

TITLE: Complete Land Acquisition for Biscayne National Park		
SUBREGION : 6	PROJECT ID: FK02	FINANCIAL REQUIREMENT: Federal/ County (TBD)
PROGRAM CATEGORY: Land Acquisition	BUDGET CATEGORY: Land Acquisition	TOTAL: \$6,100,000
PROJECT PLAN MANAGER: Dick Frost (305)230-1144	BASIS: 3	APPROPRIATED TO DATE:
LEAD ORGANIZATION(S): NPS		REMAINING FINANCIAL REQUIREMENT:
SUPPORTING ORGANIZATION(S): Dade County		
COUNTY(S): Dade		
LINKED PROJECTS: Dependent on: Critical to: Associated with:		TOTAL:
START: 1998	END: 2000	APPROVED: 11/97 LAST REVISION: 2/98

DESCRIPTION: This project includes acquisition of the five Ragged Keys (602 acres) and approximately 1400 acres of coastal wetlands and mangrove forest in Biscayne National Park. The Ragged Keys are five islands immediately adjacent to the most popular public use area in the Park, Boca Chita Key. Four of the five islands are unoccupied and are used by the public for overflow camping, fishing, and swimming, with resulting damage to natural habitat on the islands and in the surrounding shallows. Litter and human waste are serious problems. Least terns nest on land and endangered sea turtles nest on the shoreline, and these nesting areas are being greatly disturbed. All five of the islands have been repeatedly considered by developers for major resort or recreation facilities.

RESTORATION BENEFITS: Acquisition of the Ragged Keys would preclude land uses that are incompatible with the protection, conservation, and restoration management objectives of the NPS. Public ownership will assure consistent management of the Keys within the Park. The coastal wetlands and mangrove fringe are essential for protecting the Biscayne Bay ecosystem and are part of the last remaining mangrove forest on the east coast of Florida. So little is left that loss of any of this habitat is prejudicial to the health of the bay ecosystem.

Time Line and Fiscal Year Budget (in thousands of dollars) for Complete Land Acquisition for Biscayne National Park																
Task	97	98	99	00	01	02	03	04	05	06	07	08	09	10	Unprog	Total
Acquition																
Project																
Fed/ County	2000	2000	0	2100												6100
Subtotal																\$6,100

TITLE: Complete Crocodile Lake National Wildlife Refuge			
SUBREGION: 6	PROJECT ID: FK03	FINANCIAL REQUIREMENT:	
PROGRAM CATEGORY: Land Acquisition	BUDGET CATEGORY: Land Acquisition		
PROJECT PLAN MANAGER: Stieglitz/Klett 305-872-2239	BASIS: 1, 2, 3	TOTAL:	\$786,000
LEAD ORGANIZATION(S): USFWS		APPROPRIATED TO DATE:	
SUPPORTING ORGANIZATION(S):			
COUNTY(S): Monroe		TOTAL:	\$400,000
LINKED PROJECTS: Dependent on: Critical to: Associated with:		REMAINING FINANCIAL REQUIREMENT:	
		TOTAL:	\$386,000
START: 1998	END: 2000	APPROVED: 11/97	LAST REVISION: 7/98

DESCRIPTION: The Crocodile Lake National Wildlife Refuge consists of approximately 5,500 acres of mangrove wetlands, 300 acres of open water, and 1,200 acres of globally endangered tropical hardwood hammock on Key Largo. The Refuge was established in 1980 to protect habitat critical to several endangered endemic animals, including the Schaus' swallowtail butterfly, Key Largo woodrat, Key Largo cotton mouse, and American crocodile. Approximately one-quarter of all American crocodile nests in the US occur on this Refuge. The Refuge also provides habitat for other imperiled species, including the white-crowned pigeon, liguus tree snail, Eastern indigo snake, West Indian manatee, and osprey.

RESTORATION BENEFITS: Completion of this acquisition project will significantly contribute to the Multi-Species Recovery Strategy (TS19-M) by protecting and preserving a globally endangered plant community which provides habitat for four federally-listed endemic animals and a host of associated imperiled plants and animals. This project compliments complete North Key Largo Hammocks (CA7-L), which provides many of the same restoration benefits. In addition, public ownership will allow control of invasive exotic species on the lands slated for purchase, thereby reducing the threat posed by these species to native communities. These lands also serve as a buffer to the Outstanding State Waters of Card and Barnes Sounds at the southern end of the C-111 canal.

Time Line and Fiscal Year Budget (in thousands of dollars) for Complete Crocodile Lake National Wildlife Refuge																
Task	97	98	99	00	01	02	03	04	05	06	07	08	09	10	Unprog	Total
USFWS																
Project																
Subtotal		400	200	186												\$786

TITLE: Complete Florida Keys Ecosystem CARL Project			
SUBREGION: 6	PROJECT ID: FK05	FINANCIAL REQUIREMENT:	
PROGRAM CATEGORY: Land Acquisition	BUDGET CATEGORY: Land Acquisition	FDEP:	
PROJECT PLAN MANAGER: John Outland (850) 488-4892	BASIS: 1, 2 and 3	TOTAL: \$37,692,832 (estimated)	
LEAD ORGANIZATION(S): FDEP		APPROPRIATED TO DATE:	
SUPPORTING ORGANIZATION(S): USFWS, FGFWFC, MCLA		FDEP:	
COUNTY(S): Monroe		TOTAL: \$29,696,425	
LINKED PROJECTS: Dependent on: Critical to: Associated with: TS19, FK06		REMAINING FINANCIAL REQUIREMENT:	
START: 1992	END: when completed	TOTAL: \$7,996,407 (estimated)	
		APPROVED: 11/97	LAST REVISION: 7/98

DESCRIPTION: This project, in conjunction with the Complete National Key Deer Refuge proposal, includes the remaining 4,438 acres of tropical hardwood hammocks and pine rocklands of significant size and quality remaining in the Florida Keys from southern Key Largo to Sugarloaf Key.

