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## PART III. IMPLEMENTATION SCHEDULE

The Implementation Schedule indicates task priorities, task numbers, task descriptions, duration of tasks, potential or participating parties, and lastly estimated costs (Table 6). These tasks, when accomplished, will bring about the recovery of the Florida manatee as discussed in Part II of this plan.

Parties with authority, responsibility, or expressed interest to implement a specific recovery task are identified in the Implementation Schedule. When more than one party has been identified the proposed lead party is indicated by an asterisk (\*). The listing of a party in the Implementation Schedule does not imply a requirement or that prior approval has been given by that party to participate or expend funds. However, parties willing to participate will benefit by being able to show in their own budget submittals that their funding request is for a recovery task which has been identified in an approved recovery plan and is therefore part of the overall coordinated effort to recover the Florida manatee. Also, Section 7(a)(1) of the ESA directs all federal agencies to utilize their authorities in furtherance of the purposes of the ESA by carrying out programs for the conservation of threatened and endangered species.

Following are definitions to column headings and keys to abbreviations and acronyms used in the Implementation Schedule:

### **PRIORITY NUMBER**

Priority 1 - An action that must be taken to prevent extinction or to prevent the species from declining irreversibly in the foreseeable future.

Priority 2 - An action that must be taken to prevent a significant decline in species population/habitat quality or some other significant impact short of extinction.

Priority 3 - All other actions necessary to provide for full recovery of the species.

**TASK NUMBER AND TASK** Recovery tasks as numbered in the Narrative Outline.

**RESPONSIBLE OR PARTICIPATING PARTY**

C Fish Industry	Commercial Fishing Industry
COE	U.S. Army Corps of Engineers
CZS	Chicago Zoological Society
DERM	Miami-Dade Department of Environmental Resources Management
EPA	U.S. Environmental Protection Agency
Ecotour Ind	Ecotourism Industry
FDEP	Florida Department of Environmental Protection
FIND	Florida Inland Navigation District
FPL	Florida Power and Light Company
FWC	Florida Fish and Wildlife Conservation Commission Bureau of Protected Species Management Florida Marine Research Institute Division of Law Enforcement
FWS	U.S. Fish and Wildlife Service
GDNR	Georgia Department of Natural Resources
LE	Law Enforcement
Local Gov'ts	Local Governments
M Industry	Marine Industries
MML	Mote Marine Laboratory
NMFS	National Marine Fisheries Service
NOAA	National Oceanic and Atmospheric Administration
NPS	National Park Service
OC	The Ocean Conservancy (formerly the Center for Marine Conservation)
Oceanaria	Cincinnati Zoo, Columbus Zoo, Homosassa Springs State Wildlife Park, Living Seas, Lowry Park Zoo, Miami Seaquarium, Mote Marine Laboratory, Sea World Florida and California, South Florida Museum
P Industry	Power Industries
Port Auth	Port Authorities
R Fish Industry	Recreational Fishing Industry
Sirenia	U.S. Geologic Survey - Sirenia Project
SMC	Save the Manatee Club
USCG	U.S. Coast Guard
USN	U.S. Navy
WMD's	Water Management Districts

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**ESTIMATED ANNUAL BUDGETS AND OTHER PROJECTIONS OF RECOVERY PARTNERS**

Based upon recovery partners' current or proposed FY2001 budgets, it is estimated that close to \$10 million is being spent annually on manatee recovery. This estimate does not include several significant recovery initiatives. Costs for USCG and FWC-DLE's manatee law enforcement efforts are not included in this total, nor are estimates included for COE, FDEP, and WMD regulatory programs which work regularly on manatee issues. Additionally, the COE's and the South Florida WMD's multi-million dollar project to retrofit navigational locks and water control structures with manatee protection technology in South Florida and FDEP's plan to retrofit structures at the Rodman Reservoir are not included in this total. It is possible that these programs may total an additional \$4 to 5 million annually.

