

Save the Manatee Trust Fund

2003–2004 Annual Report



FLORIDA FISH AND WILDLIFE CONSERVATION COMMISSION

1-888-404-FWCC (3922)

To report fish and wildlife violations,
including manatee injuries and mortalities

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Save the Manatee Trust Fund

Annual Report
2003–2004



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Submitted by
Florida Fish and Wildlife Conservation Commission
Division of Law Enforcement
Division of Habitat and Species Conservation
and
Fish and Wildlife Research Institute

Executive Summary

This is the annual status report on expenditures from the Save the Manatee Trust Fund (STMTF). Each year, the report is provided to the President of the Florida Senate and the Florida Speaker of the House of Representatives.

Funding for the state's manatee-related research and conservation activities is provided primarily from the STMTF, which receives money from sales of manatee license plates and decals, boat registration fees, and voluntary donations. Revenues for fiscal year (FY) 2003–2004 totaled \$3,612,062. Expenditures for the same period were approximately \$3,794,000, with \$325,000 provided for manatee research activities at Mote Marine Laboratory and a charge to General Revenue of \$107,639. Details are presented in pie charts in the report.

Expenditures from the STMTF were made for the Florida Fish and Wildlife Conservation Commission's (FWC) manatee programs: \$382,320 provided to the Division of Law Enforcement; \$1,054,038 for management activities within the Division of Wildlife's Bureau of Protected Species Management (BPSM); and \$1,649,696 for research activities coordinated by the Florida Marine Research Institute (FMRI) in St. Petersburg. The report includes budgetary analyses for individual research and management program efforts, followed by summaries of the work performed.

The Florida manatee is native to Florida's coastal and riverine waters; both the U.S. Fish and Wildlife Service (USFWS) and the FWC list the manatee as an endangered species. Manatees have been protected in Florida since 1892. Federally, both the Marine Mammal Protection Act and the Endangered Species Act protect manatees. Current state efforts to recover the population are guided by the Florida Manatee Sanctuary Act [Section 370.12 (2), Florida Statute] and the federal Florida Manatee Recovery Plan of 2001.

In FY 2003–2004, the FWC's manatee program, in cooperation with the USFWS, continued efforts to bring together stakeholder groups to foster constructive dialog. FWC and USFWS developed a joint position statement and an action plan to clearly express the core values and the needs of the state and federal manatee conservation effort. The USFWS Florida Manatee Recovery and Implementation Team was reinstated in FY 2003–2004, and many FWC staff were asked to serve on various working groups and task forces to promote recovery of the species.

Although great strides have been made toward recovering the Florida manatee, there are still human-related and natural factors that could negatively affect the long-term survival of the species. With continuing management, law enforcement, outreach, research, and partnerships, the FWC hopes to ensure that there will be a viable manatee population in Florida's future.

Editor's note: Under the legislatively approved structural reorganization of the FWC, the office became the Boating and Waterways Section of the Division of Law Enforcement, the Bureau of Protected Species Management became the Imperiled Species Management Section of the Division of Habitat and Species Conservation, and the Florida Marine Research Institute became the Fish and Wildlife Research Institute on July 1, 2004.

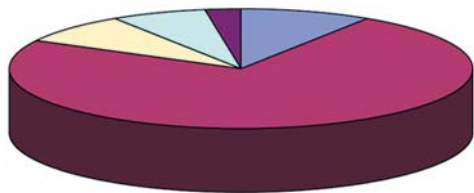
STMTF Revenues and Expenditures

REVENUES \$3,612,062



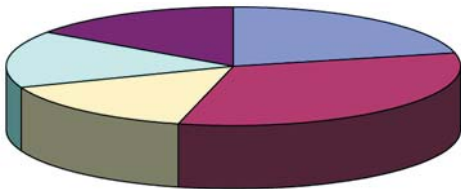
- Save the Manatee License Plate (\$1,656,707)
- Vessel Registration (\$1,847,682)
- Interest (\$21,123)
- Decals and Donations (\$79,078)
- Miscellaneous (\$7,472)

APPROPRIATIONS \$4,119,207



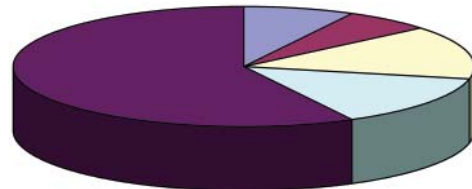
- Law Enforcement (\$382,320)
- FWC Manatee Program (\$3,028,881)
- Mote Marine Laboratory (\$325,000)
- Administrative Overhead (\$275,367)
- Service Charge to General Revenue (\$107,639)

**FWC Manatee Program
STMTF Conservation Management Expenses
\$1,054,038**



- Rule Development (\$224,068)
- Planning and Permitting (\$344,316)
- Habitat Protection (\$161,952)
- Data Distribution (\$163,389)
- Education and Information (\$160,313)

**FWC Manatee Program
STMTF Research Expenses
\$1,649,696**



- Life History and Biology (\$129,037)
- Behavioral Ecology (\$99,738)
- Geographic Information Systems (\$239,489)
- Population Assessment & Monitoring (\$229,639)
- Mortality and Rescue (\$951,793)

Table of Contents

Executive Summary	3
STMTF Revenues and Expenditures	5
Manatee Basics	8
Law Enforcement Activities	
Enforcement Activities	10
Boating and Waterways Section Activities	12
Conservation Management Activities	
Consensus Building and Stakeholder Cooperation	16
Plan and Permit Review	18
Rule Administration	22
Habitat Characterization, Assessment, and Protection	26
Education and Information	28
Data Distribution and Technical Support	30
Research Activities	
Mortality and Rescue	32
Population Monitoring and Assessment	34
Behavioral Ecology	36
Human Dimensions	38
Geographic Information Systems (GIS)	39
Life History and Biology	40
Right Whales	42
Mote Marine Laboratory Manatee Research Projects	44
Publications and Reports	45
Appendix A: Acronyms	47
Appendix B: Definitions	49
Manatee License Plate and Decal Program	50

Manatee Basics

common name

Florida manatee

scientific name

Trichechus manatus latirostris

status

Endangered (federal and state)

range

Throughout Florida (the summer months into southeastern states)

maximum census

3,300 counted in 2001

history

Native species found in fossil record and recorded by earliest explorers

diet

Freshwater and marine species of plants

reproduction

Breed year-round; most calves born in spring; mature female can produce one calf approximately every three years

life span

Can live over 50 years, but this is rare

unusual fact

Age determined by examination of a thin cross section of the earbone of dead manatees, and counting growth layers, similar to counting rings in a tree

A CLOSER LOOK

Adult manatees average 8–10 feet in length and weigh around 1,000 pounds. The largest manatees may reach 14 feet in length and weigh over 3,500 pounds. Adults are gray in color, with sparse hairs distributed over much of the body. Stiff whiskers (vibrissae) grow around the face and lips. Algae growing on the skin may make them appear green or brown. Manatees that live in saltwater may also have barnacles growing on their skin. Despite their large size, manatees can be difficult to see in the wild because of their color and behavior. Manatees eat a variety of marine and aquatic plants and are often seen near natural or artificial freshwater sources.

During periods of cold weather, manatees aggregate, or gather, in waters warmer than 68° F. This warm water may be in south Florida or may be from an artesian spring or industrial discharge. Manatees mate year-round; however, most calves are born in the spring. Gestation lasts approximately 13 months and results in the birth of a calf (rarely twins) measuring 3–5 feet in length. The calves remain with their mothers for up to two years.

There are a variety of threats to manatees. They may die from exposure to harmful algal blooms (red tide), the effects of cold water, and disease. Human-related causes of death include collisions with watercraft, crushing in water control gates and boat locks, and entanglement in fishing gear. Manatee habitat loss or degradation, including future changes in artificial warm-water refuges and reductions in natural spring flows used as refuges, is also of concern.

Law Enforcement Activities

Enforcement Activities

In the 2003–2004 fiscal year (FY), the Legislature appropriated \$382,320 from the Save the Manatee Trust Fund (STMTF) for Division of Law Enforcement (LE) salaries and benefits. The funds were used primarily to enhance enforcement of the existing manatee protection speed zones.

The LE's efforts are based on the premise that education and enforcement are inseparable. The LE's enforcement efforts in this area include a strong educational component designed to enhance community awareness of manatee issues. The goal is to gain an acceptable level of compliance to the manatee protection speed zones, which is expected to result in a reduction of the watercraft-related manatee mortalities.

Enforcement efforts begin with educational and informational vessel stops and verbal warnings as each new protection zone is posted. The enforcement contact escalates to written warnings and issuance of Uniform Boating Citations (UBCs) after a specific zone has been posted for a reasonable amount of time or for repeat offenders. Officer discretion, based on interviewing violators, is the guideline for the type of enforcement action applied in each contact.