RESTORATION BENEFITS: This project will result in the protection of the largest remaining parcels of the rapidly diminishing globally endangered tropical hardwood hammock and pine rocklands plant communities and critical freshwater resources. The benefits of protecting these habitats will extend to a host of associated imperiled species of plants and animals, such as the white-crowned pigeon, Florida (*Liguus*) tree snail, Florida tree cactus, Lower Keys marsh rabbit, and Garber's spurge, as well as hundreds of species of migratory birds. Public ownership of these lands will allow the removal of invasive exotic species which are further threatening native ecosystems. Protection of these remaining natural areas is also critical to preventing further declines in nearshore water quality associated with development and stormwater runoff. Completion of this project supports the FWS's and FDEP's approximately \$50,000,000 investment in protecting the natural resources of the Keys. Completion will significantly contribute to the Multi-Species Recovery Strategy (TS19) by protecting and preserving habitats critical to many imperiled plant and animal species.

Time Line and Fiscal Year Budget (in thousands of dollars) Complete Florida Keys Ecosystem CARL Project																
Task	97	98	99	00	01	02	03	04	05	06	07	08	09	10	Unprog	Total
Program																
Project																
FDEP		3,000	3,000	1,996												
Subtotal		3,000	3,000	1,996												\$7,996

TITLE: Complete National Key Deer Refuge			
SUBREGION: 6	PROJECT ID: FK06	FINANCIAL REQUIREMENT:	
PROGRAM CATEGORY: Land Acquisition	BUDGET CATEGORY: Land Acquisition	Federal: Land and Water Conservation Fund	
PROJECT PLAN MANAGER: Stieglitz 305/872-2239	BASIS: 1, 2, and 3	TOTAL: \$14,000,000	APPROPRIATED TO DATE:
LEAD ORGANIZATION(S): USFWS		TOTAL: \$0	REMAINING FINANCIAL REQUIREMENT:
SUPPORTING ORGANIZATION(S): DEP, SFWMD, MCLA		TOTAL: \$14,000,000	
COUNTY(S): Monroe		APPROVED: 8/96	LAST REVISION: 11/97
LINKED PROJECTS: Dependent on: Critical to: Associated with: TS19, FK05			
START: 1997	END: 2001		

DESCRIPTION: The National Key Deer Refuge was established to protect and maintain the remaining 4,059 acres of habitat for the endangered Key Deer, which is threatened by land clearing for residential housing. This project would complete the Refuge by acquiring a system of no-development corridors on the south half of Big Pine Key to ensure the continued protection of Key Deer habitat. At the same time, the Refuge maintains more than 80 percent of the remaining pine Rockland habitat in the Florida Keys.

RESTORATION BENEFITS: Acquisition of these lands is the highest priority recovery action for the endangered Key deer by protecting the largest remaining parcels of the rapidly diminishing globally endangered tropical hardwood hammock and pine rocklands plant communities and critical freshwater lenses on Big Pine Key. The benefits of protecting these habitats will extend to a host of associated imperiled species of plants and animals, such as the white-crowned pigeon, liguus tree snail, Florida tree cactus, Lower Keys marsh rabbit, and Garber's spurge, as well as hundreds of species of migratory birds. Public ownership of these lands will allow the removal of invasive exotic species which are further threatening native ecosystems. Protection of these remaining natural areas is also critical to preventing further declines in nearshore water quality associated with development and stormwater runoff. Completion of this project supports the FWS's and FDEP's approximately \$50,000,000 investment in protecting the natural resources of the Keys. Completion will significantly contribute to the Multi-Species Recovery Strategy (TS19) by protecting and preserving habitats critical to many imperiled plant and animal species.

Time Line and Fiscal Year Budget (in thousands of dollars) for Complete National Key Deer Refuge																
Task	97	98	99	00	01	02	03	04	05	06	07	08	09	10	Unprog	Total
Master Plan																
Project																
		4000	4000	4000	2000											14,000
Subtotal		4000	4000	4000	2000											\$14,000

TITLE: Complete North Key Largo Hammocks State Botanical Site			
SUBREGION: 6	PROJECT ID: FK07	FINANCIAL REQUIREMENT:	
PROGRAM CATEGORY: Land Acquisition	BUDGET CATEGORY: Land Acquisition	TOTAL: \$73,733,875 Estimated	
PROJECT PLAN MANAGER: John Outland 850-488-4892	BASIS: 1 & 3	APPROPRIATED TO DATE:	
LEAD ORGANIZATION(S): FDEP		TOTAL: \$74,374,416	
SUPPORTING ORGANIZATION(S): USFWS		REMAINING FINANCIAL REQUIREMENT:	
COUNTY(S): Monroe		TOTAL: \$2,733,841 Estimated	
LINKED PROJECTS: Dependent on: Critical to: Associated with: CA3-L, TS19		APPROVED: 8/96	
START: 1983	END: Completion	LAST REVISION: 7/98	

DESCRIPTION: The hammocks of north Key Largo form the largest stand of West Indian tropical forest in the United States. This rapidly disappearing forest, which is called Rockland forest, supports a wide diversity of rare plant and animal species. Degraded water quality is becoming an increasing issue in Florida Bay and the Florida Keys, as natural lands are converted to residential housing and commercial development. The project area has over 10 miles of shoreline that directly influences the adjacent waters of John Pennekamp Coral Reef State Park. As in other parts of the Keys, development seriously threatens this area.