**FWS** FY 2001-2002 budget proposal for \$1.36 million includes staff salary, recovery implementation projects, and a \$1 million congressional add-on for: (1) manatee law enforcement; (2) a new manatee sanctuary and refuges initiative; and (3) a warm-water refuge initiative. In addition, regulatory consultations pertaining to manatee issues cost approximately \$350 thousand annually in Florida. There is a need for two additional full time employees to handle the projected increase in consultations at a cost of \$150 thousand.

**COE, USCG, FDEP, and WMD's** regulatory programs work regularly on manatee issues; however it was not possible to project the annual costs of these programs.

**COE and South Florida WMD** have partnered through the Central and Southern Florida Project, including matching funds, over \$6.3 million has been budgeted to retrofit navigational locks and water control structures in South Florida with manatee protection technology during the next five years. In designing and constructing critical projects for the Everglades Restoration Project, water control structures are being designed to be manatee-safe, and cost estimates are not available for these projects.

**USCG** No estimate regarding the cost of USCG enforcement efforts has been provided. When on patrol, the USCG enforces all applicable federal laws and regulations. Costs of enforcing specific regulations, such as manatee speed zones, are not determinable. However, the USCG spends a significant amount of time patrolling navigable waterways that have speed zone regulations, and enforcement of speed zones is a high priority.

**Sirenia** FY 2001-2002 projected budget is \$683 thousand.

**FWC BPSM** FY July 2000 - June 2001 budget of \$1.566 million.

**FMRI** FY July 2000 - June 2001 budget of \$3.325 million. This includes: (1) FMRI's research budget for \$1.9 million; (2) \$1.1 million administered by FMRI and earmarked for the critical care Oceanaria facilities and to the University of Florida Veterinary School; and (3) an additional \$325 thousand in research contracts with MML that are administered by FMRI.

**DLE** No estimates were made regarding manatee law enforcement efforts, but the effort probably exceeds \$1.0 million.

**FDEP** is budgeting to retrofit the Buchman Lock and Kirkpatrick Dam with manatee protection technology. Costs are anticipated to exceed \$600 thousand over the next several years, however, this total is not included in the annual estimate.

**GDNR** FY 2001 budget of \$19 thousand.

**SMC** FY 2001 proposed budget of \$1.535 million.

**MML** FY 2001 manatee budget is \$366 thousand. This includes \$325 thousand in research contracts administered by FMRI and \$41 thousand from MML and CZS.

**Oceanaria** estimated costs of \$1.5 million for 50 manatees annually at \$30 thousand per animal for basic maintenance of captive and rehabilitating animals. The critical care facilities receive \$400 thousand from the Florida's Save the Manatee Trust Fund, and these funds are administered through the FWC-FMRI budget.

**FPL** projects FY 2001 budget that includes \$110 thousand for studying warm-water refuge issues and for education.

**Implementation Schedule**

**Florida Manatee Recovery Plan**

**U.S. Fish and Wildlife Service**

Priority	Task Number	Task Description	Task Duration	Participants	Estimated Fiscal Year Costs (\$1000s)					Comments
					FY1	FY2	FY3	FY4	FY5	
2	1.1	Promulgate special regulations for incidental take under the MMPA for specific activities.	5 yrs	FWS COE	95	95	95	50	50	
2	1.2	Continue state and federal review of permitted activities to minimize impacts to manatees and their habitat.	Continuous	FWS FWC COE FDEP GDNR M Industry SMC USCG WMDs	500 278  4	500 278  4	500 278  4	500 278  4	500 278  4	
2	1.2.1	Continue to review coastal construction permits to minimize impacts.	Continuous	FWS FWC COE GDNR SMC WMDs						
2	1.2.2	Minimize the effect of organized marine events on manatees.	Continuous	FWS FWC GDNR M Industry SMC USCG						

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**U.S. Fish and Wildlife Service**

