



**RECOMMENDATIONS TO IMPROVE
BOATING SAFETY
AND MANATEE PROTECTION
FOR FLORIDA WATERWAYS**

Presented at the Request
of the Governor and Cabinet
October 24, 1989

FINAL REPORT

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INTRODUCTION

At the June 13 Cabinet meeting, Secretary of State Jim Smith expressed concern over this year's alarmingly high number of manatee mortalities and boating accidents. The rate of manatee mortality for the first half of 1989 far outpaces the mortality recorded for the same period in 1988, which itself was a "record high." While the boating accident rate has been declining nationwide, Florida's boating accident rate remains high: our fatality rate is 2 1/2 times the national average. It is becoming apparent that threats to the boating public and our remaining manatee population cannot be adequately controlled by current protection measures.

At Secretary of State Smith's suggestion, the Governor and Cabinet directed the Department to make recommendations for specific actions to protect the manatee and its habitat, and to make the state's waterways safer for the boating public. Commissioner of Education Betty Castor further delineated the boating safety directives to the Department in a June 16 letter. The Department's recommendations were to address new boat speed zones -- including a possible statewide maximum speed limit; preserve areas; habitat protection; awareness and education programs; and mechanisms for coordination with other governmental entities and interest groups. The Department was requested to identify necessary actions to improve boating safety and manatee protection which can be accomplished under existing authority, as well as develop proposals for expanded authority for legislative consideration.

The Department developed a set of draft recommendations for discussion at a series of public meetings around the state. The Governor and Cabinet approved two of the Department's recommendations -- overtime pay for Marine Patrol Officers and a temporary manatee protection rule for the Banana River area -- and conceptually approved further development of the remainder of the draft recommendations at their September 14 meeting. In response to public comment on the recommendations, substantial revisions were made to the draft report. Changes were made to the recommendations regarding a maximum speed limit for boating safety, the manatee protection speed restrictions for the key counties, the interim boating facility expansion policy, and the potential funding sources. New sections were added on vessel operator licensing, maximum horsepower/load restrictions and D.U.I. repeat offender provisions. As almost every page includes some revision, it is suggested that the recommendations be thoroughly re-read.

EXECUTIVE SUMMARY

This report identifies actions which will go far in safeguarding the boating public and protecting the endangered manatee in Florida waterways. In presenting these recommendations, the Department's goal is to establish a partnership with local government. Problems resulting from reckless boating operation, and from the ever-expanding population of boaters, cannot be addressed on a strong, immediate basis through one agency's actions or by isolated, small-scale initiatives. This emergency response requires the cooperative efforts of all levels of government and a range of interest groups. Innovative, comprehensive measures -- together with adequate funding -- are essential.

Boating Safety Concerns

With over eight thousand miles of coastline, Florida has long been considered the nation's boating capital. No matter where you travel in the state, a navigable waterway is only a few miles away. For the most part, these waterways harbor excellent and safe facilities for the boating public. In 1959, realizing its responsibility to promote boating safety, the Florida Legislature passed the state's first boating law. It provided for registration of motorboats and established minimum safety requirements. Florida's motorboat law has been improved over the years and is now regarded as one of the nation's best.

Over the past several years the fatality rate from boating accidents has declined nationwide. Unfortunately, in Florida the reverse is true. For the past three years Florida's fatality rate has been 2 1/2 times the national average.

Recommended Actions

To combat Florida's unacceptable fatality and serious injury accident rate, the Department is proposing legislation to establish an operator's license for vessels in excess of ten horsepower. The Department is also proposing legislation for a daytime *channel only* speed limit and a lower nighttime speed limit for *all waters* of the state. Legislation is also proposed to enhance the enforcement of Florida's non-criminal boating offenses through the enactment of "in rem" (against the vessel rather than against the operator) proceedings against vessels, to prohibit the sale or operation of a vessel when the horsepower exceeds the rating for the vessel and to treat motor vehicle D.U.I. convictions as prior convictions when sentencing boat D.U.I. offenders. In the area of boating education, the Department is recommending that a Boating Education Unit be established to teach safe boating practices in the public school system and that a mandatory boating safety education course be completed by a boat operator born after October 1, 1975. In addition, an adequate number of Marine Patrol Officers to properly patrol our waterways, as well as funds for overtime Marine Patrol Officer work, is being requested.

Manatee Protection Concerns

Human activities are the greatest identifiable cause of manatee deaths in Florida, accounting for half of the known causes, and directly or indirectly affecting virtually every aspect of manatee ecology. Boat/barge related manatee mortalities account for 80% of human-related mortalities, and the number of boat-related deaths continues to increase as the number of registered boats increases. In the fifteen years that manatee deaths have been recorded, the highest yearly totals for confirmed boat-killed manatees occurred from 1984 through 1988. In this period, boat/barge related mortality increased by 84% over the preceding five year period. Deaths attributed to boats or barges reached a new high (43) in 1988. Through the end of September 1989, boat/barge related mortality exceeded that for the same period in 1988. High mortality has been successfully reduced in specific areas through speed regulations. However, as mortality becomes increasingly widespread, more comprehensive measures must be considered.

Over 80% of all boat/barge related mortality occurs in ten counties: . Brevard, Duval, Lee, Collier, Broward, Dade, Palm Beach, Volusia, Martin and Citrus. Three additional counties, Indian River, St. Lucie and Sarasota, although not particularly high mortality counties, are especially important as travel corridors and as feeding and resting areas for the manatees. Sarasota County has been added at the request of the County. Manatee protection efforts over the next five years should be focused on these thirteen counties, referred to as "key" counties throughout the rest of the report.

