	09	10	Unprog	Total
Dog Key Exotic Removal monitoring and follow-up																
Land Acquisition in Buffer Reserve																
Exotic Removal in Buffer Preserve																
Project																
Dog Key Exotic Removal monitoring and follow-up		9	3	3												
Land Acquisition in Buffer Reserve		632														
Exotic Removal in Buffer Preserve		218	167	167	167											
Subtotal		859	170	170	167											\$1,365

TITLE: Long-term Study of Fire Regimes in Pineland and Associated Cypress Wetland			
SUBREGION : 3,5,6	PROJECT ID: SW36	FINANCIAL REQUIREMENT:	
PROGRAM CATEGORY: Science	BUDGET CATEGORY: Research		
PROJECT PLAN MANAGER: James R. Snyder	BASIS:	TOTAL: \$660,000	
LEAD ORGANIZATION(S): USGS/BRD, NPS		APPROPRIATED TO DATE:	
SUPPORTING ORGANIZATION(S):		TOTAL: \$282,000	
COUNTY(S): Collier, Dade, Monroe		REMAINING FINANCIAL REQUIREMENT:	
LINKED PROJECTS: Dependent on: Critical to: Associated with:		TOTAL: \$378,000	
START: 1994	END: 2002	APPROVED: 11/97	LAST REVISION: 7/98

DESCRIPTION: Most of the natural areas in south Florida, including >4,000 km² managed by the U.S. Department of the Interior, require fire for long-term maintenance. This study is designed to determine the response of pine forest vegetation to a range of fire regimes and to elucidate the natural role of fire in the south Florida ecosystem. Three seasons and two frequencies of experimental burns will be carried out in the Raccoon Point area of Big Cypress National Preserve. The study will document the effect of the experimental treatments on the structure and composition of the vascular vegetation, population responses of selected endemic herbaceous taxa, and the distribution of pine and cypress along landscape gradients.

RESTORATION BENEFITS: This study will provide direction for the fire management of Big Cypress National Preserve, Everglades National Park, Florida Panther N.W.R., and National Key Deer Refuge. It will improve the use of fire to restore vegetation, increase populations of endemic plants, and maintain habitat for listed species such as the red-cockaded woodpecker and the Key deer.

Time Line and Fiscal Year Budget (in thousands of dollars) for Long-term Study of Fire Regimes in Pineland and Associated Cypress Wetland																
Task	97	98	99	00	01	02	03	04	05	06	07	08	09	10	Unprog	Total
Burns																
Vegetation																
Endemic Taxa																
Pine/Cypress Ecotone																
Project																
	141	141	144	76	76	82										660
Subtotal																\$660

TITLE: Stand Structure and Productivity of Short-Hydroperiod Graminoid Wetlands			
SUBREGION : 3,5	PROJECT ID: SW37	FINANCIAL REQUIREMENT:	
PROGRAM CATEGORY:	BUDGET CATEGORY:		
Science	Research	TOTAL: \$470,000	
PROJECT PLAN MANAGER: James R. Snyder	BASIS:	APPROPRIATED TO DATE:	
LEAD ORGANIZATION(S): BRD/USGS, NPS		TOTAL: New	
SUPPORTING ORGANIZATION(S):			
COUNTY(S): Collier, Dade, Monroe		REMAINING FINANCIAL REQUIREMENT:	
LINKED PROJECTS: Dependent on: Critical to: Associated with:		TOTAL: \$470,000	
START: 1999	END: 2002	APPROVED: 11/97	LAST REVISION: 7/98

DESCRIPTION: The short-hydroperiod marshes (wet prairies, muhly prairies, marl prairies) constitute a major component of Everglades National Park and Big Cypress National Preserve and are habitat of the endangered Cape Sable seaside sparrow. These habitats are thought to have been affected by altered hydrologic and fire regimes. This study will establish permanent vegetation plots in short-hydroperiod marshes throughout the lower Everglades and Big Cypress, including current and past Cape Sable seaside sparrow habitat. Vegetation structure and composition will be measured and aboveground biomass estimated seasonally and after fires. This will establish baseline conditions against which to measure future changes and will provide necessary information for modeling of vegetation dynamics.