Enforcement efforts have focused on areas of high watercraft-related manatee mortalities, areas of high vessel traffic in manatee protection zones, newly established protection zones, and during the times of the year when high manatee activity is expected (primarily winter months).

The LE continues to provide enhanced enforcement in counties such as Duval, Brevard, Indian River, Volusia, Dade, Broward, Palm Beach, Lee, Collier, Manatee, Sarasota, Citrus, and Levy, all of which are of critical interest regarding manatee protection.



2003–2004 Highlights

- In response to increased watercraft-related manatee mortalities, reports of boater noncompliance with speed zones, and reports of aggregations of manatees, the LE officers working throughout the state conducted over 44,000 patrol hours. LE focused on the following counties of critical interest: Duval, Brevard, Indian River, Volusia, Dade, Broward, Palm Beach, Lee, Collier, Manatee, Sarasota, Citrus, and Levy.
- Throughout the state, the LE participated in more than 80 outreach efforts designed to promote awareness of manatee-related issues and compliance with manatee protection speed zones.
- The LE made 43,516 educational contacts regarding manatee protection.

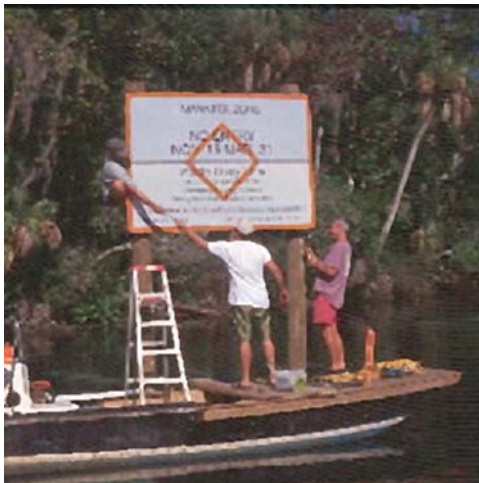
2003–2004 Highlights *(continued)*

- To enhance manatee protection in Volusia County, officers were present in manatee protection zones during marine events, when there was an increase in boating traffic.
- Inter-Agency Law Enforcement Cooperation
 - :: The Florida Fish and Wildlife Conservation Commission (FWC) continues to coordinate the Lee County Marine Law Enforcement Task Force. Though the task force addresses all marine law enforcement issues, protecting manatees is a primary focus. The following law enforcement agencies continue to participate in the task force: FWC LE, Lee County Sheriff's Office, Cape Coral Police Department, Fort Myers Police Department, Sanibel Police Department, and the U.S. Fish and Wildlife Service (USFWS).
 - :: The task force concept was presented to marine law enforcement officials in the northeast area of the state. Representatives from the FWC LE, the Jacksonville Sheriff's Office, the Clay County Sheriff's Office, the St. John's County Sheriff's Office, Naval Air Station Jacksonville, the U.S. Coast Guard, and the USFWS committed to participate in the task force.
- Technology
 - :: The FWC Office of Information Technology worked with the LE to develop a more efficient method for collecting enforcement activity data. The new system improved timeliness and reduced paperwork requirements by providing a Web-based application for data entry at each regional office.
- Technology *(continued)*
 - :: Through coordination with the FWC Office of Information Technology, electronic access to FWC citation and warning information has been provided to the USFWS, Office of Law Enforcement.
- The LE and the USFWS, Office of Law Enforcement, collaborated to examine sign plans and enforceability issues in areas of federal and state manatee protection zones. This effort included site visits to manatee protection zones in Duval, Lee, and Volusia counties. These visits provided opportunities for interagency coordination of the placement of manatee protection signs and markers.
- In March 2004, the FWC LE fully implemented the manatee protection provisions of the Mutual Aid Agreement entered into with the USFWS, Office of Law Enforcement. The joint enforcement strategy includes the following elements:
 - :: When possible, use a consistent approach to manatee protection zone enforcement.
 - :: Train USFWS agents to use and issue UBCs.
 - :: Train FWC officers to document and submit federal citations for violations of manatee protection zones.
 - :: Schedule ten joint-enforcement operations in areas of critical concern for calendar year 2004.

Boating and Waterways Section Activities

Law Enforcement Activities

The LE's Boating and Waterways Section was established during the 2003 Legislative Session. The section, which is responsible for state waterway management and boating safety issues, is funded mostly through marina fuel-tax (MFT) revenues. As part of their responsibilities, staff members coordinate development of manatee protection sign plans with other FWC components, USFWS, and local governments. Staff also coordinates the installation and repair of waterway markers posting state manatee protection zones adopted by the commissioners. During the FY 2003–2004, STMTF appropriations of \$53,549 paid for one full-time Planner IV position, including salary and benefits. The office also spent \$2,656 from STMTF. MFT expenditures for manatee protection were \$79,248.



FWC staff members “flip” manatee zone signs to reflect changes in speed zone regulations during the year.

2003–2004 Highlights

- **Brevard County**—Additional No Entry Zone markers, which address illegal access, were attached to the Florida Power & Light power plant fence.
- **Charlotte County**—Installation of waterway markers in Turtle Bay was completed in February. Informational panels were purchased for a public boat ramp facility in southern Lemon Bay.
- **Citrus County**—Expenditures included modifications to the buoy system, seasonal changes to the Homosassa Springs State Wildlife Park manatee protection zone, and sign maintenance of waterway markers within Crystal River.
- **Clay County**—Damaged pilings were replaced and an additional sign was installed in Swimming Pen Creek.
- **Hillsborough County**—Obsolete waterway markers were removed from the Alafia River; expenditures include disposal of the markers.
- **Levy County**—In partnership with the Department of Environmental Protection (DEP), LE paid to install waterway markers and buoys that mark the confluence of Manatee Springs State Park and the Suwannee River. DEP purchased the markers and buoys through their Springs Initiative Program.
- **Manatee County**—LE purchased regulatory buoys and associated hardware.
- **Sarasota County**—Markers were installed in Salt Creek, an important warm-water refuge for manatees.
- **Statewide**—LE produced 50 informational panels concerning monofilament fishing line recycling.



Conservation Management Activities

Consensus Building and Stakeholder Cooperation

Conservation Management Activities

This past year, the FWC and the USFWS continued joint efforts to bring stakeholder groups together in a process that fostered constructive dialogue. “Group Solutions,” an Atlanta-based environmental-facilitation firm, was contracted to aid this effort. The groups developed a joint FWC and USFWS position on manatee conservation. The purpose of the position statement was to clearly express the core values of the state and federal manatee conservation effort. In the spring, the groups began planning a manatee forum to begin a long-term stakeholder dialogue.





JOINT POSITION STATEMENT REGARDING MANATEE CONSERVATION



FLORIDA FISH AND WILDLIFE CONSERVATION COMMISSION & UNITED STATES FISH AND WILDLIFE SERVICE

The Florida Fish and Wildlife Conservation Commission (FWC) and US Fish and Wildlife Service (FWS) recognize and affirm that the Florida manatee (*Trichechus manatus latirostris*), is an irreplaceable part of Florida's native aquatic communities. Manatees have come to symbolize the real Florida, and have a world-wide following and popularity. Both federal and state laws provide protection for manatees independent of their number and current population trends.

Consistent with our respective missions, the FWC and FWS strive to manage the manatee population for its long-term well-being and for the benefit of people. Our conservation goal is to maintain a stable or growing manatee population throughout its historic range. An important step for reaching our goal is to reduce human caused mortalities so they do not threaten the long-term stability of the population.

The FWC and FWS, with participation from the public, will employ management strategies to accomplish the goal of a stable or growing manatee population. These management strategies will include, but will not be limited to:

- Minimizing causes of manatee disturbance, harassment, injury, and mortality
- Determining and monitoring the status of manatee populations
- Protecting, identifying, evaluating, and monitoring manatee habitats
- Facilitating manatee recovery through public awareness and education

Our intent is to implement these strategies through the Florida Manatee Recovery Team, a team that includes stakeholders who, through their collective efforts, will ensure that necessary actions take place to protect the Florida manatee. Consensus recommendations will be developed and will address manatee protection plans, manatee protection areas, permitting issues, warm water concerns, manatee population status analyses, research, and other concerns. These recommendations will be incorporated into a FWC management plan that will serve as the basis for the next revision of the Florida Manatee Recovery Plan.

Finally, we acknowledge that the development and implementation of management strategies for protection of the manatees includes the balancing of commercial and recreational interests. We commit to fully engaging the public in the development of management plans, in the implementation of management actions, and in the process of making resource decisions. The long-term survival of the manatee depends on public support for the successful implementation of required management strategies.