Recommended Actions

Establish a Shoreline Slow Speed Zone

In thirteen key manatee protection counties, a shoreline slow speed zone is proposed for all inland waters accessible to manatees. Initially, a 300-foot-wide shoreline slow speed zone will be established. County governments will be given a time period (minimum of eighteen months) to develop site-specific manatee protection regulations. If a county's manatee protection ordinance is not in place by the date outlined in the Department's shoreline slow speed zone rule, the width of the shoreline slow speed zone will be increased to 1000 feet.

Create New Manatee Protection Zones

Rules to establish four new manatee protection zones are proposed for adoption at the October 24 Cabinet meeting. The zones are located in the Caloosahatchee River (Lee County), and the Tomoka River (Volusia County), and at the Riviera Beach (Palm Beach County) and Port Everglades (Broward County) power plants. Rulemaking has been initiated to establish the Banana River (Brevard County) temporary manatee protection zones, only in effect for 90 days, as permanent zones. The Banana River rule will be proposed for adoption at the November 21 Cabinet meeting. Manatee protection zones are also being developed for the lower St. Johns River (Duval County), and the Sebastian Creek and an adjacent portion of the Indian River (Brevard and Indian River Counties).

Designate Manatee Preserves

Due to the continued high boat/barge related manatee mortality, harassment, and loss of essential habitat, it is important to manatee survival to set aside large preserves (motorboat prohibited areas) in which the animals can feed, rest, mate and give birth in relative safety. The U.S. Fish and Wildlife Service is currently pursuing the adoption of a manatee preserve in the upper Banana River adjacent to the current NASA restricted zone abutting Cape Canaveral.

Improve Sign Posting and Maintenance Capabilities

Speed zone signs must be properly placed and maintained for the zones to be enforceable. Many signs in the existing zones need replacement. When new speed zones are adopted, sign posting and maintenance needs will greatly increase. It is proposed that sign posting duties be transferred out of the Department's Division of Marine Resources to a more appropriate entity.

Institute an Interim Boating Facility Expansion Policy

New or expanded boating facilities for the top thirteen manatee abundance and mortality counties will be limited to a maximum of one powerboat slip per 100 linear feet of shoreline until the county has implemented an approved manatee protection plan and boating facility siting policy.

Accelerate Development and Utilization of the Marine Resource Geographic Information System

The geographic information system (GIS) provides analytical capabilities to better understand manatees and their habitat, thereby facilitating protection efforts. As GIS development is time and manpower intensive, additional staffing is required for its acceleration.

Recommend Legislative Action

Several amendments to the "Florida Manatee Sanctuary Act," subsection 370.12(2), Florida Statutes, are proposed. An estimated annual budget of over \$2 million and 19 new staff positions are necessary to meet the Department's manatee recovery objectives.

Actively Promote the Dissemination of Manatee Information

A new awareness campaign will bring additional statewide attention to the manatee's endangered species status, and provide detailed information on how educators, students, boaters, divers, industry, developers and the general public can assist in protecting and maintaining Florida's manatee population.

BOATING SAFETY STRATEGIES

Recreational boating in the State of Florida is enjoyed twelve months of the year by approximately four million residents and visitors. With 8,426 miles of saltwater tidal coastline, 2,000,000 acres of natural lakes (7,700 lakes of over 10 acres), 1,000,000 acres of man-made lakes and 11,909 miles of rivers and streams, Florida has long been considered the nation's recreational boating capital.

As of June 1989, Florida had 710,831 registered boats. This is an increase of approximately 35,000 boats over last year (a consistent increase of 5% a year). It is also estimated that an additional 300,000 boats visited Florida from other areas and that there are at least 100,000 boats domiciled in Florida which are not required to be registered. It is projected that by the year 2000, there will be over 1,600,000 vessels plying Florida's waterways.

Florida is easily the fastest growing recreational boating state in the nation -- with problems to match. In 1988, Florida recorded 1,203 boating accidents with 94 recreational and 11 commercial fatalities. Unfortunately, Florida has led the nation in recreational fatalities for the past two years. Florida's recreational fatality rate of 13.9 per 100,000 vessels is over 2 1/2 times the nationwide rate of 5.5. Total vessel and property damage as a result of boating accidents in 1988 was \$7,602,387. The U. S. Coast Guard estimates that only 10% of all boating accidents are reported. Based on this estimate, Florida probably has over 12,000 boating accidents per year. As of June 1989, 619 accidents have been reported with 46 fatalities and 262 injuries. Every factor concerning recreational boating in Florida is increasing -- more boats, faster boats, more boaters, more accidents, more injuries, more property damage and more fatalities. The only constant is the amount of available waterways. Traffic congestion, coupled with speed, is causing more collision accidents. Speed limits are necessary to effectively manage our waterways for the protection of the boating public. Legislation is proposed to assist in alleviating our growing problems.

Vessel Operator Licensing

The Department estimates that between 3 1/2 and 4 million persons are presently operating vessels on Florida's waterways. Predictions are that this number will double in the next decade. Many of our state waters are very congested at present; but, by the year 2000 most of our waterways will become extremely congested.

Although boat operators are required to comply with the laws regulating boat operation, there is no requirement that they possess any knowledge of what those laws are. This has resulted in a disproportionate number (perhaps an overwhelming majority) of boat operators who have zero knowledge of the "Rules of the Road" (state and federal law) governing vessel operation or of the many safety requirements necessary to safely ply our waters. Several organizations such as the U. S. Power Squadron and the U. S. Coast Guard Auxiliary have been conducting excellent boating safety education programs for over half a century, however, their efforts are only reaching a very small percentage of the millions of boat operators.