RESTORATION BENEFITS: Protecting the remaining natural areas in the Keys will be critical to preventing water quality from degrading further. The preservation of this area in its natural state is important for maintaining the high degree of water quality that is necessary to support the living reef of John Pennekamp State Park. The project is designated for use as a botanical site, with such uses as hiking and nature appreciation. Completion of this acquisition project will significantly contribute to the Multi-Species Recovery Strategy (TS19) by protecting and preserving a globally endangered plant community which provides habitat for four federally-listed endangered endemic animals and a host of associated imperilled plants and animals. This project compliments Complete Crocodile Lake National Wildlife Refuge (CA3), which provides many of the same restoration benefits. In addition, public ownership will allow control of invasive exotic species on the lands slated for purchase, thereby reducing the threats posed by these species to native communities.

Time Line and Fiscal Year Budget (in thousands of dollars)																
Task	97	98	99	00	01	02	03	04	05	06	07	08	09	10	Unprog	Total
Master Plan																
Project																
		1,000	1,000	733												
Subtotal		1,000	1,000	733												\$2,733

TITLE: Florida Keys Carrying Capacity Study			
SUBREGION: 6	PROJECT ID: FK14	FINANCIAL REQUIREMENT:	
PROGRAM CATEGORY: Management	BUDGET CATEGORY: Management	USACE: \$3,000,000	State of Florida: \$3,000,000
PROJECT PLAN MANAGER: Charles Pattison: (850) 922-1751 CPT Ted Pruett: (904) 232-3952	BASIS: 1	TOTAL: \$6,000,000	APPROPRIATED TO DATE:
LEAD ORGANIZATION(S): USACE/State of Florida		DCA: \$500,000	
SUPPORTING ORGANIZATION(S): FWS, FDOT, SFWMD, FDEP, HRS, FDCA, Monroe Co.		TOTAL: \$500,000	REMAINING FINANCIAL REQUIREMENT:
COUNTY(S): Monroe		TOTAL: \$5,500,000	
LINKED PROJECTS: Dependent on: FK15, FK16, FK17 Critical to: Associated with: FK18		APPROVED: 11/97	
START: 1998	END: 2001	LAST REVISION: 2/98	

DESCRIPTION: In 1996 the Governor issued Executive Order 96-108, which directed public agencies to take action to improve environmental conditions in the Keys. Included in the order was the direction to conduct a carrying capacity study/analysis. The analysis will develop information that will improve decision-making regarding development approvals and infrastructure investments, and its impact on the ecology and natural system in the Florida Keys and Florida Bay. The study will specifically address recent findings made by the Governor and Cabinet that the Monroe County Comprehensive Plan was not in compliance with growth management statutes. This finding was made because near shore waters, sea grasses, and the Key Deer have reached their carrying capacity limits, public hurricane evacuation is at the upper limit of acceptability, and impacts from the development of existing and vacant property are inconsistent with the continued protection of sensitive environmental resources. The State of Florida has spent \$177,000 to date in scope of work development for the study with the U.S. Army Corps of Engineers. The Department of Community Affairs and the Corps of Engineers are in the final stages of negotiations for \$1.5 million for work in kind credit. This commitment by the state combined with an aggressive effort to include public input into the scoping process has resulted in the Corps of Engineers developing a unique scope of work for the study.

RESTORATION BENEFITS: The Florida Keys, including Florida Bay and the offshore coral reefs and seagrasses, are a threatened natural area of international significance. Poorly managed growth and development in the Keys has overwhelmed the area's fragile ecology and quick action must be taken to arrest and reverse the decline. While not blocking all new growth, the Governor and Cabinet recently limited the number of building permits that can be issued by Monroe County.

The study will determine what level of human population and activities that can be supported by a healthy, balanced, functioning ecosystem in the Florida Keys through the identification of component thresholds which define ecosystem sustainability. The study will combine existing and new data in a usable form and provide a comprehensive basis for coordinating and strengthening land use planning efforts by local, state, and federal agencies. This study will combine data from all agencies active in the Florida Keys and provide projections of the consequences for both action and inaction. This study will provide a tool, for making sound planning decisions, decisions that are central to a sustainable Florida Keys ecosystem.

Time Line and Fiscal Year Budget (in thousands of dollars) for Florida Keys Carrying Capacity Study																
Task	97	98	99	00	01	02	03	04	05	06	07	08	09	10	Unprog	Total
Study																
Project																
State of Florida			500	1,250	1,250											3,000
USACE		200	500	1,250	1,050											3,000
Subtotal		200	1,000	2,500	2,300											\$6,000

Note: *** Critical Project Funding - requires approval from HQ USACE, PCA negotiation (this project is currently in the final stages negotiations) with sponsor, contract development and contract award prior to start of project, this is underway now and is estimated to take approximately a year to complete.