Plan and Permit Review

These staff members conduct reviews of manatee protection plans (MPPs), environmental resource permits, and other types of guidance documents such as comprehensive plans.

MPPs are tools used to assist in the long-term preservation of manatees and their habitat. Chapter 370.12(2), Florida Statutes, the Florida Manatee Sanctuary Act, provides deadlines for MPP development and requires counties to include a boat facility element in their comprehensive plans. MPPs address boat-facility siting, habitat protection, local educational campaigns, and waterway-use regulations. County-specific boat speed zones can be a component of the MPPs; however, a separate rule-making process is required for state rules. The MPPs can address solutions for manatee mortality caused by locks, gates, large vessels, ships, and commercial fishing practices. Indirectly, MPPs may also increase boating safety, facilitate recreational planning, and protect aquatic habitat that is critical to many other species. MPP development can take several years because of the complexity of issues a county must address and the range of information that must be collected. Manatee protection planning requires extensive coordination between local governments and state and federal agencies. Nine of the 13 “key” counties now have state-approved MPPs (see table on page 21). These county-specific documents serve as vital evaluation tools in the environmental permit review process.



The FWC reviews many projects that require state permits from regulatory agencies such as DEP, water management districts, and the Department of Community Affairs (DCA). The FWC provides recommendations to the regulators about how to reduce or eliminate potentially negative effects to manatees.

2003–2004 Highlights

County Summaries:

Brevard County—FWC staff members assisted Brevard County with reviewing manatee protection policies in the Conservation and Coastal Management elements of its comprehensive plan. In April 2004, staff recommended Brevard County’s eligibility for the exemption to the Development of Regional Impact (DRI) process. The recommendation, sent to the DCA, was based on the provisions in Chapter 380.06 (24)(k), Florida Statute, and FWC’s review of the comprehensive plan policies. As part of the implementation of the Brevard MPP, FWC continued to assist county staff members with evaluations of manatee abundance and manatee watercraft-related death criteria.

Broward County—FWC staff members worked with Broward County and its contractors in developing the county’s Boat Facility Siting Plan (BFSP). The first public workshop on the BFSP was held in March.

Clay County—Clay County secured a National Oceanic and Atmospheric Administration (NOAA) Coastal Impact Assistance Program grant to revise its 1994 draft MPP. The county subcontracted the work to Jacksonville University. As part of the Clay County MPP grant, Jacksonville University expanded its ongoing aerial survey flights to include all of Clay County. FWC staff members submitted comments on a Clay County MPP draft in July 2003 and are currently in the process of evaluating a revised draft.

Collier County—Collier County staff members prepared the marina-siting portion of the MPP for incorporation into the County Land Development Code. They will take this opportunity to review the existing provisions of the MPP with a stakeholder group to see if revisions are needed.

Miami-Dade County—Staff members continue to work with Miami-Dade County to update information for the Miami-Dade MPP.

Duval County—After reviewing the Duval MPP in relation to an environmental resource permit for a proposed multi-family docking facility on the St. Johns River, it became apparent that there are differences in the way that the City of Jacksonville and the FWC interpret the provisions of the MPP. As a result of these issues, FWC staff members met with members of the City’s Planning and Development Department and Office of General Counsel to discuss the interpretation of the MPPs provisions and encourage the city to amend or add manatee protection policies in the City of Jacksonville’s 2010 Comprehensive Plan. Interagency efforts to resolve the interpretation problems are ongoing.

(continued on next page)

2003–2004 Highlights *(continued)*

Indian River County—Indian River County staff members prepared an Evaluation and Appraisal Report (EAR) that summarized conditions from when the MPP was approved in 1999 to the present. It also provided an assessment of how well the county is achieving or complying with the provisions outlined in the Action Plan section of the MPP. After this evaluation, county staff members drafted amendments related to the definitions section, updates to the manatee data, some minor clarifications, and the addition of boat ramp siting criteria. The county’s Marine Advisory Narrows Watershed Action Committee (MANWAC) reviewed recommended changes of the EAR report between August and November of 2003. In November, MANWAC chose to approve the MPP but added additional amendments to the MPP. Initial FWC comments on the unofficial draft were discussed with Indian River County staff members. In June 2004, the Indian River County Board of County Commissioners unanimously approved the changes to the Indian River County MPP and submitted it to the FWC for review.

Lee County—FWC received a second draft of Lee County’s MPP in July 2003 and then provided the county with extensive comments that included a proposal for alternative boat facility siting criteria. FWC received a third draft of the MPP from Lee County staff in February and continued to work with the county, the USFWS, and DCA to refine the MPA.

Editor’s Note: The Lee County MPP was approved by the FWC in August 2004.

Sarasota County—FWC staff members attended several public workshops for the Sarasota draft MPP. In January 2004, after local government approval and an FWC review of the final version, Sarasota County became the ninth county with a state-approved plan.

Volusia County—In October 2003, Volusia County submitted a draft of Phase II (Boat Facility Siting) of the Volusia MPP. On January 13, 2004, Volusia County staff members met with the FWC and USFWS to discuss several problems in the latest MPP Phase II draft. Discussion included possible alternatives for the MPP language and county staff members’ plans to take the MPP before the Volusia County Council for approval. FWC sent additional comments on the MPP in February; the county council approved Phase II of the MPP in March, and it was sent to the FWC in April. FWC, USFWS, and DCA are currently reviewing the MPP.

Projects Reviewed During FY 2003–2004

Standard Conditions	307
Requested Additional Information	282
Critical Reviews that could significantly effect manatees or their habitat	36
Miscellaneous Correspondence	8

Miscellaneous Activities

- During administrative hearings concerning potential effects of development activities, FWC staff members provided expert testimony on manatees.
- FWC staff members attended numerous Cabinet Aides' meetings to assist with agenda items concerning manatees.
- FWC staff members provided input to the DEP regarding proposed rule revisions related to submerged lands.
- An on-going study funded by the Marine Mammal Commission and the USFWS was continued to develop conservation measures that should be implemented during blasting activities. A contractor submitted both a bibliography about blasting and draft guidelines for conservation measures; the information is currently under review.

APPROVED MPP STATUS AS OF JUNE 2004

<i>County</i>	<i>Month and Year of State Approval</i>
BREVARD	February 2003
CITRUS	September 1991
COLLIER	July 1995
DADE	December 1995
DUVAL	June 1999
INDIAN RIVER	November 2000
MARTIN	June 2002
SARASOTA	January 2004
ST. LUCIE	March 2002

Rule Administration

Conservation Management Activities

The Rule Administration subsection focuses primarily on establishing boat speed and access zones for manatee protection and administering activities related to these zones, including permit and variance reviews. Much of this fiscal year's efforts were again focused on issues related to a settlement agreement the commission entered into in April 2001 to resolve a lawsuit filed by a coalition of Save the Manatee Club and other environmental groups. Staff targeted site-specific areas for rule promulgation that were identified by the coalition of environmental groups. Effective FY-03-04 the LE began coordinating sign posting and the permitting process for commercial fishing and professional fishing guide activities.



2003–2004 Highlights

Charlotte County (68C-22.015, FAC)

In August 2003, the county requested a rule amendment that would allow a forked, 25-mph access channel in Placida Harbor for the purpose of providing greater access to residents living on Little Gasparilla Island. Staff notified the county that it did not support the county's request; however, the issue was put before the FWC Commissioners at the April 2004 FWC meeting after the county renewed its request in February 2004. The commission directed FWC staff to develop a proposed rule amendment after ongoing rule making activities have been completed in Tampa Bay and Lee County.

General Provisions (68C-22.001–68C-22.004, FAC) Relating to manatee protection

Amendments to rules 68C-22.001, 68C-22.002, and 68C-22.004 were proposed in August 2003. Public hearings were conducted in August and November 2003. The commission approved the rules as proposed, and the amendments were filed for adoption in December 2003.

2003–2004 Highlights *(continued)*

Lee County (68C-22.005, FAC)

In July 2003, the First District Court of Appeal affirmed the March 2002 Leon County Circuit Court ruling granting the FWC Motion for Summary Judgment in the case filed by W. Wilkinson (Case No. 1D02-1841). W. Wilkinson had sued in Circuit Court alleging the Lee County Manatee Speed Zones were unconstitutional. The case was closed in September 2003, with the ruling made permanent in October 2003. The Court found that the case could only be brought before the Division of Administrative Hearings as a rule challenge.

W. Wilkinson and others also tried to invalidate the Lee County rule by intentionally violating several zones and contesting the citations in county court. In January 2003, a Lee County Court judge issued a written Final Judgment dismissing citations that had been issued for violations in portions of Matlacha Pass, Pine Island Sound, and Estero Bay, based on a finding that the zones were unconstitutional because they exceeded the commission's statutory authority. The commission tried to appeal the order to the Circuit Court as well as the Second District Court of Appeal, but all attempts were denied for procedural reasons.