RESTORATION BENEFITS: The baseline information will be used evaluate changes brought about by hydrologic restoration and to develop and refine landscape vegetation models.

Time Line and Fiscal Year Budget (in thousands of dollars) for Strand Structure and Productivity of Short-hydroperiod Graminoid Wetlands																
Task	97	98	99	00	01	02	03	04	05	06	07	08	09	10	Unprog	Total
Establish Plots			█	█												
Resample Plots			█	█	█	█										
Project																
			146	106	108	110										\$470
Subtotal																\$470

TITLE: Aquatic Animal Dynamics in Big Cypress Habitats			
SUBREGION : 5	PROJECT ID: SW38	FINANCIAL REQUIREMENT:	
PROGRAM CATEGORY: Science	BUDGET CATEGORY: Research	TOTAL: \$210,000	
PROJECT PLAN MANAGER: William F. Loftus	BASIS: 2,3	APPROPRIATED TO DATE:	
LEAD ORGANIZATION(S): USGS - BRD		TOTAL: \$0	
SUPPORTING ORGANIZATION(S): FL International Univ.		REMAINING FINANCIAL REQUIREMENT:	
COUNTY(S): Dade, Collier, Monroe		TOTAL: \$210,000	
LINKED PROJECTS: Dependent on: Hydrological Projects and ATLSS Critical to: ATLSS Associated with:		APPROVED: 11/97	
START: Jan 1999	END: Sept 2004	LAST REVISION: 7/98	

DESCRIPTION: Most studies of aquatic animals have been located in Everglades habitats. But the Big Cypress Swamp offers a different series of landscapes to aquatic animals, non-indigenous species, and their predators. The Big Cypress ecosystem plays an integral, but poorly defined role in the function of the greater Everglades ecosystem. This project would document the use of major aquatic habitats in the Swamp by fishes and macroinvertebrates across seasons and years, and a several spatial scales, to understand how the habitat mosaic supports these populations. The first part of the study will involve pilot sampling and statistical consultation to determine an efficient, stratified sampling design. Sampling will continue for four years, and will hopefully lead to a long-term monitoring plan for the Swamp to track the effects of the Restudy actions. The empirical data will feed into the ATLSS modeling, which presently must use Everglades data in its Big Cypress model cells, because of lack of data for that region.

RESTORATION BENEFITS: Provide data for ATLSS models to evaluate alternatives for ecological effects of the C&SF Restudy, C-111 Project, and MODFLOW.

Time Line and Fiscal Year Budget (in thousands of dollars) for Aquatic Animal Dynamics in Big Cypress Habitats																
Task	97	98	99	00	01	02	03	04	05	06	07	08	09	10	Unprog	Total
Pilot Study			■												20	20
Field Work			■	■	■	■	■	■							100	100
Lab Work			■	■	■	■	■	■							75	75
Final Report							■	■	■						15	15
Project																
Subtotal			35	40	40	40	40	15							210	\$210

(Note: The project proposal was submitted to the CESI evaluation committee in April, 1998. Action on this and other new ecosystem process proposals has been deferred until later in 1998.)

TITLE: Seminole Critical Project for the West side of the Big Cypress Water Conservation Project			
SUBREGION : 5	PROJECT ID: SW39	FINANCIAL REQUIREMENT: USACE: \$22,599,000 Tribe: \$22,599,000 TOTAL: \$45,198,000	
PROGRAM CATEGORY: Infrastructure	BUDGET CATEGORY: Infrastructure Investment		
PROJECT PLAN MANAGER: Tepper (954) 966 630 x1120 and Brooks-Hall	BASIS: 1		
LEAD ORGANIZATION(S): Seminole Tribe of Florida		APPROPRIATED TO DATE: TOTAL: \$0	
SUPPORTING ORGANIZATION(S): USACE, NRCS, BIA			
COUNTY(S): Hendry and Broward		REMAINING FINANCIAL REQUIREMENT: TOTAL: \$45,198,000	
LINKED PROJECTS: Dependent on: Critical to: Associated Sw14, TS85, TS86, with: SW15, SW05, SW03			
START: 1998	END: 2002	APPROVED: 11/97	LAST REVISION: 7/98