Priority	Task Number	Task Description	Task Duration	Participants	Estimated Fiscal Year Costs (\$1000s)					Comments
					FY1	FY2	FY3	FY4	FY5	
2	1.2.3	Continue to review NPDES permits to minimize impacts.	Continuous	FWS FWC EPA FDEP GDNR P Industry SMC						
2	1.2.4	Pursue regulatory changes, if necessary, to address activities that are “exempt,” generally authorized, or not covered by state or federal regulations.	2 yrs	FWS COE M Industry SMC						
1	1.3	Minimize collisions between manatees and watercraft.	Continuous	<b>FWS</b> <b>FWC</b> FIND GDNR Local Gov’ts Local LE M Industry OC SMC USCG	25 439	25 439	25 439	25 439	25 439	

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**Florida Manatee Recovery Plan**

**U.S. Fish and Wildlife Service**

Priority	Task Number	Task Description	Task Duration	Participants	Estimated Fiscal Year Costs (\$1000s)					Comments
					FY1	FY2	FY3	FY4	FY5	
1	1.3.1	Develop and refine state waterway speed and access rules.	5 yrs to Develop  Continuous to Refine	FWS FWC Local Gov'ts M Industry OC SMC						
1	1.3.2	Develop and refine federal waterway speed and access rules.	3 yrs to Develop  Continuous to Refine	FWS FWC COE Local Gov'ts M Industry NPS OC SMC						
1	1.3.3	Post and maintain regulatory signs.	Continuous	FWS FWC FIND Local Gov'ts NPS USCG						

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**Florida Manatee Recovery Plan**

**U.S. Fish and Wildlife Service**

Priority	Task Number	Task Description	Task Duration	Participants	Estimated Fiscal Year Costs (\$1000s)					Comments
					FY1	FY2	FY3	FY4	FY5	
1	1.4	Enforce manatee protection regulations.	Continuous	FWS FWC Local LE MML NPS USCG	655 9	655 9	655 9	655 9	655 9	
2	1.4.1	Coordinate law enforcement efforts.	Continuous	FWS FWC Local LE NPS USCG						
2	1.4.2	Provide law enforcement officer training.	Continuous	FWS FWC Local LE NPS USCG						
2	1.4.3	Ensure judicial coordination.	Continuous	FWS						
2	1.4.4	Evaluate compliance with manatee protection regulations.	Periodic	FWS FWC MML SMC						



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**U.S. Fish and Wildlife Service**

Priority	Task Number	Task Description	Task Duration	Participants	Estimated Fiscal Year Costs (\$1000s)					Comments
					FY1	FY2	FY3	FY4	FY5	
1	1.4.5	Educate boaters about manatees and boater responsibility.	Continuous	FWS FWC Local Gov'ts Local LE M Industry MML OC SMC USCG						
2	1.4.6	Evaluate effectiveness of enforcement initiatives.	Periodic	FWS FWC Local Gov'ts MML						
2	1.4.7	Provide updates of enforcement activities to managers.	Continuous	FWS Local LE USCG						
1	1.5	Assess and minimize mortality caused by large vessels.	1 yr to Assess  Continuous to Reduce	<b>FWS</b> FWC COE Port Auth. USCG USN	5	5	5	5	5	
2	1.5.1	Determine means to minimize large vessel-related manatee deaths.	2 yrs	FWS						

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**Florida Manatee Recovery Plan**

**U.S. Fish and Wildlife Service**

Priority	Task Number	Task Description	Task Duration	Participants	Estimated Fiscal Year Costs (\$1000s)					Comments
					FY1	FY2	FY3	FY4	FY5	
1	1.52	Provide guidance to minimize large vessel-related manatee deaths.	Continuous	FWS FWC COE FDEP USCG						
1	1.6	Eliminate manatee deaths in water control structures, navigational locks, and drainage structures.	Continuous	FWS FWC COE DERM FDEP WMDs	10 10	10 10	10 10	10 10	10 10	
1	1.6.1	Install and maintain protection technology at water control structures where manatees are at risk and monitor success.	5 yrs to Install Continuous to Maintain & Monitor	FWS FWC COE FDEP WMDs						
1	1.6.2	Install and maintain protection technology at navigational locks where manatees are at risk and monitor success.	5 yrs to Install Continuous to Maintain & Monitor	FWS FWC COE FDEP WMDs						