The Department feels the time has come to seriously consider that a level of competency or certification be proven prior to being granted the privilege of operating a vessel on Florida's waters. The most efficient method of accomplishing this goal would be through the utilization of the existing motor vehicle driver's license. A written boat operator test and special coding on the license would be required.

The Department's proposal would deal with two groups of persons in implementing an operator licensing program. The first group consists of those persons holding a valid license to drive motor vehicles on the effective date of the law (proposed for 10-1-91). The second group of persons would be those obtaining a motor vehicle driver's license for the first time after the effective date of the law.

Those persons in group one (those who hold a valid Florida driver's license on the effective date of the law) would be authorized to operate a boat until the expiration of their license. During the renewal process, those persons wishing to continue operating a boat would be required to pass a written exam, pay a fee and have their license coded for vessel operation.

Those persons in group two (those applying for an initial Florida driver's license after the effective date of the law) would be required to successfully complete an approved boating education course and present their certificate (or proof of completion) to a driver's license office when applying for a license. In such cases their license would be coded for vessel operation.

Persons 12 years of age or above who wish to operate a boat but whom are not licensed to drive an automobile would be required to successfully complete an approved boating education course and apply to a driver's license office for a Florida identification card coded for vessel operation.

The following six exemptions to the license requirements would apply:

1. Persons operating vessels of less than ten horsepower.
2. Persons licensed by the United States Coast Guard to operate vessels.
3. Persons operating vessels owned by the United States Government.
4. Persons from other states who are temporarily using our waters and who possess a valid drivers license in their home state unless their home state requires a vessel operator's license.
5. Persons from a foreign country temporarily using our waters.
6. Persons under 16 years of age provided a licensed parent or guardian is in the boat and responsible for its operation.

The legislation also requires that a council be established to develop the required tests and approve the boating education courses and programs. The council would be comprised of representatives of the following groups: Florida Marine Patrol, Florida Department of Education, Florida Game and Fresh Water Fish Commission, U. S. Coast Guard, U. S. Coast Guard Auxiliary, U. S. Power Squadron and the Marine Industries Association of Florida.

The proposed vessel operator license law also contains a point system for violations and a method for license suspension or revocation for serious or repeat offenders. This system is similar to the existing point system for motor vehicle offenders.

Establishment of Speed Limits

Proposed legislation will establish, unless otherwise posted, a maximum daytime speed limit of 40 miles per hour for vessels traveling within a marked navigation channel or within 100 feet adjacent to a marked navigation channel. Marked channels in specified large or open water bodies would be exempt. All waters of the state would have, unless otherwise posted, a maximum nighttime speed limit of 30 miles per hour. The proposed legislation also clearly states that the designated speeds may not be safe under all conditions (i.e. fog, congestion, etc.) and Inland Navigation Rule 6 may require speeds well under those designated (see Attachment A).

For those areas where more restrictive regulations are required, the Department shall have the authority for establishing, by rule, higher or lower numerical speed limits and maximum wake size limits on any of the waters of the state. Such speed and wake limits, when established, shall be on a local need or site specific basis. Such regulations shall be developed in consultation with the governing body of the county or city to be regulated, the Florida Game and Fresh Water Fish Commission when applicable and where required under federal law, the U. S. Coast Guard and the U. S. Army Corps of Engineers. The Department's boating safety staff working with the local Florida Marine Patrol and Florida Game and Fresh Water Fish Commission District Offices has begun the process of identifying those areas or zones that currently need lower speed limits or regulatory zones created, and we plan to expedite the rulemaking process by working with local government.

Each county which has been granted a special speed or wake limit shall post and maintain uniform regulatory markers noticing such limits at the county line and periodically on the waters throughout the county as directed by the Department.

Such special speed and wake limits shall not preempt the establishment or enforcement of any restricted area established pursuant to Section 327.46 and/or Section 370.12, Florida Statutes, and posted as required by rule.

Upon request from a county or municipality to establish a watersport area, the Department may waive or modify any maximum speed or wake limit established by this legislation. The Department shall establish by rule the criteria and procedures for issuing such waiver or modification.

A violation of the established speed or wake limit would be a non-criminal infraction.

Enhanced Enforcement

The Department is also proposing legislation for "in rem" (against the vessel rather than against the operator) proceedings against vessels in violation of the non-criminal provisions of Chapter 327, Florida Statutes. Such procedures are used by the U. S. Coast Guard for violation of federal boating regulations. This innovative approach will enable the Department to issue a citation to a vessel which was photographed or recorded to be in violation of boating laws. The citation would be mailed to the vessel owner. Procedures would be established by Department rule for legal action against an owner who ignored the citation. The vessel owner would be faced with three options: 1) pay the civil penalty, or 2) request a hearing before a county court judge, or 3) ignore the citation, in which case he would be unable to re-register his vessel. The Department could use its FMP Auxiliary or specially trained citizen groups to assist with this program (see Attachment B).

Maximum Horsepower/Load

Current Federal Regulations (33 CFR 183, Subpart B) provide that certain boats must display a plate stating the maximum horsepower, weight and number of persons for which a particular vessel is safely rated. The Department is proposing legislation making it unlawful to sell or operate a vessel when the horsepower exceeds the federal standard and, in addition, making it unlawful to operate a vessel when the load or number of persons on board exceeds the federal standard. The proposal would make it a misdemeanor to sell such a vessel and an infraction to operate one (see Attachment B).