DESCRIPTION: The Seminole Tribe's Big Cypress Reservation is located in Hendry and Broward Counties, directly north of the Big Cypress National Preserve. This critical project provides for the design and construction of water control, management, and treatment facilities in Basins 1,2,3, and 4, which compose the western portion of the Big Cypress Reservation. The project elements include conveyance systems, including major canal bypass structures, irrigation storage cells, and water resources areas. This project is designed to meet 50 ppb phosphorus, which is the current performance level designed to be achieved by the Everglades Construction Project. Should design performance levels for phosphorus become more stringent, this project is designed to be able to incorporate additional technology to meet stricter levels. This project will enhance the hydroperiod in Big Cypress National Preserve through Mullet Slough and improve the water quality in the Everglades Protection Area.

As demonstrated below, this project will produce substantial restoration, preservation, and protection benefits and will do so immediately and independently of the completion of any other project. A water conservation project for the eastern side of the reservation, as well as the reservation-wide agricultural best management practices (BMPs), have been planned also. This critical project can be constructed and will function independently of the infrastructure needed on the eastern side of the Reservation and the BMPs.

This project is estimated to cost \$45,198,000; this amount is well under the \$50 million cap. The Seminole Tribe will be the local sponsor. This project can be initiated well before the 30 September 1999 deadline, primarily because the Tribe has such a well developed conceptual plan for the project. The Letter Report for this Critical Project has completed Washington level review, and approval within the USACE.. The Project Cooperation Agreement (PCA), which included Section 215 and 105 Agreements, is currently being reviewed for transmittal to USACE headquarters. This project is not an authorized component of the C & SF Project. Finally, this project is incorporated into the Governors Commission's Conceptual Plan.

RESTORATION BENEFITS: This network of surface water management structures will produce the following substantial restoration, preservation, and protection benefits and will do so immediately and independently of the completion of any other projects:

- Remove phosphorus and other pollutants from water leaving the Reservation and flowing to the Big Cypress National Preserve into Mullet Slough to the Everglades Protection Area.. The removal of these pollutants will be achieved using natural treatment processes, in pretreatment cells and water resource areas (WRA's). Unlike the stormwater treatment areas in the Everglades Construction Project, the Tribe's WRA's will take advantage of the natural treatment processes and will serve additional functions in the storage and conveyance of water.

- Rewater the Big Cypress National Preserve. This project will provide the opportunity to restore more natural hydroperiods in the Big Cypress National Preserve. Bypass structures will be built under the West Feeder Canal that will sheetflow clean

water south along the length of the Feeder Canal into the Big Cypress Preserve. The clean water sent I a sheetflow over the Preserve and into Mullet Slough will improve the hydrology in the Everglades Protection Area as well.

-Convey and store irrigation water. To make use of water provided by the SFWMD to replace the Tribe's diverted Compact water rights, the Tribe needs to be able to move and store such water when it is available. Water conveyance improvements and irrigation storage cells will move and store the Compact water converted for Everglades Restoration. This diversion allowed for treatment of water flowing to the Everglades Protection Area.

-Provide improved flood control. To [prevent extended periods of flooding and to limit downstream impacts of flooding, stormwater must be controlled. Stormwater attenuation areas will detain water from large storm events.

Time Line and Fiscal Year Budget (in thousands of dollars) for the : Seminole Critical Project for the West side of the Big Cypress Water Conservation Project																
Task	97	98	99	00	01	02	03	04	05	06	07	08	09	10	Unprog	Total
Studies																
Develop/Constr																
Project																
Seminole Tribe		904	8588	7232	4520	1356										22,599
USACE		904	8588	7232	4520	1356										22,599
Subtotal		1,808	17,176	14,463	9,040	2,712										\$45,198

TITLE: Plant Biodiversity of Big Cypress National Preserve			
SUBREGION : 5	PROJECT ID: SW40	FINANCIAL REQUIREMENT:	
PROGRAM CATEGORY:	BUDGET CATEGORY:		
Science	Research	TOTAL: \$48,000	
PROJECT PLAN MANAGER: James R. Snyder	BASIS:	APPROPRIATED TO DATE: \$48,000	
LEAD ORGANIZATION(S): NPS, BRD/USGS			
SUPPORTING ORGANIZATION(S):			
COUNTY(S): Collier, Dade, Monroe		REMAINING FINANCIAL REQUIREMENT:	
LINKED PROJECTS: Dependent on: Critical to: Associated with:		TOTAL: \$0	
START: 1998	END: 2000	APPROVED: 11/97	LAST REVISION: 7/98