In April 2004, staff notified Lee County that the FWC was considering readdressing the Lee County rule. In June 2004 Lee County formed a Local Rule Review Committee (LRRC), as is required by Chapter 370.12(2)(f), Florida Statute. The LRRC began its deliberations in mid-June. After the LRRC submits a report, staff members will

prepare a written response and recommend a rule proposal for consideration by the commission.

Manatee County

To address manatee protection, boating safety, and other purposes, Manatee County adopted Ordinance 03-57 in October 2003 and submitted the ordinance to FWC for approval, as required by Chapter 370.12(p), Florida Statute. The FWC could not approve this ordinance because it attempted to address other purposes in addition to manatee protection. The county subsequently repealed Ordinance 03-57 and adopted Ordinance 04-44 in March 2004; this new ordinance addressed only manatee protection, while a companion ordinance addressed other purposes. The FWC commissioners formally approved Ordinance 04-44 in June 2004.

Tampa Bay (68C-22.013, 68C-22.014, and 68C-22.016, FAC)

In July 2003, BPSM presented a preliminary rule proposal to the Tampa Bay LRRC, a committee that was jointly formed by the counties of Hillsborough, Manatee, and Pinellas. The LRRC met six times over 60 days and submitted a final report to the FWC in September 2003. At the April 2004 FWC meeting, the commissioners approved recommendations to publish a formal rule proposal. A Notice of Proposed Rulemaking was published in late May 2004, and staff conducted two public hearings in the Tampa Bay area in June.

Editors Note: The final public hearing occurred at the September 2004 FWC meeting in St. Petersburg.

2003–2004 Highlights *(continued)*

Variances and Waivers

During the fiscal year, the FWC worked on seven requests for variances from or waivers of manatee protection rules. The variance and waiver process is governed by Chapter 120.542, Florida Statute.

- FWC staff members processed the January 2003 request for a variance that was submitted on behalf of the Boca Raton Resort and Club (BRRC). BRRC requested a variance from portions of the Palm Beach County and Broward County rules for activities associated with a Honda Marine dealer meeting in October 2003. BRRC ultimately revised its request in August to include only one area in southern Palm Beach County and to cover only weekday operations. A Final Order granting a variance was issued in late August 2003. The manatee watch program required as a condition of the variance was formally approved in late September 2003.
- Staff members processed the April 2003 request for a variance from the Sarasota County rule. The request was designed to allow the Sarasota Ski-A-Rees organization to continue its traditional water skiing activities in the City Island that was recently changed to a Slow Speed zone. A Final Order granting a variance was issued in July 2003.
- Staff members completed processing a professional fishing guide's April 2003 request for a variance from the Volusia County rule prohibiting vessel operation at speeds greater than slow speed while conducting professional fishing-guide activities. A Final Order denying the request for a variance was issued in May 2004.
- In March 2004, three fishing guides petitioned the FWC for a variance from the Volusia County rule prohibiting vessel operation at speeds greater than Slow Speed while conducting professional fishing-guide activities. A Notice of Receipt was published in the *Florida Administrative Weekly* in April, and a Final Order denying the request for variance was issued in June 2004.
- Three other variance requests were still open at the end of the fiscal year, pending response to staff requests for additional information: one was submitted in December 2002 by a commercial crabber in Brevard County; one was submitted in July 2003 by an airboat tour operator in Collier County, and one was submitted in May 2004 by a hovercraft operator in Miami-Dade County.

Permits

Rule 68C-22.003, Florida Administrative Code, allows the FWC to issue a number of different types of permits for activities that would otherwise be prohibited by the manatee protection rules. The LE handles most of these requests, which are made primarily for commercial fishing or professional fishing guide activities. There are typically 150–200 of these permits in effect at any time. In addition, staff members worked on the following seven requests for other types of permits:

- Division of Administrative Hearings case (DOAH Case No. 02-1760) was closed in January 2004, at Save the Manatee Club's request. This case concerned a challenge to FWC's notice of intent to issue a revised vessel-testing permit to Sea Ray Corporation. The case had been in abeyance since late 2001 because of issues related to overlapping federal zones in the area. Although technically this permit is now in effect, it cannot be used because of the federal zones.
- Florida Power & Light requested a permit to access Miami-Dade County's Virginia Key No Entry zone to perform maintenance work.
Editor's Note: The permit was issued in September 2004.
- In December 2003, the FWC received a request from a Brevard County resident for a permit to allow him to operate his vessel at speeds greater than Slow Speed in the waterway leading to his property. The resident claimed that he could not access his property unless his vessel was on plane. A permit was issued in January 2004.
- In December 2003, the FWC received a request from the South Florida Water Management District (SFWMD) for a permit to allow access to the Black Creek No Entry zone in Miami-Dade County so that SFWMD could perform maintenance work on the S-21 salinity control structure. A permit was issued in January 2004.
- In May 2004, the FWC received a request from BRP US, Inc., (formerly Bombardier) for renewal of its Brevard County vessel-testing permit. Final agency action was pending at the end of the fiscal year.
- In May 2004, the FWC received a request from Road Rock, Inc., for a permit to access the No Entry zone at the Lauderdale power plant in Broward County to perform dredging activities. Final agency action was pending at the end of the fiscal year.
- In June 2004, the FWC received a request from BRP US, Inc., (formerly Bombardier) for renewal of its south Florida (parts of Martin, Palm Beach, and St. Lucie counties) vessel-testing permit. Final agency action was pending at the end of the fiscal year.

Habitat Characterization, Assessment, and Protection

Conservation Management Activities

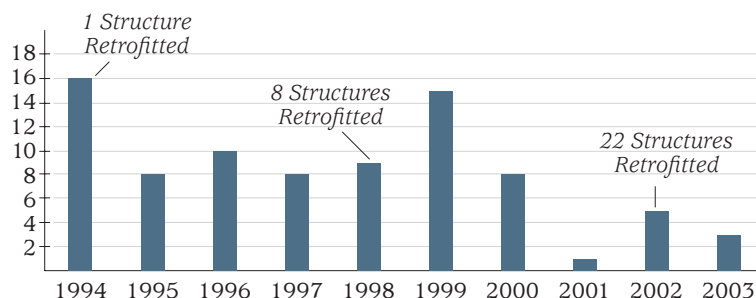
Habitat protection programs focus on understanding the manatee’s habitat needs and assessing habitat health and stability. The recovery of the manatee population in Florida cannot occur without suitable habitat. Human population in Florida, and associated extensive coastal development, is a long-term threat to the manatee’s habitat. Historically, coastal development has resulted in degradation of water quality and destruction of seagrasses—the manatee’s primary food. Scientists are exploring ways to minimize negative effects of development on coastal habitats. Reductions in the flow of warm spring waters, due to human consumption, threaten significant natural warm-water refuges in the northern half of the state. Looming deregulation and aging power plants pose possible threats to established artificial warm water refuges.



2003–2004 Highlights

- FWC staff members coordinated with the U. S. Army Corps of Engineers (ACOE) and the SFWMD to address central and south Florida structure-related mortality issues through the Interagency Task Force for Water Control Structures. From 1974-2002, 145 manatees (average of 5 per year) died in 23 of the numerous water control structures in the central and south Florida canal system. Since 1991, ongoing efforts through the task force have led the ACOE and SFWMD to retrofit water control structures and revise structure operational protocols. These efforts are helping reduce structure-caused mortality at retrofitted structures.

*Number of Structure-Caused Manatee Deaths
1994–2003*



2003–2004 Highlights *(continued)*

- FWC co-chaired the Warm-Water Task Force (WWTF) with the UFSWS. In a continued effort to develop a long-range plan, the WWTF is nearing completion of a manatee response model that will assist in understanding manatee behavior under a variety of cold weather conditions, including the possible future loss of a warm-water refuge. A WWTF action plan has been drafted, and work has begun on drafting a warm-water management plan. The WWTF worked with others to plan a public workshop to be held in fall 2004 about manatee habitat.
- The FWC worked with its federal and SFWMD partners to draft recommendations for manatee protection in construction activities related to the Comprehensive Everglades Restoration Plan (CERP). These recommendations will address activities such as culvert and water-control structure installation, potential Aquifer Storage and Recovery thermal effects, potential manatee entrapment in canal networks, and in-water construction effects. The CERP task force also conducted Manatee Habitat

Evaluation Surveys in over 100 miles of flood control canals in the Everglades and Everglades Agricultural Area. This information will be used to determine which canals are accessible to manatees and which canals have high risk factors and should have access eliminated or modified.