TITLE: Florida Keys Nutrient Feasibility Study			
SUBREGION : 6	PROJECT ID: FK15	FINANCIAL REQUIREMENT:	
PROGRAM CATEGORY: Management	BUDGET CATEGORY: Research	State	\$6,000
PROJECT PLAN MANAGER: Jack Teague (305) 293 7511	BASIS: 1	Federal	\$560,000
LEAD ORGANIZATION(S):		TOTAL:	\$566,000
SUPPORTING ORGANIZATION(S): USEPA		APPROPRIATED TO DATE:	
COUNTY(S): Monroe		DOH	\$6,000
LINKED PROJECTS: Dependent on:		EPA	\$560,000
Critical to: FK21		Total	\$566,000
Associated with: FK17, FK18		REMAINING FINANCIAL REQUIREMENT	
START: Project Underway 9/96	END: 1998	TOTAL:	\$0
		APPROVED: 11/97	LAST REVISION: 7/98

DESCRIPTION: The purpose of this project is to establish the capabilities of known on-site sewage disposal system (OSDS) technologies to consistently meet an established nutrient effluent standard. Effective 1 July 1993 Chapter 381.0065, F.S. only permits the use of OSDS in the Keys which are capable of meeting the AWT effluent standard (Chapter 403.086, F.S.) Prior to the adoption of this effluent standard, there had been no specific nutrient standard for OSDS. Thus, there was no Institutional knowledge or experience with any OSDS technologies regarding their capacity to meet a nutrient standard. Five technologies, were chosen for the demonstration and testing phases of the project. Four are aerobic treatment units and one consists of a standard septic tank configuration with a drip irrigation component. The systems and their components are connected in such a ways that components may be mixed among systems to achieve the most efficient system for nutrient removal possible.

This project was intended to be a one year effort. It was extended an additional year(1998-99) to determine if nutrient removal efficiencies change with the age of the system. Additionally, project managers can better establish how fast certain components of the systems will load with nutrients, and therefore, determine how often these components will have to changed or recharged.

RESTORATION BENEFITS: As these systems are completely tested, are approved for use in Chapter 64E-6, Part II, and become available for general use, significant reductions in nutrient loading will occur.

This is one of a number of efforts under way currently to improve wastewater treatment technologies in the Keys. The Sanitary Wastewater Master Plan (SWMP) for the Keys will prioritize improvements overall, making recommendations as to the most economically and environmental efficient systems throughout the Keys. The SWMP project team will rely heavily on the information from this project before making any recommendations as to the best systems, mix of systems, or institutional approaches to managing wastewater in the Keys.

STATUS: COMPLETED

Time Line and Fiscal Year Budget (in thousands of dollars) for Florida Keys Nutrient Feasibility Study																
Task	97	98	99	00	01	02	03	04	05	06	07	08	09	10	Unprog	Total
Research																
Project																
State	0	6														6
EPA	500	60														560
Subtotal	500	66														\$566

TITLE: Florida Keys National Marine Sanctuary Water Quality Protection Program			
SUBREGION : 8	PROJECT ID: FK18	FINANCIAL REQUIREMENT:	
PROGRAM CATEGORY:	BUDGET CATEGORY:	TOTAL: \$8,474,200 for first five years	
Management	Research		
PROJECT PLAN MANAGER: McManus (404) 562-9385	BASIS: 2	APPROPRIATED TO DATE:	
LEAD ORGANIZATION(S): USEPA		EPA:	1995 \$1,458,200
SUPPORTING ORGANIZATION(S): NOAA, FDEP, SFWMD, Monroe County, FDCA, FDOH, NPS			1996 \$1,861,000
COUNTY(S): Monroe			1997 \$1,795,000
LINKED PROJECTS: Dependent on:			1998 \$1,680,000
Critical to: FK14, FK15, FK16, FK17		TOTAL:	\$6,794,200
Associated with: FK28		REMAINING FINANCIAL REQUIREMENT:	
START: 1995		TOTAL: \$1,680,000 for next year	
END: 1999		APPROVED: 11/97	LAST REVISION: 8/98

DESCRIPTION: : EPA and the State of Florida , in consultation with NOAA, developed the Water Quality Protection Program (WQPP) for the Florida Keys National Marine Sanctuary. The purpose of the WQPP is to recommend priority corrective actions and compliance schedules addressing point and nonpoint sources of pollution to restore and maintain the chemical, physical, and biological integrity of the Sanctuary. A WQPP Document (September 1996) describes the suite of activities that must be performed to fulfill the goals of the Program. Those activities include, but are not limited to, wastewater and stormwater demonstration projects, comprehensive water quality, seagrass, and hard bottom monitoring, and special studies. Special studies are addressing the role of Florida Bay and land-based sources in water quality, movement and nutrient dynamics of wastewater injected into the groundwater in the Keys, human health concerns in residential canals, coral diseases, and effects of mosquito spraying on nontarget organisms. The WQPP is a long term program and the financial requirements reflect the first five years of this effort.

RESTORATION BENEFITS: The WQPP will restore and maintain a balanced, indigenous population of corals, shellfish, and wildlife in Sanctuary waters

Time Line and Fiscal Year Budget (in thousands of dollars) for Florida Keys National Marine Sanctuary Water Quality Protection Program																
Task	97	98	99	00	01	02	03	04	05	06	07	08	09	10	Unprog	Total
Program	██████████															
Project																
EPA	1795	1680	1680													\$8,474.2
Subtotal	1795	1680	1680													\$8,474.2