DESCRIPTION: Intensive field surveys will be conducted in the 147,000 acres of Big Cypress National Preserve addition lands over a two year period to document vascular plant species present. Emphasis will be on finding species new to the preserve, including potential problem exotic species such as the tropical soda apple. Populations of rare and endangered species will be recorded in a GIS database. Voucher specimens will be collected and deposited in appropriate herbaria. An annotated vascular plant list for the preserve will be published. Because the BICY addition lands are mainly north of the original preserve, where the Big Cypress grades into the western flatlands of J.H. Davis, it is expected that a large number of new species will be found on these Interior trust lands. The principal investigator will be Dr. Daniel Austin of Florida Atlantic University.

RESTORATION BENEFITS: Knowledge of the vascular flora of public trust lands within the restoration area is a prerequisite to monitoring the effects or appropriateness of restoration actions. The survey may discover other noxious plant pests such as tropical soda apple that must be controlled.

Time Line and Fiscal Year Budget (in thousands of dollars) for Plant Biodiversity of Big Cypress National Preserve																
Task	97	98	99	00	01	02	03	04	05	06	07	08	09	10	Unprog	Total
Field Work																
Report																
Project		48														
																48
Subtotal																\$48

TITLE: Hydrologic reconnaissance of the gray limestone aquifer of South Florida			
SUBREGION : 5	PROJECT ID: SW41	FINANCIAL REQUIREMENT:	
PROGRAM CATEGORY:	BUDGET CATEGORY:		
PROJECT PLAN MANAGER: Ron Reese 305-594-0655	BASIS: 2	TOTAL: \$817,000	APPROPRIATED TO DATE:
LEAD ORGANIZATION(S): USGS		TOTAL: \$323,600	
SUPPORTING ORGANIZATION(S): SFWMD, FDEP		REMAINING FINANCIAL REQUIREMENT:	
COUNTY(S): Collier, Monroe, Dade, Broward			
LINKED PROJECTS: Dependent on: Critical to: Associated			
with:			
START: 10/1996	END: 9/1999	APPROVED: 11/97	LAST REVISION: 8/98

DESCRIPTION: The gray limestone aquifer, a major component of the surficial aquifer system of south Florida, was initially identified in western Broward and Dade Counties and has since been found to extend westward. It is generally 50-70 ft. thick, extends from 50 to 150 ft in depth, and has a transmissivity of as high as 90,000 ft²/day. It could be stratigraphically equivalent to the Lower Tamiami Aquifer. The lithology, areal extent, thickness, and hydraulic characteristics of this aquifer will be identified. Most of the study area is in eastern Collier County, east of SR 29, and in southern Hendry county. It overlaps into some of Palm Beach, Broward, Dade, and Monroe Counties. Study boundaries are 26° 32'N, 81° 22'W on the northwestern corner and 25° 30'N, 80° 33'W on the southeastern corner.

RESTORATION BENEFITS: The relationships between wetlands and shallow ground water, such as found in the gray limestone aquifer, need to be better defined.

Time Line and Fiscal Year Budget (in thousands of dollars) for Hydrologic reconnaissance of the gray limestone aquifer of South Florida																
Task	97& Prior	98	99	00	01	02	03	04	05	06	07	08	09	10	Unprog	Total
Program																
Project																
USGS	152	211	86													449
SFWMD	152	131	85													368
Subtotal	304	342	171													\$817

TITLE: Stratigraphy and hydrogeology of the surficial aquifer system of Southwest Florida			
SUBREGION : 5	PROJECT ID: SW43	FINANCIAL REQUIREMENT:	
PROGRAM CATEGORY:	BUDGET CATEGORY:		
PROJECT PLAN MANAGER: Bruce Wardlaw 703-648-5288	BASIS: 2	TOTAL: \$939,177	APPROPRIATED TO DATE:
LEAD ORGANIZATION(S): USGS		TOTAL: \$635,050	
SUPPORTING ORGANIZATION(S): SFWMD, FDEP			REMAINING FINANCIAL REQUIREMENT:
COUNTY(S): Monroe and Collier		TOTAL: \$304,127	
LINKED PROJECTS: Dependent on: Critical to: Associated			
with:			
START: 10/1996	END: 9/1999	APPROVED: 11/97	LAST REVISION: 08/98