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**Florida Manatee Recovery Plan**

**U.S. Fish and Wildlife Service**

Priority	Task Number	Task Description	Task Duration	Participants	Estimated Fiscal Year Costs (\$1000s)					Comments
					FY1	FY2	FY3	FY4	FY5	
1	1.6.3	Minimize injuries and deaths attributable to entrapment in drainage structures.	Install or Retrofit as Needed	FWS COE FDEP FWC Local Gov'ts WMDs						
1	1.6.4	Assess risk at existing and future water control structures and canals in South Florida.	2 yrs to Assess  Continuous Monitoring	FWS COE FDEP FWC Local Gov'ts WMDs						
2	1.7	Minimize manatee injuries and deaths caused by fisheries and entanglement.	Continuous	<b>FWS</b> FWC GDNR SMC C Fish Indus R Fish Indus	10 10 1	10 10 1	10 10 1	10 10 1	10 10 1	
2	1.7.1	Minimize injuries and deaths attributed to crab pot fishery.	Continuous	FWS FWC C Fish Indus R Fish Indus						

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**Florida Manatee Recovery Plan**

**U.S. Fish and Wildlife Service**

Priority	Task Number	Task Description	Task Duration	Participants	Estimated Fiscal Year Costs (\$1000s)					Comments
					FY1	FY2	FY3	FY4	FY5	
2	1.7.2	Minimize injuries and deaths attributed to commercial and recreational fisheries, gear, and marine debris.	Continuous	FWS FWC Local Gov't C Fish Indus R Fish Indus OC SMC						
3	1.8	Investigate and prosecute all incidents of malicious vandalism and poaching.	As Needed	FWS FWC Local LE SMC USCG						
3	1.9	Update and implement catastrophic plan.	As Needed	FWS FWC	2	2	2	2	2	
2	1.10	Rescue and rehabilitate distressed manatees and release back into the wild.	Continuous	FWS Sirenia FWC GDNR MML Oceanaria SMC	50 1,130 1,000	50 1,130 1,000	50 1,130 1,000	50 1,130 1,000	50 1,130 1,000	
2	1.10.1	Maintain rescue network.	Continuous	FWS FWC MML						

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**U.S. Fish and Wildlife Service**

Priority	Task Number	Task Description	Task Duration	Participants	Estimated Fiscal Year Costs (\$1000s)					Comments
					FY1	FY2	FY3	FY4	FY5	
2	1.10.2	Maintain rehabilitation capabilities.	Continuous	FWS Oceanaria						
2	1.10.3	Release captive manatees.	Continuous	FWS FWC Oceanaria						
3	1.10.4	Coordinate program activities.	Continuous	FWS						
3	1.10.5	Provide assistance to international Sirenian rehabilitators.	Continuous	FWS FWC Oceanaria SMC						
3	1.10.6	Provide rescue report.	Annually	FWS						
2	1.11	Implement strategies to eliminate or minimize harassment due to other human activities.	Continuous	<b>FWS</b> FWC Local Gov't OC SMC	5	5	5	5	5	
2	1.11.1	Enforce regulations prohibiting harassment.	Continuous	FWS FWC USCG						
2	1.11.2	Improve the definition of "harassment" within the regulations promulgated under the ESA and MMPA.	2 yrs	FWS						
		Totals for Objective 1.			4,238	4,238	4,238	4,193	4,193	\$21,100

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**U.S. Fish and Wildlife Service**