D.U.I. Repeat Offender Provisions

In recent cases the Florida Marine Patrol has seen where individuals charged with D.U.I. in a boat have also had previous D.U.I. convictions in a car. Current law requires a separation of the offenses (car vs. boat) when sentencing those convicted of D.U.I. The Department is proposing legislation to allow courts to consider prior D.U.I. convictions, car or boat, as prior convictions when sentencing persons convicted of boat D.U.I. (see Attachment C).

Boating Safety Education

The Department plans on budgeting for a 24 employee boating education unit. These employees will primarily work in the school system (most likely at the middle school level) teaching the National Association of State Boating Law Administrators course (see Attachment D). During the summer break, the instructors will focus on adult education and summer youth camp programs. As well as the boating safety curriculum, the unit will emphasize manatee issues.

In addition to the boating education unit, the Department is proposing legislation to require a Boating Safety Course prior to operating a vessel of more than 10 horsepower for persons born after October 1, 1975 (see Attachment E). The effective date of this legislation will be October 1, 1991. In effect, this means that on October 1, 1991 anyone under 16 years of age would be required to have taken and passed a Department approved course. By the year 2001, it would require anyone under 26 years of age to qualify. The Department feels this "phase in" approach is a good way to implement mandatory education. A very critical element in the success of this program is having an adequate number of instructors and sufficient materials available.

Additional Law Enforcement Personnel

The Florida Marine Patrol is making a concerted effort to meet the marine law enforcement needs of the public. However, with only 264 assigned FMP Officer positions to patrol over 8,400 miles of coastline and to respond to more than 15,500 annual public complaints, the mathematical conclusion is evident. The Patrol is spread far too thin from a geographic, as well as, from an operational response standpoint. Realistically, a minimum of seven officer positions is required to man each established water zone on a 24 hour per day basis. This number of officers allows for three shift scheduling with a nighttime manning provision for two assigned officers per boat. In theory, this formula means that with current manpower allocations, a statewide maximum of only 30 FMP operational units could be somewhere in service at a given time. There are 35 coastal counties in Florida. Consequently, this formula also means that, on the average, there is less than one 24 hour operational unit allocated to each county. In practice, the Patrol maximizes its manpower resources through creative scheduling and peak workload management techniques. As a result, increased coverage is available during peak boating activity periods, with decreased or no coverage available during lesser activity periods. Although justifiable, these efforts are less than satisfactory and cannot overcome the significant lack of sufficient resources needed to provide the

public and Florida's marine environment with adequate marine law enforcement services and protection. Adequate allocation of law enforcement officers (see Attachment F) is a critical element in the success or failure of this program.

Overtime Pay

Until such time as the Department is able to implement its manpower allocation plan, a critical need exists for additional patrol coverage. To compensate for this situation, the Department's budget request will include funding for overtime pay for existing officers at a rate of eight hours per week or 400 hours per year.

MANATEE PROTECTION STRATEGIES

These comprehensive manatee protection strategies have their basis in the revised West Indian Manatee Recovery Plan developed by a multi-interest manatee recovery team for the U. S. Fish and Wildlife Service. The recovery team was composed of many of the top manatee experts in Florida, as well as governmental agency representatives and two marine industries association members. Selected portions of the recovery plan, which detail the Department's manatee recovery responsibilities, are included as Attachments G and H. The estimated manpower (19 new positions) and funding resources (\$2 million) required to implement the plan are identified in Attachment H.

Shoreline Slow Speed Zone

In the thirteen key manatee protection counties, a shoreline slow speed zone should be implemented for all inland waters accessible to manatees: Brevard, Broward, Citrus, Collier, Dade, Duval, Indian River, Lee, Martin, Palm Beach, St. Lucie, Sarasota and Volusia. Initially, a 300-foot-wide shoreline slow speed zone will be established. The 300-foot buffer will not include any marked navigation channel or the area within 100 feet adjacent to a marked navigation channel. (Only the marked navigation channel will be excluded from the slow speed zone in areas where the entire width of the waterbody does not allow for a 300-foot buffer on each shore.) A marked navigation channel is any channel which has its boundaries or bends delineated by aids to navigation which are placed by a governmental entity, placed pursuant to a permit for private aids to navigation issued by the United States Coast Guard under subpart 66.01 of Title 33 of the Code of Federal Regulations, or placed pursuant to a permit issued by the Department under Section 327.40, Florida Statutes. No exemptions to the 300-foot-wide shoreline slow speed zone will be authorized. Rules to establish the shoreline slow speed zone are targeted for January 1990 adoption.

Counties will be responsible for posting informational signs regarding manatees and the shoreline slow speed zone at key access points (public marinas, boat ramps, waterfront parks) using Boating Improvement Program funds (see Attachment J for county balances) or other county resources.

County governments will be given a time period to develop site-specific manatee protection regulations. County manatee protection regulations would be subject to review and approval by the Department. The staggered schedule for county development of manatee protection regulations -- based on priority of manatee protection needs -- will be set forth in the shoreline slow speed zone rule as follows:

<u>June 1991</u>	<u>June 1992</u>	<u>June 1993</u>
Brevard	Martin	Indian River
Duval	Dade	St. Lucie
Lee	Broward	Sarasota
Collier	Palm Beach	Volusia
Citrus		

Counties will be encouraged to submit their manatee protection regulations sooner than the scheduled deadline. If a county's manatee protection ordinance is not in place by the specified date, the width of the shoreline slow speed zone will be increased to 1000 feet.