DESCRIPTION: About 25 coreholes will be drilled to the base of the surficial aquifer system (averaging 200 ft depth) in Collier and Monroe Counties. Drilling, permeability testing, lithologic and geophysical logging, age determination, and interpretation will be accomplished by personnel of the U.S. Geological Survey and the Florida Geological Survey, in cooperation with the South Florida Water Management District. Continuous cores through the surficial aquifer system are being drilled and examined for mineralogy, composition, texture, structures, and fossils to determine lithology, age, alteration, and porosity of the aquifer rocks and to construct a depositional model to aid in the extrapolation of subsurface data. Stratigraphic units will be correlated between coreholes, and their lithologic and hydrologic properties estimated where core data are absent. Permeability tests will be run on core samples and integrated with hydrologic and geophysical logs to estimate transmissivities of lithofacies. Geophysical logs (natural gamma, caliper, resistivity [long and short normal], focused resistivity, temperature, neutron, density, flowmeter, televiwer) will be run as holes are drilled. The primary product will be an array of cross sections of the surficial aquifer system that, when combined, will yield a three-dimensional grid of the stratigraphy and hydraulic conductivity of the system. The project's geographic extent is roughly 26.1° N on north, 81.68° W on west, 25.73° N on south, and 80.87° W on east. The area bounded roughly by Route 941 on the west, Tamiami Trail and the Loop Road on the south, and the Collier County line on the east; it extends slightly beyond I 75 on the north. This project will be share cores and hydrogeological data with a complementary project directed by Ron Reese, USGS-Miami, to assess the spatial extent of the gray limestone aquifer of the surficial aquifer system in south-central Florida.

RESTORATION BENEFITS: Management decisions will be made in part on the basis of groundwater models of the surficial aquifer system. Models that accurately simulate the hydrologic system will be essential for efficient utilization of the limited freshwater resources of southwest Florida. Hydrologic models require input of high-resolution stratigraphic and sedimentologic data to accurately describe groundwater flow in the surficial aquifer system. However, the stratigraphy and sedimentology are poorly known. This study will provide essential hydrogeologic data to extend existing and next-generation water management, natural system, and other models to the southwest coast.

Time Line and Fiscal Year Budget (in thousands of dollars) for Stratigraphy and hydrogeology of the surficial aquifer system of Southwest Florida																
Task	97& Prior	98	99	00	01	02	03	04	05	06	07	08	09	10	Unprog	Total
USGS/Reston	305	330	304													
Subtotal	305	330	304													\$939

TITLE: Okaloacoochee Slough			
SUBREGION : 5	PROJECT ID: SW44	FINANCIAL REQUIREMENT:	
PROGRAM CATEGORY: Land Acquisition	BUDGET CATEGORY: Land Acquisition	SFWMD	\$ 5,751,030
		State	\$14,601,030
			0
PROJECT PLAN MANAGER: Chuck Rinaldi (561) 682-6537	BASIS: 3	TOTAL	\$20,352,060
LEAD ORGANIZATION(S): SFWMD		APPROPRIATED TO DATE:	
SUPPORTING ORGANIZATION(S): DEP, Forestry, GFC		SFWMD	\$ 5,751,030
COUNTY(S): Hendry and Collier		State	\$14,601,030
LINKED PROJECTS: Dependent on:			0
Critical to:		TOTAL	\$20,352,060
Associated SW12, SW08, SW13		:	0
with:		REMAINING FINANCIAL REQUIREMENT:	
START: 1998	END: 2001	TOTAL	\$0
		:	
		APPROVED: 11/97	LAST REVISION: 7/98

DESCRIPTION: This site contains more than 31,000 acres in Hendry and Collier Counties. It is a major tributary to Fakahatchee Strand and Big Cypress National Preserve. It is dominated by a central slough, consisting of sawgrass marshes and wet prairies, with fringes of live oak/cabbage palm hydric hammocks. Most of the pines have been logged, but otherwise the site is pristine. SFWMD acquired 21,000 acres in 1996. Approximately 10,018 acres remain to be purchased. Prior to the acquisition, it was used for native range grazing. Okaloacoochee Slough is critical habitat for the Florida Panther.