Priority	Task Number	Task Description	Task Duration	Participants	Estimated Fiscal Year Costs (\$1000s)					Comments
					FY1	FY2	FY3	FY4	FY5	
2	2.1	Continue the MPSWG.	Continuous	FWS Sirenia FWC	5 20 12	5 20 12	5 20 12	5 20 12	5 20 12	
2	2.2	Conduct status review.	1 yr	FWS			25			
2	2.3	Determine life history parameters, population structure, distribution patterns, and population trends.	Continuous	FWS Sirenia Academia FWC GDNR MML	110 342 360 3	110 383 360 3	110 415 360 3	110 430 360 3	110 445 360 3	
2	2.3.1	Continue and increase efforts to collect and analyze mark/recapture data to determine survivorship, population structure, reproduction, and distribution patterns.	Continuous	Sirenia FWC MML SMC						
2	2.3.2	Continue collection and analysis of genetic samples to determine population structure and pedigree.	Continuous	Sirenia FWC MML						
2	2.3.3	Continue carcass salvage data analysis to determine reproductive status and population structure.	Continuous	FWC						

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**U.S. Fish and Wildlife Service**

Priority	Task Number	Task Description	Task Duration	Participants	Estimated Fiscal Year Costs (\$1000s)					Comments
					FY1	FY2	FY3	FY4	FY5	
2	2.3.4	Continue and improve aerial surveys and analyze data to evaluate fecundity data and to determine distribution patterns, population trends, and population size.	Continuous	FWS Sirenia FWC MML						
2	2.3.5	Continue collection and analysis of telemetry data to determine movements, distribution, habitat use patterns, and population structure.	Continuous	Sirenia FWC						
2	2.3.6	Continue to develop, evaluate, and improve population modeling efforts and parameter estimates and variances to determine population trend and link to habitat models and carrying capacity.	Continuous	Sirenia FWC						
2	2.3.7	Conduct a PVA to help assess population parameters as related to the ESA and MMPA	2yrs	FWS						
2	2.4	Evaluate and monitor causes of mortality and injury.	Continuous	<b>FWS</b> <b>Sirenia</b> <b>FWC</b> CZS GDNR MML	15 12 1,102 5	15 12 1,022 5	15 12 1,022 5	15 12 1,022 5	15 12 1,022 5	

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**U.S. Fish and Wildlife Service**

Priority	Task Number	Task Description	Task Duration	Participants	Estimated Fiscal Year Costs (\$1000s)					Comments
					FY1	FY2	FY3	FY4	FY5	
2	2.4.1	Maintain and improve carcass detection, retrieval, and analysis.	Continuous	FWS FWC GDNR						
2	2.4.2	Improve evaluation and understanding of injuries and deaths caused by watercraft.	Continuous	FWS Sirenia FWC M Industry						
2	2.4.3	Improve the evaluation and understanding of injuries and deaths caused by other anthropogenic causes.	Continuous	FWS Sirenia FWC COE FDEP M Industry OC WMDs						
2	2.4.4	Improve the evaluation and understanding of naturally-caused mortality and unusual mortality events.	Continuous	FWS Sirenia Academia FWC MML						



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**U.S. Fish and Wildlife Service**

Priority	Task Number	Task Description	Task Duration	Participants	Estimated Fiscal Year Costs (\$1000s)					Comments
					FY1	FY2	FY3	FY4	FY5	
2	2.5	Define factors that affect health, well-being, physiology, and ecology.	Continuous	FWS Sirenia Academia FWC MML Oceanaria	10 22 470	10 22 470	10 22 470	10 22 470	10 22 470	
2	2.5.1	Develop a better understanding of manatee anatomy, physiology, and health factors.	Continuous	Sirenia Academia FWC MML Oceanaria						
2	2.5.2	Develop a better understanding of thermoregulation.	Continuous	FWC Academia Oceanaria						
2	2.5.3	Develop a better understanding of sensory systems.	Continuous	FWS Sirenia Academia FWC MML Oceanaria						
2	2.5.4	Develop a better understanding of orientation and navigation.	Continuous	Sirenia Academia FWC Oceanaria						

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**U.S. Fish and Wildlife Service**