Each county government, if it so desires, will be able to petition the Department to exempt certain areas from the 1000-foot shoreline slow speed zone provided the following criteria are met:

- a. the area of water for which the exemption is being sought is not an area of regular or frequent manatee use during the time of year for which the exemption is being applied;
- b. the exemption will not create a boating safety problem;
- c. the exemption will not contribute to the destruction of seagrass and shoreline habitat; and
- d. the county will be responsible for adequately marking or posting the requested area in a manner consistent with the terms of the exemption.

In preparing a petition for exempted areas, a county government will coordinate with involved interest groups including environmental organizations, governmental agencies, marine industry representatives, water skiing associations, commercial fishermen and recreational fishermen. County petitions will be submitted to the Department for approval. The county may appeal the Department decision on its petition to the Governor and Cabinet.

Regulatory Speed Zones

Rules to establish four new manatee protection zones are proposed for adoption at the October 24 Cabinet meeting. The zones are located in the Caloosahatchee River (Lee County); Tomoka River (Volusia County); and at the Riviera Beach (Palm Beach County) and Port Everglades (Broward County) power plants (See Attachment I). Rulemaking has been initiated to establish the current Banana River manatee protection zones, only in effect for 90 days, as permanent zones. A temporary speed zone rule for the area was adopted at the September 14 Cabinet meeting and became effective September 18. The Banana River permanent rule will be proposed for adoption at the November 21 Cabinet meeting. Manatee protection zones are also being developed for the lower St. Johns River (Duval County), and the Sebastian Creek and an adjacent portion of the Indian River (Brevard and Indian River counties).

Manatee Preserves

"No entry" areas are protected zones in which boating, swimming, and diving are prohibited for the protection of manatees. Historically, "no entry" areas have been designated by the federal government at warm water refuges where large numbers of manatees congregate. In some areas, such as Kings Bay in Citrus County, a portion of the warm water refuge is closed off with markers, providing an area where manatees can escape contact with swimmers. In power plant discharge canals, the entire area is often established as a "no entry" zone to prevent boaters or swimmers from causing manatees to leave the warm water.

Due to continued high boat/barge related manatee mortality, harassment and loss of essential habitat, it is increasingly important to manatee survival to set aside areas in which the animals can feed, rest, mate and give birth in safety. The U. S. Fish and Wildlife Service is currently pursuing the adoption of a manatee preserve (motorboat prohibited area) in the upper Banana River between the NASA and 528 Causeways adjacent to the current NASA restricted zone. Other areas are under consideration as potential manatee preserves. However, before their

recommendation, time is needed to evaluate manatee distribution data (in some cases additional data will need to be collected), the degree of commercial and recreational use of the areas, riparian owners involved and the most practical and effective methods for posting the areas. Potential preserve areas include portions of: the Mosquito Lagoon (Brevard County), the Ten Thousand Islands area of Everglades National Park, and the Oleta River (Dade County).

The Department's current authority appears to be limited to preventing motorboat access into protected areas; it is unclear whether authority exists to establish absolute "no entry" areas. Absolute "no entry" can be established under federal authority, as has been done at Kings Bay, or could be pursued through a change to Chapter 370, Florida Statutes (see Statutory Amendments section).

Sign Posting and Maintenance

Once manatee protection zones are established, they must be clearly marked with appropriate regulatory signs. Proper design, location and maintenance of these signs is a necessity if the speed limits are to be enforceable. Approximately twenty manatee protection zone areas have been designated and posted with regulatory signs, and seven more areas are currently proposed for designation and posting. Before 1983, the Florida Marine Patrol posted and oversaw maintenance of regulatory signs. Since then, the responsibility for recommending zone designation, posting approved areas, and maintaining the signs has rested with the Marine Mammals Section of the Division of Marine Resources.

The task of installing signs generally requires the services of a contractor, special equipment and personnel to assist and guide the contractor. The task includes obtaining all required environmental permits, posting new signs and replacing any damaged or missing pilings and signs.

Protection zone areas must be inspected on a regular schedule (quarterly) to ensure that adequate marking is present and that no hazards to navigation exist. Under current fiscal and staffing limitations, the Department is unable to perform routine sign inspection and maintenance in the existing protection zones. Many signs and pilings need replacement. It is recommended that sign posting and maintenance responsibilities be transferred to a more appropriate entity. If not transferred and the Division of Marine Resources is expected to successfully manage signage for the manatee protection zones, a significant increase in funding (three employees and \$250,000) will be a necessary inclusion in next year's budget.

Alternatively, assistance from the affected counties would be more economical and efficient. Each county would assume responsibility for the posting, inspection and maintenance of the regulatory signs in its waters with guidance and assistance from the Department. Funding would be available through the Florida Boating Improvement Program to supplement a county's special program budget (see Attachment J). The Department would establish, by rule, appropriate standards and criteria; oversight for county compliance would be provided by the Divisions of Marine Resources and Law Enforcement. A statutory amendment is recommended to implement this policy.

It is proposed that only limited marking of the shoreline slow speed zone be performed - to reduce sign posting costs, the chances of hitting a regulatory marker and the aesthetic pollution from excessive signage. County governments would post informational signs at access points explaining the shoreline slow speed zone.