TITLE : Florida Keys Cesspit Identification and Elimination Program - Administrative Funding			
SUBREGION :	PROJECT ID: FK21	FINANCIAL REQUIREMENT:	
PROGRAM CATEGORY: Management	BUDGET CATEGORY: Water Quality	Local	192,000 Operating Permit Fees by Local Ord.
PROJECT PLAN MANAGER: Jack Teague 305-293-7511	BASIS: 1	State	200,000 FY 99-00 Leg. Bud. Req. (DOH) submitted as contingency if local fees do not materialize
LEAD ORGANIZATION(S): DOH		TOTAL:	\$250,000 comb. of local/state must provide this amount as a minimum
		APPROPRIATED TO DATE:	
		Monroe	~\$15,500 Operating Permit Fees by Local Ordinance in FY 97-98.
SUPPORTING ORGANIZATION(S): Monroe County, EOG		EOG	905,000 3 successive fiscal years of gen. rev. appropriation
COUNTY(S): Monroe		FDCA	110,000 1 time Coastal Program Grant FY 96-97
			Total: \$1,030,500
LINKED PROJECTS: Dependent on:		REMAINING FINANCIAL REQUIREMENT	
Critical to: FK14, FK18		State	200,000 FY 99-00 Leg. Bud. Req. (DOH)
Associated with: FK17			50,000 Operating permit fees/other local contribution
		TOTAL:	\$250,000 minimum necessary to sustain program at Monroe County Health Department
START: 8/96	END: 2007	APPROVED: 11/97	LAST REVISION: 7/98

DESCRIPTION: The cesspit identification and elimination program is required as part of the implementation of Monroe County's 2010 Comprehensive Plan. The Comprehensive Plan received its final adoption by the Governor and Cabinet in July of 1997. Approximately 25,000 residential and commercial units in the Florida Keys are served by On-Site Sewage Disposal Systems (OSDS). Over 7,000 of these systems have no known permit history. Monroe County adopted Ordinance 03-1997 early in 1997, which requires the inspection of all on-site systems by the year 2007. In the first five years, the program will focus on the inspection of those systems with no known permits. Inspections of older properties will be conducted first, with successively newer properties inspected in succeeding years. Many properties will contain cesspits and these will be required to be replaced immediately. Non functioning permitted systems will be required to be upgraded or replaced as well, dependent on the condition of the system. Each property owner with a functioning and permitted system will receive a five year renewable operating permit for the system on their property. After the initial ten year period, during which all systems will be inspected for the first time, a program requiring five year operating permit renewals will remain in place indefinitely. The cesspit identification and elimination program was adopted by the Monroe County Board of Commissioners and is being implemented by DOH, through a Memorandum of Understanding between Monroe County, DOH, FDEP, and the Executive Office of the Governor.

Significant costs are associated with initiating a new program such as this. In its inaugural year, the program was funded through the efforts of the Executive Office of the Governor (EOG). The EOG placed \$500,000 in the legislative budget to carry out the first phase of the program. Remaining funding dollars were to be obtained from application fees for the initial inspection phase of the project and later from the approval of new operating permits as they come due each five years. Application fees have not materialized as projected because Monroe County government has not enforced compliance with the ordinance. The Monroe County Health Department continues to seek General Revenue appropriations to support staff to conduct the program until enforcement of the ordinance generates anticipated permit revenue.

RESTORATION BENEFITS: Implementation of the cesspit identification and elimination program will assist in the reduction of the nutrient load of such systems to Keys' ground, confined, and nearshore waters. Nutrient loading has been identified as one of the major impacts resulting from existing and future development in the Keys. Though stormwater is also a significant contributor to overall loading, the majority emanates from wastewater systems. The majority of the wastewater loading outside of the City of Key West comes from on-site systems. Since cesspits, unit for unit, are the worst contributors to the nutrient loading problem, they have been targeted first. Efforts underway with the Monroe County Sanitary Wastewater Master Plan will provide a more comprehensive and long term view of potential solutions to the nutrient loading problem.

Florida Keys- Sub-Region 6

Time Line and Fiscal Year Budget (in thousands of dollars) for : Florida Keys Cesspit Identification and Elimination Program - Administrative Funding																
Task	97	98	99	00	01	02	03	04	05	06	07	08	09	10	Unprog	Total
Project																
EOG	500	282	123	200												1105 155
<i>Subtotal</i>	500	2,975														\$11205

TITLE: Florida Keys Tidal Creek Restoration Project			
SUBREGION : 8	PROJECT ID: FK28	FINANCIAL REQUIREMENT:	
PROGRAM CATEGORY: Management	BUDGET CATEGORY: Research		
PROJECT PLAN MANAGER: R.J. Hebling (305) 289-2310	BASIS: 1,2	TOTAL:	\$1,500,000
LEAD ORGANIZATION(S): USEPA		APPROPRIATED TO DATE:	
SUPPORTING ORGANIZATION(S): NOAA, EPA, SFWMD, Monroe County, FDCA, FDOT, FGFC		FDEP	\$250,000
COUNTY(S): Monroe		TOTAL:	\$250,000
LINKED PROJECTS: Dependent on: Critical to: FK18 Associated with:		REMAINING FINANCIAL REQUIREMENT:	
		TOTAL:	\$1,250,000
START: 1998	END: 2000	APPROVED: 11/97	LAST REVISION: 8/98

DESCRIPTION: This project will restore historic flow ways between the Atlantic Ocean and the Gulf of Mexico which were blocked during construction of Highway U.S. 1. An existing tidal creek restoration project in the vicinity of the proposed restoration projects was fully successful. Three tidal creeks in the vicinity of Marathon, Florida have been selected for restoration. Culverts will be located and sized to maximize flow and placed under U.S. 1 to allow tidal exchange and flushing. Sites of the three flow ways to be restored are: Tarpon Creek, Fat Deer Key (MM 54), unnamed flow way between Fat Deer Key and Long Point Key (MM56), and unnamed creek at Little Crawl Key (MM57). Monitoring of water quality, benthic community composition, and sediment particle size will be performed before construction and 0.5 and 1 year after construction. Additional tidal flow way restoration projects will be identified in the future based upon results of these three initial restoration projects.