Priority	Task Number	Task Description	Task Duration	Participants	Estimated Fiscal Year Costs (\$1000s)					Comments
					FY1	FY2	FY3	FY4	FY5	
2	2.5.5	Develop a better understanding of foraging behaviors during winter.	Continuous	Sirenia FWC Academia Oceanaria						
2	2.5.6	Develop baseline behavior information.	Continuous	FWC Academia Oceanaria						
2	2.5.7	Develop a better understanding of disturbance.	Continuous	FWS Academia CZS FWC MML Oceanaria						
2	2.5.7.1	Continue to investigate how a vessel's sound affects manatees.	Continuous	FWS Academia FWC M Industry MML Oceanaria						

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**U.S. Fish and Wildlife Service**

Priority	Task Number	Task Description	Task Duration	Participants	Estimated Fiscal Year Costs (\$1000s)					Comments
					FY1	FY2	FY3	FY4	FY5	
2	2.5.7.2	Investigate, determine, monitor, and evaluate how vessel presence, activity, and traffic patterns affect manatee behavior and distribution.	Continuous	FWS Sirenia Academia FWC CZS M Industry MML Oceanaria						
2	2.5.7.3	Assess boating activity and boater compliance.	Periodic Assessment  Continuous to Improve Compliance	FWS Sirenia FWC Local Gov'ts M Industry MML SMC						
2	2.5.7.4	Evaluate the impacts of human swimmers and effectiveness of sanctuaries.	2 yrs	FWS FWC						
2	2.5.7.5	Evaluate the impacts of viewing by the public.	2 yrs	FWS FWC						
2	2.5.7.6	Evaluate the impacts of provisioning.	2 yrs	FWS FWC						
		Totals for Objective 2.			2,488	2,449	2,506	2,496	2,511	\$12,450

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**U.S. Fish and Wildlife Service**

Priority	Task Number	Task Description	Task Duration	Participants	Estimated Fiscal Year Costs (\$1000s)					Comments
					FY1	FY2	FY3	FY4	FY5	
2	3.1	Convene a Habitat Working Group.	Continuous	FWS Sirenia FWC M Industry OC SMC	5 20 80	5 22 80	5 24 80	5 26 80	5 28 80	October 2002, HWG will make recommendations to refine and improve habitat criteria
1	3.2	Protect, identify, evaluate, and monitor existing natural and industrial warm-water refuges and investigate alternatives.	Continuous	FWS Sirenia FWC FPL MML P Industry SMC	10 120 50 80	10 126 50 20	10 132 50	10 160 50	10 160 50	
2	3.2.1	Continue the Warm- Water Task Force.	Continuous	FWS Sirenia FWC FPL P Industry SMC						
1	3.2.2	Develop and implement an industrial warm-water strategy.	2 yrs to Develop  Continuous to Implement	FWS Sirenia FWC EPA FDEP P Industry						

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**Florida Manatee Recovery Plan**

**U.S. Fish and Wildlife Service**

Priority	Task Number	Task Description	Task Duration	Participants	Estimated Fiscal Year Costs (\$1000s)					Comments
					FY1	FY2	FY3	FY4	FY5	
1	3.2.2.1	Obtain information necessary to manage industrial warm-water refuges.	3 yrs	FWS FWC FPL P Industry						
2	3.2.2.2	Define manatee response to changes in industrial operations that affect warm-water discharges.	Continuous	FWS Sirenia FWC FPL						
1	3.2.3	Protect, enhance, and investigate other non-industrial warm-water refuges.	Continuous	FWS FWC FDEP SMC WMDs						
1	3.2.4	Protect and enhance natural warm-water refuges.	Continuous	FWS FWC FDEP SMC WMDs						
3	3.2.5	Assess changes in historical distribution due to habitat alteration.	1yr	FWS MMC Sirenia FWC						

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**Florida Manatee Recovery Plan**