Interim Boating Facility Expansion Policy and County Manatee Protection Plans

The construction of new or expanded boating facilities within the thirteen key counties would be limited to a maximum of one powerboat slip per hundred linear feet of shoreline owned or controlled by the applicant, unless the local government with jurisdiction has developed and implemented by an appropriate ordinance, a manatee protection plan approved by the Department and a boating facility siting policy (see Attachment K).

This policy would apply to multislip facilities with more than five boat slips and to multislip expansion of more than five boat slips. The policy would not apply to: applications currently being processed by the Department of Natural Resources, the Department of Environmental Regulation, or the U.S. Army Corps of Engineers; applications for development approval (DRIs) currently being processed by local governments, regional planning councils or the Department of Community Affairs; to boat ramps; or to the creation or expansion of dry storage facilities for sailboats. Such facilities would continue to be governed by the review processes currently in place or by the provisions of Chapter 89-536, Laws of Florida, whichever are applicable. Variances from the slip-to-shoreline ratio for projects near speed regulated inlets may be allowed by the Department if no significant adverse impacts are expected.

A duly adopted local ordinance would be considered in compliance with the above requirements once it is adopted and effective, and the Department of Natural Resources has determined that it will protect manatees and their habitat. The Department's determination will be based on an evaluation that the local government with jurisdiction has developed and implemented an ordinance that does not permit dock densities which would jeopardize the continued existence of manatees, that prohibits destruction of essential aquatic vegetation, and that prohibits any development in areas that are not suited for dock construction because of manatee usage and/or vegetation.

The adoption of this policy would in no way be interpreted as exempting DRIs or other projects from intensive review and subsequent recommendations as to the appropriateness of their proposed impacts upon manatees or their habitat. As a state policy, this policy would not direct or bind any federal agency review or processing of docks, boat ramps, or any other water-dependent construction applications.

County specific manatee protection plans and boating facility siting policies must be based on comprehensive manatee mortality, abundance and distribution data, as well as other natural resources data. The plans should address ways to reduce human impacts to manatees, including the preferred siting of boating facilities. Policies to limit or prohibit the construction of marinas and dry storage facilities in important manatee or habitat areas should be incorporated in the plan. (Additional plan components are described in Attachment K, Manatee Protection Plan Guidelines.) The quantity of available manatee information, collected by the Department, the U. S. Fish and Wildlife Service and other researchers, varies for each county. The amount of boating information which a county may require to make land use recommendations will also vary. In some counties, collection of additional manatee and boating data may be necessary to develop the manatee protection plans. Counties may develop interim protection plans utilizing the best available information, if acceptable to the Department. Reasonable relaxation of the requirements of the interim boating expansion policy may be allowed. The Department will assist in the development of protection plans by providing access to the required manatee data and through county orientation meetings. The interim manatee protection plans should identify additional research needs and include a timetable for accomplishing the research and development of a more comprehensive manatee protection plan once the necessary information becomes available.

The Citrus County Manatee Protection Plan is expected to be completed this fall. The East Central Florida Regional Planning Council has recently released a study, "Marina Siting Suitability in the Coastal Estuaries of East Central Florida." These two documents may provide models for similar studies in other areas.

Geographic Information System

The geographic information system (GIS) will provide a better understanding of the temporal and spatial relationship of manatees and their habitats (see Attachment L). The information will be used for development and refinement of manatee protection plans. Highest priority for data entry into the GIS are: Brevard, Duval, Collier, Lee and Citrus counties. Data entry and analysis is expected to take at least a year. GIS data preparation would follow for Broward, Dade, Martin and Palm Beach counties (completion expected by early 1992), followed by Volusia, Indian River, St. Lucie and Sarasota counties (completion expected by early 1993). Development of the GIS is time and manpower intensive. The time line can be shortened only with increased manpower; two additional positions are requested.

Legislative Requests

Statutory Amendments

Specific authority to protect and preserve manatees is found in subsection 370.12(2), Florida Statutes (see Attachment M, the "Florida Manatee Sanctuary Act"). However, the statute is deficient and the following amendments are recommended.

Subsection 370.12(2)(g)

Delete the sentence: "The main channel of the Atlantic Intracoastal Waterway within this area is exempted from speed restrictions." Without such a change, manatees cannot be adequately protected from the increasing boat traffic generated by new development. The adoption of additional regulatory zones should allow for increases in boating facilities while protecting manatees.

Subsection 370.12(2)(f)

To protect manatees from harassment and other forms of "taking," it is recommended that this section be amended as follows: in line two, after the words "collisions with motorboats" and before the words "the Department of," add "or harassment."

Subsection 370.12(2)(p)

Add a new subsection: "The Department is authorized to establish, by rule, sanctuaries for manatees where the animals can rest, feed, reproduce or nurse undisturbed by human activities." It is currently not possible to prevent non-motorized boats or divers from chasing manatees in warm water refuges. This amendment would allow for the creation of "no entry" zones, which at present can only be established by federal rules.

Subsection 370.12(2)(i)

Delete the words "during the period between November 15 of each year and March 31 of the succeeding year" and add the words "and duration" after "zone sufficient in size" and before "to protect the concentration of manatees." This amendment is needed to more accurately depict when manatees are likely to be present. It is primarily a non-substantive change for consistency within the statute.

Subsection 370.12(2)(j)

In the first sentence delete the words "post and." Add a new sentence: "Counties with manatee sightings in their waters will assume responsibility for posting, inspecting and maintaining the regulatory signs with guidance from the Department based on criteria and standards established by rule." Local government assumption of the day-to-day responsibility for regulatory signs is the most efficient and economical approach to regulating boat speeds.