- The FWC began working with the Kings Bay Advisory Group to restore submerged aquatic vegetation in the Kings Bay in Crystal River. Staff members performed assessments of invasive algae removal techniques to determine if these efforts improved flowering plant abundance. Through regional citizen and interagency coordination as part of the Southwest Florida Water Management District (SFWMD) Surface Water Improvement (SWIM) program, the group is also working toward complete ecological restoration of Kings Bay.



Education and Information

Conservation Management Activities

Public support of government conservation programs is vital to the success of those programs. The goal is to foster understanding of the problems facing manatees and the steps needed to recover the species. In addition, it is important to target specific user groups that affect manatees. Knowledge of manatee habitat requirements, behavior, and general biology can contribute to the reduction of manatee disturbance, harassment, injury, and death. A wide array of information is distributed to a variety of audiences. A goal is to provide factual, timely information that is appropriate to the target user group.



The cover of a brochure titled "The Florida Manatee" features a photograph of a manatee grazing on seagrass. Below the title, it says "A Florida Treasure". There are smaller images of a manatee skeleton and a person in a kayak. Text on the cover includes "Manatees have lived along the Florida coast for millions of years..." and "Protect one of Florida's treasures—the Florida manatee".

A poster with a red border. At the top, it says "ZONA DE MANATIES" in large bold letters. Below that, it says "Ayude a proteger a los manatíes y otra fauna marina en las aguas de la Florida. Recicle su línea de pesca, ó échela en la basura." In the center is a black and white illustration of a manatee. Below the illustration, it says "Los manatíes y otra fauna marina fácilmente se enredan en las líneas de pesca de material sintético y en anzuelos que son indebidamente descartados..." At the bottom, it says "Actue Responsablemente. Proteja a los Manatíes de la Florida." and includes the Florida Fish and Wildlife Conservation Commission logo and contact information: "1 (888) 404-3922 or #FWC".

A sample of the publications and materials produced by the Education and Information section.

2003–2004 Highlights

Visitor Centers

A contract for participating with the State of Florida Nature and Heritage Tourism Center continued this year. FWC provides manatee-related materials to the center in exchange for free distribution of the materials to tourists. The center is located in White Springs, a short distance from I-75 near the Georgia-Florida border.

Information Requests and Bulk Orders

Staff members responded to over 2,000 e-mails about manatee-related education programs. There were 435 requests for specific additional information or materials, 166 of which were bulk orders for materials destined for distribution through the requestor's organization.

Marina Outreach

Staff members contacted numerous marinas throughout Florida and supplied them with manatee-related education materials, including research posters, county maps, and monofilament recycling information.

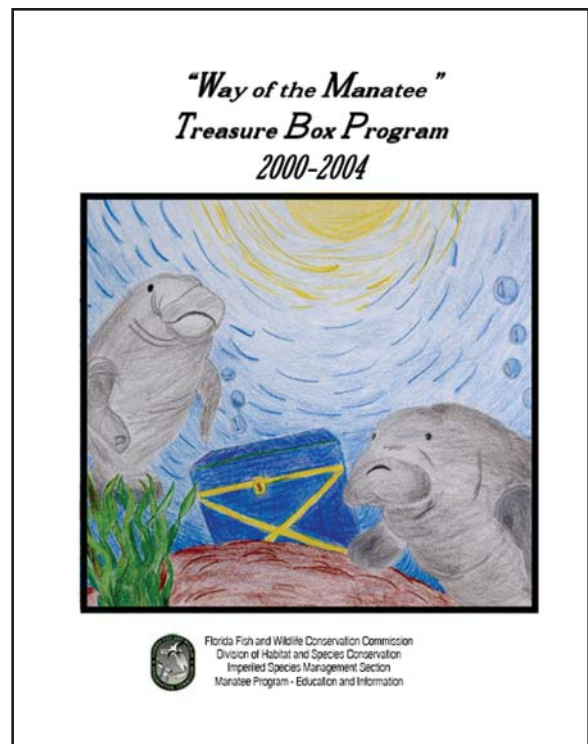
E-Field Trip

An Internet company specializing in online educational field trips for students worked with staff members to develop an e-field trip about manatees. This self-guided look at the life of a manatee gave students around the world the opportunity to learn about these mammals. The field trip offered students much of the same information available in brochures, educational materials, and the treasure box, but delivery was far more efficient. Twenty-five thousand public, private, and home-schooled students in forty-five states visited the e-field trip site. During the initial month the e-field trip was

online, staff members and 80 site visitors participated in a live chat about manatees.

“Way of the Manatee” Treasure Box Program

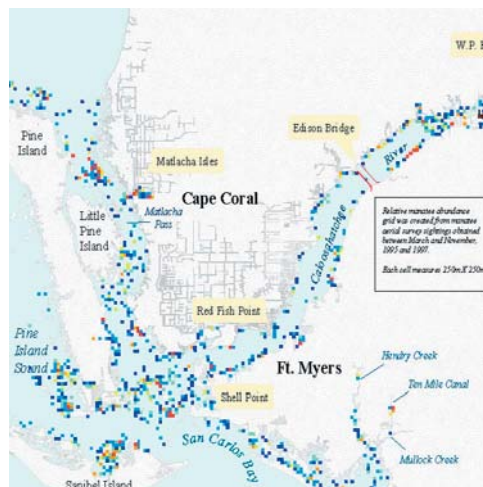
Wakulla and Leon counties used the “Way of the Manatee” Treasure Box program, which is in its third school year of evaluation. The treasure boxes are self-contained educational units that are loaned to classroom teachers. The boxes contain a variety of resource materials, crafts, games, and instructions that underscore manatee conservation and incorporate a number of Sunshine State Standards. The program reached over 1500 students in seventeen public and private classrooms. The program was used in pre-K through fifth grade including an ESOL (English to Speakers of Other Languages) class of combined grade levels.



Data Distribution and Technical Support

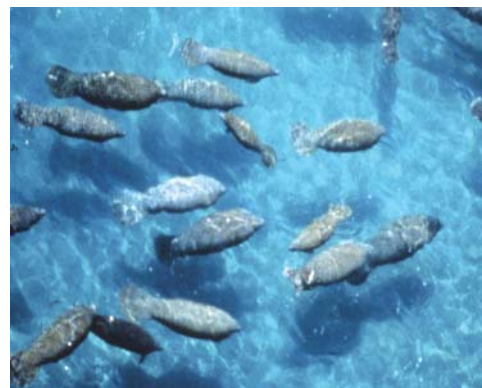
Conservation Management Activities

Proper management decisions require accurate spatial data. Manatee data, including aerial surveys, mortality, and telemetry, comes from the FWC Florida Marine Research Institute (FMRI) and other sources and is processed for use by FWC manatee staff members and external project managers and consultants. Data are made available to the public through several avenues. Maps are posted online for download. Data is offered digitally, through e-mail or CD-ROM, for staff members and the public to use with their own geographic information system (GIS). FWC can provide custom paper maps for staff members and the public who do not have GIS capability.



2003–2004 Highlights

- FWC staff members distributed approximately 160 GIS maps and 150 Computer Aided Design (CAD) maps and filled about 200 requests for digital data from the public.
- As part of the expanding GIS capabilities with ArcGIS, FWC staff has begun to make manatee maps using aerial photos and NOAA navigation charts as background images. The power available in ArcGIS and desktop computers has finally made this option feasible for managers looking for depth data and land or aquatic features in their maps.



Manatee information such as data from aerial surveys (top) and manatee mortality (bottom) is used to produce both digital and paper maps.

Research Activities

Mortality and Rescue

A network of researchers and law enforcement agencies was established in 1974 to recover manatee carcasses and assist injured manatees. The mortality and rescue program now rests largely with the FWC.

Staff members at five coastal field stations retrieve all carcasses. To determine cause of death, most carcasses are examined (necropsied) at the FWC Marine Mammal Pathobiology Laboratory (MMPL) in St. Petersburg. Although the MMPL was originally designed to process only 150 carcasses per year, it now regularly processes over 300 annually.



Information gained through carcass salvage and manatee rescue and rehabilitation is crucial to providing wildlife managers with information about manatee health, mortality factors, life history, and general and reproductive biology. This program also provides data used in assessing the population.