**U.S. Fish and Wildlife Service**

Priority	Task Number	Task Description	Task Duration	Participants	Estimated Fiscal Year Costs (\$1000s)					Comments
					FY1	FY2	FY3	FY4	FY5	
2	3.2.4.1	Develop and maintain a database of warm-water refuge sites.	Continuous	FWS Sirenia FWC						
1	3.2.4.2	Develop comprehensive plans for the enhancement of natural warm-water sites.	Continuous	FWS FWC						
1	3.2.4.3	Establish and maintain minimum spring flows and levels at natural springs.	Continuous	FWS FWC EPA SMC WMDs						
1	3.3	Establish, acquire, manage, and monitor regional protected area networks and manatee habitat.	Continuous	<b>FWS</b> <b>Sirenia</b> <b>FWC</b> FDEP Local Gov'ts SMC WMDs	290 165 547	290 180 547	290 190 547	290 160 547	290 170 547	
1	3.3.1	Establish manatee sanctuaries, refuges, and protected areas.	2 yrs Periodic Update	FWS FWC						

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**U.S. Fish and Wildlife Service**

Priority	Task Number	Task Description	Task Duration	Participants	Estimated Fiscal Year Costs (\$1000s)					Comments
					FY1	FY2	FY3	FY4	FY5	
	3.3.2	Identify and prioritize new land acquisition projects.	Annually	FWS Sirenia FWC FDEP FWC SMC WMDs						
2	3.3.3	Acquire land adjacent to important manatee habitats.	Continuous	FWS FDEP Land Trusts Local Gov'ts WMDs						
2	3.3.4	Establish and evaluate manatee management programs at protected areas.	Continuous	FWS FWC						
3	3.3.5	Support and pursue other habitat conservation options.	Continuous	FWS FWC SMC						
1	3.3.6	Assist local governments in development of county MPPs.	Continuous	FWS FWC Local Gov'ts M Industry R Fish Indus OC SMC						

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**U.S. Fish and Wildlife Service**

Priority	Task Number	Task Description	Task Duration	Participants	Estimated Fiscal Year Costs (\$1000s)					Comments
					FY1	FY2	FY3	FY4	FY5	
1	3.3.7	Implement approved MPPs.	Continuous	FWS FWC Local Gov'ts						
2	3.3.8	Protect existing SAV and promote re-establishment of NSAV.	Continuous	FWS FWC FDEP FWC WMDs Local Gov'ts						
2	3.3.8.1	Develop and implement a NSAV protection strategy.	2 yrs to Develop  Continuous to Implement	FWS Sirenia FWC FDEP FWC WMDs Local Gov'ts						
2	3.3.8.2	Develop and implement a state-wide seagrass monitoring program.	Continuous	FWS Sirenia FWC FWC NMFS WMDs Local Gov'ts						



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**U.S. Fish and Wildlife Service**

Priority	Task Number	Task Description	Task Duration	Participants	Estimated Fiscal Year Costs (\$1000s)					Comments
					FY1	FY2	FY3	FY4	FY5	
21	3.3.8.3	Ensure aquatic plant control programs are properly designed and implemented.	Continuous	FWS Sirenia FWC COE FDEP FWC						
2	3.3.9	Conduct research to understand and define manatee ecology.	Continuous	Sirenia Academia FWC MML SMC						
2	3.3.9.1	Conduct research and improve databases on manatee habitat.	Continuous	Sirenia FWC						
2	3.3.9.2	Continue and improve telemetry and other instrumentation research and methods.	Continuous	Sirenia FWC						
2	3.3.9.3	Determine manatee time and depth pattern budgets.	Continuous	FWC MML						
2	3.3.10	Define the response to environmental change.	Continuous	FWS Sirenia FWC						

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**U.S. Fish and Wildlife Service**