RESTORATION BENEFITS: It is fully anticipated that adequate culverting will improve circulation and tidal flushing of the currently blocked flow ways. Flushing will remove accumulated organic matter which has collected in the upper reaches of the impounded creeks. Increased flushing and circulation will result in improved water quality and habitat value of the tidal creek habitats.

Time Line and Fiscal Year Budget (in thousands of dollars) for Florida Keys Tidal Creek Restoration Project																
Task	97	98	99	00	01	02	03	04	05	06	07	08	09	10	Unprog	Total
Program		█	█													
Construction		█	█													
Monitoring		█	█	█												
Project																
FDEP		250														
Subtotal		250	600	650												\$1,500

TITLE: Florida Keys Invasive Exotic Plant Control Strategy			
SUBREGION: 6	PROJECT ID: FK31	FINANCIAL REQUIREMENT:	
PROGRAM CATEGORY: Management	BUDGET CATEGORY: Management		
PROJECT PLAN MANAGER: Stieglitz (305) 872-2239	BASIS: 1, 2	TOTAL: \$190,000	
LEAD ORGANIZATION(S): USFWS		APPROPRIATED TO DATE:	
SUPPORTING ORGANIZATION(S): TNC, FAS, FDOT, GFC, FDEP, Monroe County		TOTAL: 0	
COUNTY(S): Monroe		REMAINING FINANCIAL REQUIREMENT:	
LINKED PROJECTS: Dependent on: Critical to: Associated with: TS19, FK14		TOTAL: \$190,000	
START: 1998	END: 2000	APPROVED: 11/97	LAST REVISION: 10/97

DESCRIPTION: This project will gather, synthesize and distribute critical data on the extent, distribution and treatment of harmful, non-indigenous plant species in the Florida Keys. This information will meet needs identified in the 1996 publication *South Florida Restoration: Scientific Needs* for the Florida Keys related to harmful non-indigenous plant species.

The Florida Keys Invasive Exotics Task Force has completed a Keys-wide survey of exotic plant distribution with participation from its members, which include the Florida Audubon Society; Florida Departments of Community Affairs, Environmental Protection, and Transportation; Florida Game and Freshwater Fish Commission; Monroe County; Key Deer Protection Alliance; The Nature Conservancy; Lewis Environmental Services; and the U.S. Fish and Wildlife Service. This project will capitalize on the information collected by these agencies by integrating, synthesizing and distributing the information, then testing it through demonstration projects.

Funding for this project will allow the completion of (a) research into Best Management Practices (BMP's) for leadtree, (b) investigations of the biological agent responsible for a mysterious die-off of Australian Pines in the Florida mKeys (to identify another biological control agent that could be used elsewhere in South Florida), (c) demonstration projects of BMP's for revegetation of sites that have been cleared of exotic vegetation, and (d) monitoring of plant eradication projects currently being conducted by federal, state, local, and non-governmental agencies and organizations. All of these efforts are consistent with the recommendations of the Florida Keys Invasive Exotic Task Force and will provide a major contribution to exotic plant control in the Florida Keys.

RESTORATION BENEFITS: The identification and ultimate removal of exotic vegetation currently degrading the globally-endangered pine rocklands and tropical hardwood hammocks will restore the healthy functioning of these communities and increase their ability to restore and maintain the native flora and fauna of the Florida Keys, increase the carrying capacity of the Florida Keys for native species, contribute to the recovery of endangered and threatened species (a critical element of the Multi-Species Recovery Strategy), Maintain wildlife corridors in productive native habitats, and restore natural system functions. For instance, indicator species identified by the Science Sub-Group, including the Ligous Tree Snail and White-Crowned Pigeon, will benefit directly as a result of this project through habitat restoration.

Time Line and Fiscal Year Budget (in thousands of dollars) for Florida Keys Nutrient Feasibility Study																
Task	97	98	99	00	01	02	03	04	05	06	07	08	09	10	Unprog	Total
Preparation & implement																
Project																
USFWS		(TBD)	(TBD)	(TBD)												\$190
Subtotal																\$190

TITLE: Big Pine and No Name Keys Multi- Species Habitat Conservation Plan			
SUBREGION : 6	PROJECT ID: FK32	FINANCIAL REQUIREMENT:	
PROGRAM CATEGORY: Science	BUDGET CATEGORY: Habitat Protection	DCA	\$100,000
PROJECT PLAN MANAGER: Rowena Garcia 305/289-2402	BASIS: 1,2	DOT	\$100,000
		Monroe Co.	\$100,000
		TOTAL:	\$300,000
LEAD ORGANIZATION(S): FDCA, DOT, Monroe County		APPROPRIATED TO DATE:	
SUPPORTING ORGANIZATION(S): Monroe County, USFWS		TOTAL: \$0	
COUNTY(S): Monroe		REMAINING FINANCIAL REQUIREMENT:	
LINKED PROJECTS: Dependent on: Critical to: Associated with: TS19, FK14		TOTAL: \$300,000	
START: FY99	END: FY00	APPROVED: 11/97	LAST REVISION: 2/98

DESCRIPTION: This project will synthesize the existing information on the endangered and threatened species in Big Pine and No Name Keys, focusing on the Key deer and develop a Habitat Conservation Plan which will be used to recover imperiled species and guide growth and development. Much of the data necessary for development of this HCP is in existence, but requires careful collection and assemblage in the light of the public to derive a meaningful plan which will settle issues related to the needs of wildlife and humans co-existing in Big Pine and No Name Keys. Funding is required to complete this important project.