Subsection 370.12(2)(n)

Although the Department's authority to protect manatees is clearly delineated, authority to protect their habitat is not. It is recommended that the words "or to protect the manatees' habitat, e.g., seagrasses" be added at the end of this subsection. Currently, unless seagrasses are being prop dredged, there is no way to protect them from boating activities. Direct protection of seagrasses under other related statutes should also be pursued.

Subsection 327.25(12)

In addition to the authority vested in subsection 370.12(2), Florida Statutes, subsection 327.25(12) authorizes county governments the optional use of their share of funds collected pursuant to section 327.28 for manatee and marine mammal protection activities. It is recommended that individual counties assume responsibility for posting, inspecting and maintaining boating speed limit signs in their waters. Subsection 327.25(12) should be amended by adding a new last sentence: "Local governments will assume responsibility for posting and maintaining boat speed limit signs in their waters using said grant funds, if necessary. The Department shall, by rule, establish standards and criteria for posting, inspecting and maintaining the signs." Without this amendment, the Department will continue to be responsible for posting and maintaining the signs. To fulfill this responsibility, a significant increase in staffing and funding for the manatee program would be needed.

Subsection 370.12(2)(o)

Add a new subsection: "Local government may regulate by ordinance motorboat speed and operation in other portions of state waters within its jurisdiction where manatees are frequently sighted and it can be assumed that manatees inhabit such waters periodically or continuously. The Department shall be responsible for reviewing and approving local manatee protection ordinances." This amendment would allow local government to adopt manatee protection regulations.

Other issues for legislative consideration include:

- Seeking authority to not post maximum speed limit areas established by rule under Chapters 370 or 327, Florida Statutes (that is, unless otherwise posted, the speed limit would automatically be X mph). This provision would reduce the number of signs and funding necessary to mark the various waterways.
- Requiring the use of floating or above-the-water fenders along bulkheads and between large vessels moored in waters likely to be used by manatees. A significant number of manatees have been crushed between a bulkhead and a large ship or barge, or between the vessels themselves. Although most new facilities have been required to install and use these bumpers, a large number

of older facilities currently are not employing these protective devices. Fenders will save manatees as well as protect ships, barges and bulkheads during heavy seas and wakes.

- Investigation of future mandatory use of propeller guards if a practical design can be developed. Propeller guards may provide limited relief from manatee and swimmer injuries, particularly when combined with other speed controls.
- Designation of and funding for dedicated resource protection officers.

Increased Funding

It is projected that an annual budget of approximately \$2 million, including additional manpower resources, is required to meet the Department's manatee and habitat protection responsibilities (see Attachment H, the Manatee Recovery Plan Implementation Schedule) The Department's manatee program budget for 1988-89 is \$492,000.

The manatee license plate bill, passed by the 1989 Legislature, will provide some additional revenue for the manatee program. Manatee license plate revenues are to be split between environmental education and manatee protection efforts. With the proliferation of special license plates it is difficult to estimate the monies which the Department will receive from this source. In 1988-89, sale of special license plates by the Department of Highway Safety and Motor Vehicles was as follows: 31,138 collegiate tags; 63,826 Challenger tags; and 106,888 personal tags. It is expected that manatee tags will be available for purchase in early 1990. If 15,000 persons (Save the Manatee Club membership) purchase the special tag, 1989-90 revenue for the manatee program is projected at \$56,250 (\$15 tag fee x 15,000 x 0.5, manatee program portion x 0.5 year).

Other potential means of increasing funding for the manatee program are identified in the Implementation section of this report.

New Staff Positions

The timeline for providing counties with geographic information system data, aiding in their preparation of manatee protection plans and ordinances, and reviewing their plans and ordinances can be reduced significantly through increased staffing of the Marine Mammals Section. It is proposed that the staff be increased immediately:

Career Service Positions	Current Staff	Requested Staff
Planning staff	2	4
GIS analysis	1	1
GIS data entry	0	1
Administration	3	2
Salvage coordinator	0	1
Salvage assistants	0	2
SW field supervisor	1	0
Population assessment	2	4
Research coordinator	0	1
Sign posting & maintenance	0	3
Total	9	19

Four additional planning positions are needed to work with local governments on the development and implementation of interim and final manatee protection plans, boating facility policies, and local manatee protection ordinances, and to review applications for new water related projects (dredge and fill permits, submerged lands leases, developments of regional impact) for potential impacts to manatees and manatee habitat. The development and utilization of the Marine Resource Geographic Information System will play a major role in facilitating the integration of research data and management recommendations. One additional position is needed to perform ongoing data management and another position is needed to enter backlogged data.

Three new employees with marine mammal pathology expertise are needed to accomplish some of the most pressing tasks outlined in the recovery plan, such as determining the causes of natural mortality, evaluating the effects of pollution and toxins on manatees, and performing genetic and aging research. A research coordinator is needed to coordinate various research efforts and to analyze existing population data. The Department needs to initiate aerial surveys in new areas and to experiment with additional innovative approaches to population estimation. Two additional administrative positions are needed to assist with section research and management responsibilities. Three sign posting and maintenance positions (necessary if the program is not transferred) are essential with the Department's increasing regulatory zone responsibilities.

More detail regarding the need for additional positions to accomplish the Department's responsibilities under the manatee recovery plan is found in Attachments G and H.