Priority	Task Number	Task Description	Task Duration	Participants	Estimated Fiscal Year Costs (\$1000s)					Comments
					FY1	FY2	FY3	FY4	FY5	
2	3.3.10.1	Define response to changes in fresh water flow patterns in south Florida as a consequence of the Everglades' Restoration.	Continuous	Sirenia Academia FWC						
2	3.3.10.2	Define response to degradation and rehabilitation of feeding areas.	Continuous	Sirenia FWC						
2	3.3.11	Maintain, improve, and develop tools to monitor and evaluate manatee habitat.	Continuous	FWS Sirenia FWC						
2	3.3.11.1	Maintain, improve, and develop tools to monitor and evaluate natural and human-related habitat influences on manatee ecology, abundance, and distributions.	Continuous	FWS Sirenia FWC						
1	3.3.11.2	Maintain, improve, and develop tools to evaluate the relationship between boating activities and watercraft-related mortality.	Continuous	FWS FWC M Industry MML						
3	3.3.11.3	Evaluate impact of changes in boat design and boater behavior.	Continuous	FWS M Industry MML						
2	3.3.11.4	Conduct a comprehensive risk assessment.	1 yr	FWS						

Implementation Schedule										
Florida Manatee Recovery Plan					U.S. Fish and Wildlife Service					
Priority	Task Number	Task Description	Task Duration	Participants	Estimated Fiscal Year Costs (\$1000s)					Comments
					FY1	FY2	FY3	FY4	FY5	
2	3.4	Ensure that minimum flows and levels are established for surface waters to protect resources of importance to manatees.	Continuous	FWS FWC SMC WMDs	3	3	3	3	3	
3	3.5	Assess the need to revise critical habitat.	1yr	FWS						
		Totals for Objective 3.			1,370	1,333	1,331	1,331	1,343	\$6,708
3	4.1	Identify target audiences and key locations for outreach.	3 yrs	FWS FWC	5	5	5	5	5	
			Periodically Update	GDNR OC SMC	5 2	5 2	5 2	5 2	5 2	
2	4.2	Develop, evaluate, and update public education and outreach programs and materials.	3 yrs to Develop	FWS FWC FPL	5 205 30	5 205	5 205	5 205	5 205	
			Periodically Update	GDNR OC SMC	2	2	2	2	2	
1	4.2.1	Develop consistent and up-to-date manatee boater education courses/programs.	2 yrs to Develop  Periodically Update	FWS FWC M Industry OC SMC USCG						

**Implementation Schedule**

**Florida Manatee Recovery Plan**

**U.S. Fish and Wildlife Service**

Priority	Task Number	Task Description	Task Duration	Participants	Estimated Fiscal Year Costs (\$1000s)					Comments
					FY1	FY2	FY3	FY4	FY5	
1	4.2.2	Publish and post manatee protection zone information.	Annually Publish  Continuous	FWS FWC COE Local Gov'ts M Industry						
1	4.2.3	Update nautical charts and Coast Pilot to reflect current manatee protection zone information.	1 yr	FWS NOAA						
3	4.3	Coordinate development of manatee awareness programs and materials in order to support recovery.	Continuous	FWS FWC COE FDEP GDNR Local Gov'ts OC SMC USCG WMDs	5 14	5 14	5 14	5 14	5 14	
2	4.4	Develop consistent manatee viewing and approach guidelines.	2 yrs	FWS FWC OC SMC Ecotour Ind	3 1	3 1	3 1	3 1	3 1	

**Implementation Schedule**

**Florida Manatee Recovery Plan**

**U.S. Fish and Wildlife Service**

Priority	Task Number	Task Description	Task Duration	Participants	Estimated Fiscal Year Costs (\$1000s)					Comments
					FY1	FY2	FY3	FY4	FY5	
3	4.5	Develop and implement a coordinated media outreach program.	1 yr to Develop  Continuous to Implement	FWS FWC Local Gov'ts OC Oceanaria SMC	5	5	5	5	5	
3	4.6	Utilize the rescue, rehabilitation, and release program to educate the public.	Continuous	<b>FWS</b> FWC Oceanaria	3 1	3 1	3 1	3 1	3 1	
3	4.7	Educate state and federal legislators about manatees and manatee issues.	Continuous	FWS FWC M Industry OC P Industry SMC						
		Totals for Objective 4.			288	258	258	258	258	\$1,320
		Total for Recovery.			8,384	8,278	8,333	8,278	8,305	\$41,578