MANATEE MORTALITY FY 2003–2004

<i>Cause of Death</i>	<i>Number of Deaths</i>
Human—Watercraft Related	71
Human—Other (entanglement, ingestion, etc.)	5
Human (flood gate or canal lock)	3
Natural	40
Perinatal (total body length less than 150 cm or about 5 feet)	65
Cold Stress	47
Undetermined (decomposed or other)	42
Carcasses Not Recovered	3

2003–2004 Highlights

Carcass Salvage

- Statewide, there were 276 manatee carcasses documented in Florida during the fiscal year. All but three were recovered and examined.
- Researchers collected tissue samples for genetic analysis from 265 of the recovered carcasses. Other tissues were collected for toxicology and histopathology.
- MMPL staff members conducted several necropsy training workshops and classes for the following groups:
 - :: Veterinary students from the MARVET program and Aquatic Medicine students from the University of Florida and the University of Illinois.
 - :: Two workshops funded by the National Marine Fisheries Service (NMFS)-Prescott Stranding Program; workshops designed to train stranding network volunteers to respond to dolphin strandings and perform necropsies.
 - :: Joint NMFS-USFWS workshop to prepare volunteers to respond to unusual marine mammal mortality events that occur along the U.S. coastline.
- The University of Florida hired a veterinarian and stationed her at the MMPL to assist with necropsies, rescues, and research.
- A red tide event in southwest Florida continued causing manatee deaths during

the fall. Ninety-six manatee deaths in calendar year 2003 were attributed to the red tide toxin.

- FWC staff consulted with the U.S. Marine Mammal Commission concerning marine mammal pathobiology and potential health effects associated with worldwide oceanic military operations.
- In October, USFWS awarded Charlotte Harbor Field Station staff members the “Manatee Conservation Award” for “service above and beyond the call of duty.”

Rescue and Rehabilitation

- Sixty-two rescues were performed statewide during the 2003–2004 fiscal year.
- As of June 2004, 33 of these rescued manatees were released back into the wild; 14 died, and the remaining 15 animals were still being rehabilitated in facilities around the state.

MANATEE RESCUES FY 2003–2004

Human—Watercraft Related	10
Human—Entanglement	16
Human—Entrapment (flood gate or canal lock)	9
Calf—Alone	4
Calf—With Rescued Mother	2
Natural—Includes Red Tide	21

Population Monitoring and Assessment

Population assessment and monitoring is designed to address whether the manatee population is declining, stable, or increasing. Assessment includes a comparison of current and past conditions and an estimate of future risk. Computer modeling and risk assessments are the primary tools used in assessing the population. The Manatee Biological Status Review (BSR), completed in December 2003, is the most recent assessment completed by the FWC. The FWC also contributed to recent survival-rate estimates for manatees in southwest Florida.



Aerial surveys are one tool for monitoring the manatee population. Manatee aerial survey research addresses three questions about manatee populations: the number of manatees present in an area, trends in the size of the manatee population, and manatee seasonal distribution. Aerial surveys are used to acquire information on manatee distribution, relative abundance, and habitat use. FWC staff members use several types of aerial surveys to assess the manatee population. FWC uses statewide synoptic surveys to obtain a general count of manatees at known winter aggregation sites. These aerial surveys are conducted to meet Chapter 370.12 (4), Florida Statute, requiring an annual, impartial, scientific benchmark census of the manatee population. The counts, conducted 21 times since 1991, are flown after cold fronts, when animals gather, or aggregate, at warm springs and thermal discharges from power plants. Synoptic surveys yield minimum estimates of the manatee population. FWC uses another type of aerial survey called distribution surveys to determine the seasonal distribution and relative abundance of manatees. These distribution surveys are usually flown twice monthly for a period of two years.

Aerial surveys may underestimate manatee populations largely because some animals go undetected by observers. To assist in calculating the most accurate, usable counts of Florida manatees at specific locations, researchers are developing a model that uses a correction factor to integrate environmental effects and the number of animals undetected by the observer (observer bias) into the counts. The calibration study was designed to provide better results from aerial surveys conducted at Tampa Electric Company's (TECO) Big Bend power plant in Tampa Bay. This study uses a calibration or correction factor that can adjust counts upward to correct for animals that were present but not counted during the survey.

2003–2004 Highlights

- On February 20, 2004, FWC staff conducted its annual statewide synoptic survey—a simultaneous count of manatees over a broad area. Twenty-three observers (16 in air and 7 on ground) counted 2,505 manatees in 20 areas on both coasts. Observers were staff members from 14 state, federal, and county agencies, as well as research laboratories, non-governmental organizations, and universities.
 - :: Gulf coast count 1,309
 - :: East coast count 1,196
- Distribution surveys for Volusia and Indian River counties were completed in June 2004.
- In October, FMRI held an aerial survey safety workshop to improve the safety for FWC aerial observers.
- The final BSR was peer-reviewed and presented at the commission meeting in November. All decisions on species listings were put on hold until the listing process was reevaluated.
- FWC staff members participated in and co-chaired the reinstated USFWS Manatee Population Status Working Group. One of this group's goals is to provide annual assessments of the biological status of the Florida manatee population. The first assessment is scheduled for release in fall 2004.
- The correction factor for the number of manatees not seen during aerial surveys flown around the Tampa Bay TECO Big Bend power plant in Apollo Beach is under development in partnership with North Carolina State University. The correction factor is expected to be available by summer 2005.
- A manuscript describing results of survival-rate estimates was submitted and accepted for publication in the scientific journal *Marine Mammal Science*. FWC contributed to the estimates for the Southwest population.

In fall 2003, the USFWS reinstated its Florida Manatee Recovery and Implementation Team. FWC staff members serve on the steering committee and the following eleven working groups and task forces of the Recovery Team:

- Protection Coordination Working Group
- Regulatory Working Group
- Interagency Task Force for Water Control Structures
- Manatee Protection Working Group
- Entanglement Working Group
- Rescue, Rehabilitation, Release Program
- Population Status Working Group
- Habitat Working Group
- Warm Water Task Force
- CERP Interagency Manatee Task Force
- Education Working Group

Behavioral Ecology

Research on manatee use of Florida's coastal habitats is essential to understanding the resources required to recover and sustain a healthy population. By tracking the movements of individual manatees in fresh, brackish, and saltwater habitats, biologists obtain valuable information about manatee seasonal and daily movement patterns, migratory behavior, site fidelity, diving behavior, and habitat requirements. To track manatees, researchers place a padded belt around a manatee's tail and tether a floating radio-tag containing a satellite-linked transmitter to the belt. Staff members use the satellite-derived locations to remotely track manatee movements over long periods. To record data on behavior, group size, habitat, and movements, biologists locate the tag's unique VHF radio and ultrasonic signals. Processed data are mapped in a GIS; these data are then made available to managers for use in developing regulatory rules, evaluating permits, and devising strategies for manatee conservation and recovery.



The program focused mainly on manatee winter use of warm-water sites and associated foraging areas. This work will contribute scientific information necessary to develop a meaningful management plan for maintaining a reliable network of warm-water sites and nearby feeding grounds for manatees. There were three projects conducted under this program: winter use of industrial warm-water refuge in Tampa Bay, manatee winter use of a natural warm-water refuge at Warm Mineral Springs, and post-release monitoring of rehabilitated manatees.



Two manatees, one with a GPS tag, feed along a shoreline.

2003–2004 Highlights

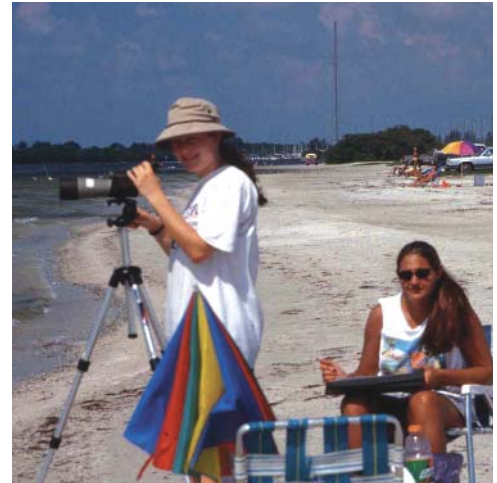
- To study winter foraging movements and attendance patterns at industrial warm-water sources in Tampa Bay, researchers tagged six manatees at Apollo Beach outside the TECO Big Bend power plant discharge canal. The six manatees carried Global Positioning System (GPS) tags, time-depth recorders, and temperature dataloggers that provided data about movements, diving behavior, and water temperature throughout the winter and early spring.
- A preliminary four-dimensional channel-crossing model (x and y coordinates, depth, and time) was developed in a GIS using GPS location data and time-depth data.
- FWC conducted a safety workshop to help improve staff and animal safety during manatee handling activities.
- Charlotte Harbor field staff assisted the Office of Boating and Waterways with posting nine regulatory signs near the manatee aggregation site at Salt Creek. The signs mark a new winter no-entry zone to protect manatees.
- Through the summer and fall of 2003, staff members continued to monitor the movements, behavior, and health of a rehabilitated subadult male manatee, in the Charlotte Harbor and Myakka River area. Researchers noted that the animal's condition declined, so they recaptured it. After five months of additional rehabilitation, the manatee was released at Salt Creek in May 2004. It is being monitored through the Manatee Rehabilitation Partnership.
- Staff members engaged in pre- and post-release health assessments of rehabilitated manatees, primarily in Tampa Bay and southwestern Florida.