RESTORATION BENEFITS: The HCP will address the recovery needs of not only the well-known endangered Key deer, but protection and preservation of two globally endangered plant communities in which they live and a host of other imperiled species which also depend upon these same habitats, including the white-crowned pigeon, liguus tree snail, Keys tree cactus, and Garber's spurge. These recovery benefits will directly contribute to the objectives and goals of the Multi-Species Recovery Strategy and bear upon the Florida Keys Carrying Capacity Study.

Time Line and Fiscal Year Budget (in thousands of dollars) for Florida Keys Multi- Species Habitat Conservation Plan																
Task	97	98	99	00	01	02	03	04	05	06	07	08	09	10	Unprog	Total
Develop Plan																
Project																
DCA			100													
DOT			100													
Monroe			100													300
Subtotal			300													\$300

TITLE: Team OCEAN			
SUBREGION: 6	PROJECT ID: FK42	FINANCIAL REQUIREMENT:	
PROGRAM CATEGORY: Public Information & Education	BUDGET CATEGORY: Habitat Protection & Natural Resource Management	NOAA: (NOS)	\$680,000
PROJECT PLAN MANAGER: Mary Tagliareni (305)852-7717	BASIS: 3	TOTAL:	\$680,000
LEAD ORGANIZATION(S): NOAA (Florida Keys National Marine Sanctuary)		APPROPRIATED TO DATE:	
SUPPORTING ORGANIZATION(S):		\$40,000	
COUNTY(S): Monroe		TOTAL: \$40,000	
LINKED PROJECTS: Dependent on: Critical to: Associated with:		REMAINING FINANCIAL REQUIREMENT:	
START: 1997		TOTAL: \$640,000	
END: 9/30/2001		APPROVED:	LAST REVISION: 8/98

DESCRIPTION: Team OCEAN (Ocean Conservation Education Action Network) is a new program being implemented by the Florida Keys National Marine Sanctuary (FKNMS). This outreach program is designed to provide on-water and dockside education to boaters, divers, snorkelers, and other sanctuary users about practical ways to protect the marine ecosystem and minimize physical impacts from boating activities in the Florida Keys. The first element of this new program has focussed on utilizing teams of qualified and trained volunteers who use sanctuary vessels to visit the most heavily utilized reefs throughout the Keys. Brochures, applicable regulations, boating tips, and other information is distributed to boaters by Team Ocean interpreters. Team OCEAN interpreters have also prevented numerous groundings through direct intervention on the water, significantly reducing potential injury to living coral. This result, along with the hundreds of personal contacts made with boaters by this team and the feedback received, indicate the success already being made in educating boaters on the water, and in significantly reducing physical impacts to the living resources in the sanctuary. This new program has expanded for wider coverage throughout the Keys as South Florida restoration funds have become available. The continuation of this program, including the implementation of additional phases required for full development of Team OCEAN, is entirely dependent upon South Florida restoration funds, as this program is not funded by FKNMS program funds.

RESTORATION BENEFITS: Significant reduction of injury to coral and other living resources due to the unintentional impacts from boating activities in the Florida Keys. A fully implemented Team OCEAN program will heighten the awareness of boaters as to the importance of proper boating practices in shallow local waters for protecting the fragile reefs in the Keys. This is especially important because of the rapidly growing numbers of both resident and visiting boaters. The Team OCEAN program is important to overall ecosystem restoration as a demonstrated means of preventing the continued physical destruction of coral reefs from boating impacts, and to help ensure the sustainability of this critical component of the South Florida ecosystem into the long-term future.

Time Line and Fiscal Year Budget (in thousands of dollars) for Team OCEAN																
Task	97	98	99	00	01	02	03	04	05	06	07	08	09	10	Unprog	Total
Program																
Project																
NOAA (NOS)	40	160	160	160	160											
Subtotal	40	160	160	160	160											\$680

TITLE: Coral Reef Classroom			
SUBREGION: 6	PROJECT ID: FK43	FINANCIAL REQUIREMENT:	
PROGRAM CATEGORY: Public Information & Education	BUDGET CATEGORY: Habitat Protection & Natural Resource Management	NOAA: (NOS) \$110,320	State:
PROJECT PLAN MANAGER: Ivy Kelley (305)852-7717x36	BASIS: 3	TOTAL: \$110,320	
LEAD ORGANIZATION(S): NOAA (Florida Keys National Marine Sanctuary)/FDEP		APPROPRIATED TO DATE:	
SUPPORTING ORGANIZATION(S):		NOAA/FKNMS \$20,515	
COUNTY(S): Monroe		TOTAL: \$20,515	
LINKED PROJECTS: Dependent on: Critical to: Associated with:		REMAINING FINANCIAL REQUIREMENT:	
START: 1997	END: 9/30/2001	TOTAL: \$89,805	
		APPROVED: 11/97	LAST REVISION: 7/98

DESCRIPTION: Coral Reef Classroom (CRC) is a hands-on educational program conducted by the Florida Keys National Marine Sanctuary (FKNMS) to 8th grade students throughout the Florida Keys. which couples the scientific method with field observations in order to instill a personal sense of responsibility for environmental stewardship. The objectives of CRC are to teach basic coral reef ecology and biology; present concepts of habitat interdependence; engage in water quality sampling and evaluation; encourage analytical thinking and problem solving; demonstrate the role management plays in protecting natural resources; and inform students about careers in environmental science.

Each CRC cycle consists of two elements: a one-hour classroom presentation by FKNMS staff; and a five-hour boat/snorkeling excursion to the reef. Students experience their first hands-on practice with a Niskon bottle, Secchi disk, refractometer and dissolved oxygen sampling kit during the classroom session, along with a discussion about coral reef ecology. During the field trip, students have an opportunity to use these instruments and taught how to collect and record oceanographic data. A plankton tow along the shallow reef site completes the sampling component as students collect, observe and identify plankton. The remainder of the trip is spent snorkeling on the reef, where FKNMS staff and volunteers offer guidance on reef ecology and marine diversity.