RESTORATION BENEFITS: Some exotic treatment is needed to control minor infestations of Brazilian pepper and melaleuca. Hydrologically, the property remains undisturbed. The remaining land acquisition costs will be shared 50/50 between SFWMD and DEP. The initial purchase totaling \$11.5 million was funded entirely by SFWMD. DEP will reimburse SFWMD for a portion of the initial acquisition costs and acquire a 50% undivided interest in the entire project.

Time Line and Fiscal Year Budget (in thousands of dollars) for Okaloacoochee Slough																
Task	97	98	99	00	01	02	03	04	05	06	07	08	09	10	Unprog	Total
Acquisition																
Project																
Acquisition	11502		8850													
Subtotal	11502		8850													\$20,352

TITLE: Southwest Florida Water Management Model and Natural System Model			
SUBREGION : 5	PROJECT ID: SW50	FINANCIAL REQUIREMENT:	
PROGRAM CATEGORY: Science	BUDGET CATEGORY: Natural Resources Mgmt Habitat Protection, Water Qty, Research	\$2,000,000	
PROJECT PLAN MANAGER: Merriam (941) 338-2929 Nath (941) 597-1505 Browder (305) 361-4270	BASIS: 1, 2, 3	TOTAL:	\$2,000,000
LEAD ORGANIZATION(S): USFWS		APPROPRIATED TO DATE:	
SUPPORTING ORGANIZATION(S): SFWMD, NOAA, USACE, BCP		TOTAL:	\$-0-
COUNTY(S): Collier, Lee and Hendry		REMAINING FINANCIAL REQUIREMENT:	
LINKED PROJECTS: Dependent on: SW01, 04, 05, 08 Critical to: SW09, 10,12, 13 Associated		TOTAL:	\$2,000,000
with:			
START: 2000	END: 2005	APPROVED:	LAST REVISION:

DESCRIPTION: The coverage of the South Florida Water Management Model (WMM) and the Natural System Model (NSM), which presently are being used to evaluate proposed water management alternatives for the South Florida Ecosystem restoration efforts is incomplete in Southwest Florida. The WMM covers portions of the big Cypress National preserve and fringing mangrove system. The NSM has broader coverage and includes Hendry County to a longitude that aligns with the southern part of SR 29, but does not include the part of Southwest Florida west of SR 29. Existing hydrologic models used by the SFWMD Big Cypress Basin and others are more geared toward stormwater management, and are inadequate in their structure to provide meaningful information about how a change in the hydrologic system will affect the ecosystem.

As part of the South Florida Ecosystem restoration initiative, there is a desire to either maintain or re-establish more natural (i.e. pre- drainage) patterns of hydroperiod and water flow in parts of Southwest Florida, particularly the Big Cypress National Preserve, the Fakahatchee State Preserve, the Florida Panther National Wildlife Refuge, Southern Golden Gates Estates, Corkscrew Swamp Sanctuary, and the Ten Thousand Islands, including Rookery Bay. Many changes are being made to the hydrologic system to accommodate growing urban and agricultural uses. These changes could affect neighboring or downstream natural areas. A knowledge of hydroperiod effects is essential to evaluating ecosystem effects. The development of a grid- based (spatially explicit) surface and surficial groundwater model that contains presently existing network of canals and water control structures, and a corollary model without any control structures that approximates the natural response of the system to rainfall - in the fashion represented in WMM and NSM is proposed.

RESTORATION BENEFITS: The proposed models will improve the ability to evaluate the ecologic impacts of proposed hydrologic changes and to design more ecologically beneficial water management strategies. The models could be used to evaluate the effect of existing and proposed changes on the regional water supply, flood control and water quality.