TECO's Big Bend power plant and discharge canal, located in Apollo Beach.



Human Dimensions

Traditionally, wildlife managers have relied on biological data to assess manatee status and set recovery goals. Natural resource managers use laws, regulations, and outreach as tools to achieve these goals. Human behavior ultimately determines the success of wildlife management actions. Human-dimension research investigates how to apply research results to achieve cost-effective manatee protection. Increased voluntary compliance with speed zones is one example of cost-effective manatee protection that could relieve some of the burden on law enforcement. FWC staff members work to identify outreach and educational approaches that are most effective in generating compliance with regulations. Such research can result in agencies working with citizens more effectively. All human-dimension projects in 2003–2004 were supported through outside funding.



2003–2004 Highlights

- With funding from the USFWS, the FWC developed a device that will remotely monitor boat traffic. Preliminary testing of the device has begun in the Wakulla River.
- FWC staff members completed field sampling for a Manatee River boat-traffic study. This study was conducted to examine changes in boating patterns as residential developments increase.
- In fulfillment of the 2001 settlement agreement with Save the Manatee Club et al., FWC staff members compiled and analyzed data to help determine adequacy of existing speed zones in Lee County and downtown Jacksonville.
- Researchers completed a final report for a study that explored alternative signage to enhance boater compliance with speed zones.

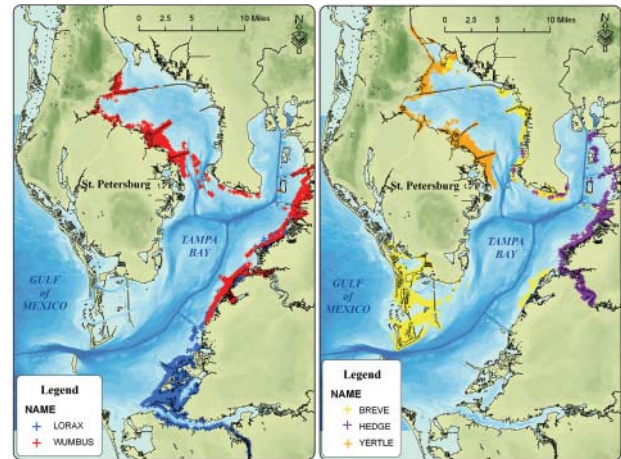


Geographic Information Systems (GIS)

Research Activities

A GIS is a computer program that allows research and management to create and analyze large volumes of spatial data (maps) relevant to manatee protection. Staff members working on the Marine Mammal GIS (MMGIS) have incorporated the following data into GIS format: carcass recovery sites, locations and numbers of manatees sighted during aerial surveys, locations of animals tracked by satellite, and boating traffic patterns. The MMGIS is a part of the comprehensive FMRI Marine Resource GIS (MRGIS), which facilitates access to a variety of data on the marine and terrestrial environment.

The MRGIS is a primary tool for marine resource research and management through spatial analysis. By allowing users to combine maps representing different data themes relevant to the coastal environment, GIS applications facilitate an ecosystem approach to conservation of manatees.



2003–2004 Highlights

- The following data were entered in a GIS:
 - :: Manatee synoptic survey counts for 1991 through 2004
 - :: Aerial survey data from the final year of the Volusia County and Indian River County distribution surveys
 - :: Manatee GPS telemetry data from the 2002–2003 winter field season
- Staff mapped the 2002 and 2003 unusual manatee mortality events in southwest Florida.
- Maps were prepared for NOAA staff to present to the U.S. Senate. The maps illustrated the locations of stranded dolphins during the spring 2004 unusual mortality event that occurred in the Florida Panhandle
- Anyone with Internet access can map carcass recovery locations using FMRI's Internet map server (<http://research.myfwc.com>)

Life History and Biology

Information on manatee life histories is essential in assessing manatee population dynamics and recovery. Long-term data on growth and survival of individuals, reproductive performance of mature females, and health of wild manatees are important to the development of reliable population models. These data are gathered using a variety of research tools, including photo-identification of distinctly scarred individuals, passive integrated transponders (PIT tags), and non-invasive body condition indices such as ultrasound measurements of blubber thickness.

Photo-Identification

Many manatees can be recognized by their unique scar patterns. The scars are usually a result of encounters with boats, but they can be caused by entanglement in fishing gear and by fungal infections. The Manatee Individual Photo-Identification System (MIPS) is an image-based computerized database, initially developed by the U.S. Geological Survey's Sirenia Project. MIPS allows researchers to easily match photographs of scarred manatees to distinctively marked individuals already documented in the database. FMRI collaborates closely with the Sirenia Project and Mote Marine Laboratory and coordinates and manages the west-central and southwestern Florida portions of the catalog. Photo-identification data provide insights into manatee movements, site fidelity, survival rates, and reproductive parameters such as calving intervals and length of calf dependency.

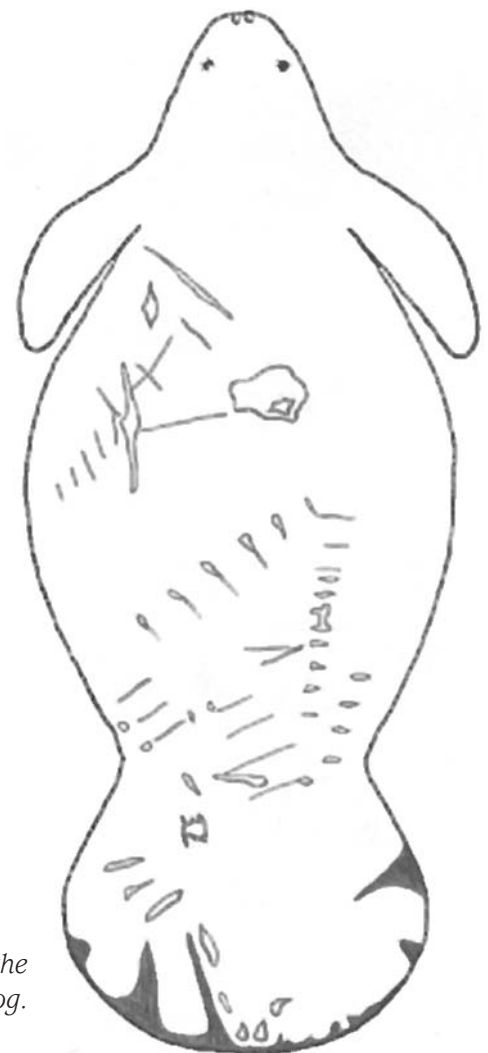


Passive Integrated Transponders

An important aspect of studying the manatee population is the ability to recognize individual animals over a long period of time. Currently, PIT tags are used to identify free-ranging manatees rescued due to injury, captured during research operations, or recovered dead. Similar to microchips implanted in domestic animals, PIT tags are inserted just under the skin near the shoulder blades of manatees handled by FMRI or other scientists. All animals that staff members come into contact with are scanned for PIT tags. A positive scan indicates that the animal has been used in a study or has been rescued in the past; this information adds to what is known about the particular animal's history.

2003–2004 Highlights

- FWC staff members, interns, and volunteers spent 170+ days conducting land- and boat-based photo-identification research during 450+ visits to sites used by manatees around the Tampa Bay area and southwest Florida.
- The southwest Florida portion of the photo-identification catalog currently contains the sighting histories for 559 fully photo-documented manatees. To facilitate more efficient data management and analyses, the photo-identification database was upgraded to Access 2000 and improved with other changes.
- FWC’s photo-identification program, in collaboration with partners, began the transition from slide film to digital photography. Partnering organizations have mapped out procedures for scanning program slides.
- The FWC photo-identification program had previously identified 21 of the 273 recovered carcasses. Fourteen had previously been photographed and identified based on comparison of scar patterns. Seven were identified through positive PIT scans.



Field photograph (top) and sketch (bottom) of “Flicker”, one of the manatees in the photo-identification catalog.

Right Whales

In addition to manatee recovery efforts, the FWC is involved in recovery efforts for other endangered marine mammals, including the North Atlantic right whale, *Eubalaena glacialis*, the most endangered of the world's large whales. Most of this work is supported through grant funding provided by NOAA-NMFS; however, portions of some salaries are provided by the STMTF. Efforts to prevent human-caused mortality in this species have been heightened. Even one death per year has a significant effect on the population, which is estimated to number just 325 individuals. In 1994, NOAA Fisheries designated Florida and Georgia coastal waters as critical habitat for the right whale. This region is the only known calving ground of the North Atlantic right whale. The FWC is dedicated to assisting NOAA Fisheries in its efforts to protect the North Atlantic right whale as outlined in the 1991 Northern Right Whale Recovery Plan.