RESTORATION BENEFITS: Educating students about coral reef ecology and south Florida environmental issues, along with increasing their awareness of the direct and indirect impacts on the ecosystem, will help toward building a long-term environmental ethic among young people. These students will inherit and become responsible for maintaining a sustainable environment in the future.

Time Line and Fiscal Year Budget (in thousands of dollars) for Coral Reef Classroom																
Task	97	98	99	00	01	02	03	04	05	06	07	08	09	10	Unprog	Total
Program																
Project																
NOAA (NOS)	20.5	20.5	21.3	24.5	23.6											
Subtotal	20.5	20.5	21.3	24.5	23.6											\$110.32

TITLE: Biscayne Aquifer Groundwater Investigation			
SUBREGION: 6	PROJECT ID: FK46	FINANCIAL REQUIREMENT:	
PROGRAM CATEGORY: Science	BUDGET CATEGORY: Research	TOTAL: \$27,450	
PROJECT PLAN MANAGER: Scott (904) 488-9380	BASIS: 3	APPROPRIATED TO DATE:	
LEAD ORGANIZATION(S): USGS, FDEP		TOTAL: \$27,450	
SUPPORTING ORGANIZATION(S): SFWMD		REMAINING FINANCIAL REQUIREMENT:	
COUNTY(S): Dade, Monroe		TOTAL: \$0	
LINKED PROJECTS: Dependent on: Critical to: Associated with:		APPROVED: 5/97	
START: 3/1997	END: 09/97	LAST REVISION: 12/96	

DESCRIPTION: Investigate strata of Biscayne Aquifer and groundwater flow from the aquifer into Biscayne Bay.

RESTORATION BENEFITS: Improve understanding of geological and hydrological relationships between the Biscayne Aquifer and Biscayne Bay.

Time Line and Fiscal Year Budget (in thousands of dollars) for Biscayne Aquifer Groundwater Investigation																
Task	97	98	99	00	01	02	03	04	05	06	07	08	09	10	Unprog	Total
Drilling, Lithography, Lab Analysis																
Project																
State	27.45															
Federal	0															
Subtotal	27.45															\$27.45

TITLE: Florida Keys National Marine Sanctuary: Zone Monitoring Program			
SUBREGION: 6	PROJECT ID: FK57	FINANCIAL REQUIREMENT:	
PROGRAM CATEGORY: Management	BUDGET CATEGORY: Monitoring	NOAA	\$2,730,000
PROJECT PLAN MANAGER: Haskell (305) 743-2437	BASIS: 2	TOTAL:	\$2,730,000
LEAD ORGANIZATION(S): NOAA		APPROPRIATED TO DATE:	
SUPPORTING ORGANIZATION(S): Florida DEP/FMRI, EPA, USGS		TOTAL:	\$1,040,000
COUNTY(S): Monroe		REMAINING FINANCIAL REQUIREMENT:	
LINKED PROJECTS: Dependent on: Critical to: Associated with:		TOTAL:	\$1,690,000
START: 1997	END: 9/30/02	APPROVED:	LAST REVISION: 8/98

DESCRIPTION: On July 1, 1997 NOAA and the State of Florida implemented the Nation's first large-scale marine zoning plan. Marine zoning is being implemented in the Florida Keys National Marine Sanctuary (FKNMS) to protect the biological diversity and integrity of the marine environment in the Keys. Results of the monitoring program will be used in 5 years (year 2002) by Sanctuary managers to evaluate the zones' effectiveness in protecting marine biodiversity and, who will, based in part on that evaluation, determine the future use of zoning as a management tool. The effect of the zones will be determined by monitoring changes inside and outside of the no-take areas.

The primary purpose of the monitoring in the first five years will be to test the following hypotheses: 1) The abundance and average size of most exploited fish species will change significantly as a result of the no-take zones; 2) the abundance, average size, and size range of spiny lobster will change significantly as a result of the no-take zones; 3) the abundance of some mobile and sessile invertebrates, other than coral, will change significantly as a result of the no-take zones; and 4) users' attitudes/perceptions towards resource quality and management will change significantly as a result of the no-take zones.

A hierarchical monitoring approach will be used consisting of the following three levels: Level I will focus on changes in ecosystem structure and function in the two largest zones and one research-only area where diving is prohibited, Level II will focus on changes in ecosystem structure (species abundances) and on changes in human activities and attitudes in the smaller no-take zones, and Level III will focus on changes in overall ecosystem health using volunteers in all of the zones.

RESTORATION BENEFITS: The Florida Keys National Marine Sanctuary represents the final downstream component of the South Florida ecosystem. As such it is essential to monitor biological and socioeconomic changes in the Sanctuary now while changes to the delivery of water quality and quantity are being made upstream. The Sanctuary's zone monitoring program will: 1) Provide monitoring of indicators of restoration effects, 2) contribute to a better understanding of the dynamics of the coastal ecosystem (region 6), and 3) provide information for a report card on the health of the South Florida ecosystem.

Time Line and Fiscal Year Budget (in thousands of dollars) for Florida Keys National Marine Sanctuary: Zone Monitoring Program																
Task	97	98	99	00	01	02	03	04	05	06	07	08	09	10	Unprog	Total
Program																
Project																
	410	530	530	530	530	200										2,730
Subtotal	410	530	530	530	530	200										\$2,730