Time Line and Fiscal Year Budget (in thousands of dollars) for Southwest Florida Water Management Model and Natural System Model																
Task	97	98	99	00	01	02	03	04	05	06	07	08	09	10	Unprog	Total
SWFWWM development															1,200	
SWFNSM															800	
Project																
SWFWWM Dev				200	200	200	200	200								2,000
SWFNSM dev				200	200	100	100	100								
Subtotal				400	400	300	300	300								\$2,000

TITLE: Conservation Easements for Multi-Species Recovery and Water Quality Maintenance			
SUBREGION : 5 and 2	PROJECT ID: Sw51	FINANCIAL REQUIREMENT: Potential Cost Shares FG&FWFC, USDA, DEP, SFWMD, non-profit organizations	
PROGRAM CATEGORY: Acquisition, Management	BUDGET CATEGORY: Natural Resources Management, Habitat Protection, Water Quality	TOTAL: \$50.7 million	APPROPRIATED TO DATE:
PROJECT PLAN MANAGER: Krakowski 941-353-8442 ext. 27 Eller 941-353-2814	BASIS: 1 and 3		
LEAD ORGANIZATION(S): USFWS		TOTAL: \$0	REMAINING FINANCIAL REQUIREMENT:
SUPPORTING ORGANIZATION(S): USDA, USFS, NPS, FG&FWFC, DEP, FDACS, SFWMD, non-profit organizations			
COUNTY(S): Collier, Hendry		TOTAL: \$50.7 million	
LINKED PROJECTS: Dependent on: Critical to: TS19-M Associated TS4, TS5, TS10, TS14, with: TS17, and TS27		APPROVED:	LAST REVISION:
START: 2000	END: 2009		

DESCRIPTION: (This project has two phases)

- Phase 1 (Easement Acquisition):** This project will benefit the South Florida Ecosystem multi-species recovery effort by targeting Florida panther land preservation needs. The Florida Panther Interagency Committee (i.e. the Florida Department of Environmental Protection, Florida Game and Fresh Water Fish Commission, National Park Service, and U.S. Fish and Wildlife Service) published a Habitat Preservation Plan in 1994 that identified 926,300 acres of privately owned lands considered essential to the survival and recovery of Florida's state mammal. Protecting habitat for the flagship species of the South Florida Ecosystem will protect a myriad of Federal and State threatened and endangered species. Voluntary annual sign-ups will allow willing private landowner participants to sell conservation easements on 150,000 acres of land in the unprotected headwaters of the Big Cypress Watershed. This land, designated as Priority 1 by the Florida Panther Interagency Committee, consists of some of the largest remaining tracts of high quality native habitats most frequently used by the Florida panther. The easements will protect native habitats from degradation, fragmentation, and loss due to drainage, clearing, and development. Non-profit, state, and federal landowner incentive programs will enhance this project.
- Phase 2 (Easement Monitoring):** An easement biologist will be recruited to initiate the program. The easement biologist will conduct voluntary annual sign-ups, post easement boundaries, monitor easements for compliance, conduct public relations, and (with landowner permission) establish and monitor biological baselines. The easement biologist will be employed by the U.S. Fish and Wildlife Service and based at Florida Panther National Wildlife Refuge in Naples, Florida.

RESTORATION BENEFITS: The protection of the headwaters of the Big Cypress Watershed through conservation easements is critical to the survival of the endangered Florida panther. Many other rare species of the South Florida Ecosystem will also benefit including, but not limited to: wood stork, Florida black bear, snail kite, and red-cockaded woodpecker. The project will also conserve aquifer recharge areas, hydric pine flatwoods, and wetlands that are being lost and fragmented. Easement monitoring could lead to cooperative habitat restoration projects including control of invasive exotic plant species.

Southwest Florida/Big Cypress- Sub- Region 5

Time Line and Fiscal Year Budget (in thousands of dollars) for Conservation Easements for Multi-Species Recovery and Water Quality Maintenance																
Task	97	98	99	00	01	02	03	04	05	06	07	08	09	10	Unprog	Total
Acquisition																
Monitoring																
Project																
Acquisition				5000	5000	5000	5000	5000	5000	5000	5000	5000	5000			50,000
				70	70	70	70	70	70	70	70	70	70			700
<i>Subtotal</i>																\$50,700