Federal efforts to protect right whales in the Florida-Georgia critical habitat have resulted in the formation of the Southeast Implementation Team (SEIT) for the Recovery of the North Atlantic Right Whale, a multi-agency and citizen advisory group. The team develops management and research recommendations and assists in implementing the recovery plan. The FWC has been a member of the Implementation Team since its 1993 inception.

In an attempt to prevent ship strikes, which can kill or injure right whales, NOAA and the U.S. Coast Guard implemented the Mandatory Ship Reporting Systems (MSR) in July 1999. Under the MSR, all commercial ships greater than 300 gross tons are required to report to the MSR when entering the area surrounding designated critical habitat off the coasts of Florida and Georgia. During the November 15 to April 14 calving season, ships' captains are required to report vessel position, speed, and destination at their point of entry into the MSR. Once the MSR server receives a report, a message providing information about recent right whale locations and advisories is relayed to the ship. FMRI coordinates a pager-alert network that notifies key agencies, ports, and mariners when right whales have been sighted. This timely information allows ships to take evasive action if necessary to avoid whales.

Since 1987, FMRI staff members have conducted numerous aerial surveys to monitor seasonal presence of right whales, to determine the number of calves born, and to mitigate ship-whale collisions. Over the past several years, FMRI has worked closely with federal, state, and non-governmental-organization (NGO) partners to compile years of calving ground aerial-survey data into GIS format. Analyses of these spatial data will help researchers better define right whale distribution patterns in the southeast calving grounds in relation to environmental factors and human activities.

To better understand whale habitats, researchers are currently studying sea surface temperatures and bathymetry relative to whale sightings. Ship traffic data generated from MSR systems are also integrated into GIS to help characterize ship traffic patterns in right whale critical habitats.

2003–2004 Highlights

- FMRI staff members conducted 60 aerial surveys off northeast Florida during the 2003–2004 season. This effort resulted in 50 right whale sightings that were later identified as 17 single individuals and 10 cow-calf pairs.
- Five biopsy samples were collected as part of a multi-organizational effort for genetic analyses. The samples will be used to generate information on kinship, mating system, individual gender and identification, stock identity, and genetic variability within the population. The blubber portion of the samples will be used to determine contaminant levels and to gain information about feeding ecology and nutritive condition.
- FMRI staff members transitioned the whale photo-identification program to a digital camera system. The digital format provides the advantage of immediate image review. This reduces the dangerous time researchers spend circling the whales by plane at low slow speeds because, once researchers ascertain that an image is adequate, they can move away from the whale they are documenting.
- FMRI staff members received funding to design and deploy informational signs in marinas and boat ramps that are in close proximity to critical habitat. The signs will inform recreational boaters of the presence of right whales during the winter calving season and the regulations that protect the whales.
- There were many unusual right whale events in Florida this winter:
 - :: In February, FMRI staff members coordinated the live stranding response for a right whale calf stranded on a St. Augustine beach. Unfortunately, the animal died within hours of stranding. FMRI staff members helped transport the carcass to the University of Florida and helped conduct the necropsy.
 - :: FMRI staff members responded to entangled right whale, “Kingfisher,” spotted off St. Augustine on 03/17/2004. They successfully attached a satellite tag to the whale. FMRI provided a support vessel and crew on two occasions during the disentanglement attempts. Federally certified staff members assisted the Large Whale Disentanglement Network with the disentanglement efforts, following Kingfisher all the way up the east coast to Wilmington, N.C. The disentanglement attempts were unsuccessful. The whale was last seen a few weeks later off the New England coast, where it lost its satellite tag. Its fate is unknown.
 - :: On multiple occasions, FMRI staff members responded to the report of a right whale entering the St. Johns River. Staff members assisted with efforts to keep mariners away from the animals; they also recorded location coordinates and shot the only photos from one of the events.
 - :: FMRI staff members responded to the report of a right whale cow-calf pair spotted off Miami Beach and later another report of the same cow-calf pair observed in the Gulf of Mexico off Panama City.

Mote Marine Laboratory Manatee Research Projects

The legislature has appropriated \$325,000 annually from the STMTF for Mote Marine Laboratory's Manatee Research Program. The following seven projects were conducted in the 2003–2004 fiscal year:

- Studies in Matlacha Isles and Other Areas of Southwestern Florida: Facilitating Adult Survival Estimations in Southwestern Florida and Documenting Manatee Habitat Use Patterns
- Maintaining and Upgrading MIPS to Facilitate Studies of Adult Survival of Manatees In Southwestern Florida
- Assessment of Thermal Biology and Potential for Thermal Stress
- Inflammatory Mediators as Indicators of Manatee Immune Function
- Boat Traffic Surveys in Manatee, Lee, and Collier Counties, Florida
- Manatee Rescue and Verification
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Appendix A: Acronyms

ACOE—U.S. Army Corps of Engineers
BFSP—Boat Facility Siting Plan
BPSM—FWC’s Bureau of Protected Species Management
BRRC—Boca Raton Resort and Club
BSR—Biological Status Review
CAD—Computer Aided Design
CERP—Comprehensive Everglades Restoration Plan
DCA—Department of Community Affairs
DEP—Department of Environmental Protection
DOAH—Division of Administrative Hearing
DRI—Development of Regional Impact
EAR—Evaluation and Appraisal Report
EPA—Environmental Protection Agency
ESOL—English to Speakers of Other Languages
FAC—Florida Administrative Code
FMRI—FWC’s Florida Marine Research Institute
FWC—Florida Fish and Wildlife Conservation Commission
FY—Fiscal Year
GIS—Geographic Information System
GPS—Global Positioning System
LE—FWC’s Division of Law Enforcement
LRRC—Local Rule Review Committee
MANWAC—Marine Advisory Narrows Watershed Action Committee
MFT—Marina Fuel Tax
MIPS—Manatee Individual Photo-Identification System
MMGIS—Marine Mammals Geographic Information System
MMPL—Marine Mammal Pathobiology Laboratory
MPP—Manatee Protection Plan
MRGIS—Marine Resources Geographic Information System
MSR—Mandatory Ship Reporting Systems
NGO—Non-Governmental Organization
NMFS—National Marine Fisheries Service
NOAA—National Oceanic and Atmospheric Administration
PIT—Passive Integrated Transponders
SEIT—Southeast Implementation Team
SFWMD—South Florida Water Management District
STMTF—Save the Manatee Trust Fund
SWFWMD—Southwest Florida Water Management District
SWIM—Surface Water Improvement Program
TECO—Tampa Electric Company
UBC—Uniform Boating Citations
USFWS—U.S. Fish and Wildlife Service
WWTF—Warm-Water Task Force

Appendix B: Definitions

Idle Speed

Minimum speed necessary to make headway and be able to maintain control of the vessel.
See 68C-22.002(1), FAC, for the complete definition.

No Entry Zone

An area where all activities are prohibited unless specific authorization is given (except for fishing from an adjacent shoreline with a cane pole).
See 68C-22.002(11), FAC, for the complete definition.

Slow Speed

That speed where a vessel is fully off plane and completely settled in the water, and not creating an excessive wake or other hazardous condition.
See 68C-22.002(4), FAC, for the complete definition.

Manatee License Plate and Decal Program

MANATEE LICENSE PLATE

The manatee license plate was enacted on March 16, 1990, and was created to raise funds for manatee research and protection. To date, over 530,000 manatee license plates have been issued, and over \$32,000,000 has been collected to fund manatee research and protection in the state of Florida.



In July 2003, a committee was formed to explore a possible re-design for the manatee license plate. A call for artists and artwork was released, and over 100 pieces of artwork were received during the six month submission period. After review of the artwork submission, committee members decided to work with a small group of artists to create a new plate design that would appeal to current and prospective manatee license plate holders. This process is still underway.

MANATEE DECAL

Chapter 328, Florida Statute, provides that a sticker or decal can be given to citizens who donate \$5 or more to the Save the Manatee Trust Fund. In November 2002, the FWC invited all middle school age students who attend public, private, or home schools in Florida to enter the Manatee Decal Art Contest. This art project encourages middle school students to support protection efforts by learning about manatees and their role in Florida's environment.



Kathleen Finch, a student at Roosevelt Community Middle School, designed this year's winning decal. Her watercolor image of a swimming mother and calf manatee was one of 79 designs sent in by Florida middle school art students. The 2003–2004 manatee decal features Kathleen's artwork and the words, "The Manatee—A Florida Treasure," along with the FWC Wildlife Alert telephone number: 1-888-404-FWCC (3922).

Each year, tax collectors participate by carrying decals at their offices statewide. Money from the decals supports manatee protection efforts such as rescue, rehabilitation, research, and public education. The 2003–2004 manatee decal program provided approximately \$62,000 to the Save the Manatee Trust Fund.



November 2004