Public Awareness

The Office of Communications and staff in the Marine Research Institute have been working for the last four months to develop a manatee awareness campaign that will run during the entire 1989-90 wintering season. The campaign is being developed in cooperation with a successful Tampa advertising agency that is donating its considerable talent and time to the state as part of its commitment to public service. The campaign will include:

Radio, Television and Print Public Service Announcements

High quality commercials and ads which focus on public responsibility to protect manatees are being produced.

Manatee Information Booklet

The Office of Communications has developed a complete manatee information booklet. This booklet is being printed with the cooperation of the Jacksonville Marine Association, the Marine Association of South Florida, the Florida Wildlife Federation and the Florida Phosphate Council. It will be distributed as part of the overall campaign.

Manatee Guide for Boaters and Divers

This short, easy to use brochure will be distributed to boaters and divers. It contains reminders on manatee protection.

All of the materials and public service announcements are being developed for presentation and distribution at the October 24 Cabinet meeting. This Cabinet meeting will also serve as a kickoff for the advertising campaign.

Students constitute a large and valuable group who can ensure the future of Florida's living resources, such as the manatee, as well as disseminate information to their parents and peer groups. Environmental problems and solutions cannot be adequately covered in a short segment of a basic biology class. Environmental education should be expanded in every school district to include environmental science as a required course for all students, kindergarten through twelfth grade.

Workshops can be conducted to train law enforcement officers for manatee rescue or salvage operations and to make the judiciary aware of the plight of the manatee.

To monitor the effectiveness of manatee awareness and education campaigns, public opinion and awareness surveys should be periodically conducted.

IMPLEMENTATION OF RECOMMENDED ACTIONS

Implementation of these boating safety and manatee protection recommendations will require action by the Governor and Cabinet or the Florida Legislature.

Implementation Responsibility

Actions for Governor and Cabinet Implementation

- Conceptual approval of legislative requests.
- Establishment of a shoreline slow speed zone for inland waters in thirteen key manatee protection counties.
- Adoption of rules for new manatee protection speed zones including establishing the Brevard County temporary zones as permanent speed zones.
- Designation of manatee preserves.
- Adoption of a boating facility expansion policy in thirteen key manatee protection counties until the county has implemented an approved manatee protection plan and boating facility siting policy.

Actions for Legislative Implementation

- Transfer of signage responsibilities to local governments, or provision of an adequate budget to the Department for sign posting and maintenance.
- Amendment to the Florida Manatee Sanctuary Act as recommended by the Division of Marine Resources.
- Creation of new revenue sources for the Department's boating safety and manatee protection programs.
- Establishment of new staff positions in the Division of Law Enforcement for a boating safety education unit and additional Marine Patrol capability, and in the Division of Marine Resources to carry out the state's manatee recovery responsibilities.
- Passage of bills to establish boating safety speed limits, to institute vessel operator licensing, to establish boating safety education requirements, and to enhance the Marine Patrol's enforcement capabilities.

Potential Funding Sources

Many of the recommendations to improve boating safety and manatee protection will require additional funding and manpower. Possible sources of new funds are identified for consideration:

Require a tax on all new propeller-driven boats.

In 1988-89, the number of registered vessels in Florida increased by 35,357 over the previous year. With a \$30 tax on all first-time boat registrations, \$1,060,710 would be generated. A projected 40,000 increase in registered vessels in 1989-90 would generate approximately \$1.2

million. The initial registration fee would not apply to watercraft equipped with jet drives, or propellers enclosed and protected by a propeller guard manufactured to design specifications approved by the Department. No propeller guards have received Department approval at this time.

Increase boat registration fees by \$3.

Based on the total registered vessels in 1988-89, new revenues of \$2,132,493 would be generated. In 1989-90, if there is an increase of 40,000 registered vessels, approximately \$2,252,493 would be generated. One-third of the registration fee increase would be returned to the counties for sign posting and sign maintenance uses, and two-thirds would be designated for the Department's manatee protection program.

Increase the \$250,000 transfer for manatee and marine mammal protection as authorized in Section 327.28(1), Florida Statutes.

Revising this transfer to \$0.50 per registered vessel would generate a total of \$355,415 based on the number of vessels registered in 1988-89.

Add an environmental impact surcharge fee to submerged land leases.

The total square footage of submerged lands under lease as of June 30, 1989 (not including leases where the fee is waived) is 28,542,049. A two cent increase in the lease fee per square foot would generate \$570,841 on this base.

Earmark revenue from taxes on gas and diesel sold at marinas for marine resource enhancement and law enforcement.

Identify tax revenues from fuel sold at marinas, using Department of Revenue records. Earmark the funds for the marine resource enhancement and law enforcement efforts of the Department of Natural Resources.

Increase the cost of a boat dealer's personal boat registration.

Consistent with automobile dealer provisions, the current \$16 fee for a dealer's personal boat registration could be increased to \$22 (current motor vehicle dealer classification cost).

Institute boat operator licensing.

A boat operator licensing program is recommended. Licenses would be required for the estimated two million operators of boats with motors in excess of 10 horsepower. To be administered in conjunction with the motor vehicle licensing program, boat operator licenses would be valid for four-year periods. Annual revenue is estimated at \$5 to \$6 million.

Register all boats in Florida.

Currently, only power driven vessels are registered in Florida. Some other states require that all vessels be registered and the federal government is expected to mandate that all vessels be registered within five years. The Division of Law Enforcement estimates that an additional \$1 million in revenue would be generated by registering all vessels in Florida.

Make available a voluntary sticker for boats.

At the time of boat registration, offer the purchase of a voluntary manatee sticker for boats. Funds from sale of a \$5 sticker, in excess of their cost, could be directed to manatee protection efforts.