

**A Handbook for Developing and Revising
Manatee Protection Plans
In Florida counties**

Prepared by

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1 Purpose of this Handbook

A manatee protection plan (MPP) is a comprehensive planning document that addresses the long-term protection of the Florida manatee through law enforcement, education, boat facility siting, and habitat protection initiatives. Although the MPPs are primarily developed by counties, the plans are the product of extensive coordination and cooperation between county governments, the Florida Fish and Wildlife Conservation Commission (FWC), the United States Fish and Wildlife Service (Service), and other interested parties. The provisions and initiatives in the MPP are approved and implemented by all three levels of government (federal, state and local).

The target audience for this Handbook is intended to be county governments who may be interested in developing or revising an existing Manatee Protection Plan (MPP). This document is intended to supplement information that is already available regarding MPPs. The history and impetus for developing MPPs is extensively discussed in FWC's Manatee Management Plan, September 2007. Please refer to the management plan for this background information, which can be found on FWC's website at <http://www.myfwc.com/manatee>.

There are tasks associated with the management plan that prompted the development of this Handbook. Since several of these tasks are related to MPPs, it made sense to combine them into one document for reference. The author of this Handbook is Mary Duncan with FWC's Imperiled Species Management Section, and any questions can be sent to ImperiledSpecies@myfwc.com.

2 Introduction

As of 2010, all 13 Florida counties originally identified as “key” to manatee protection in 1989 and identified as required to develop an MPP by Florida Statute (Chapter 370.12(2), F.S.) have been developed and approved by FWC and the Service. These counties are: Broward, Brevard, Citrus, Collier, Duval, Indian River, Lee, Martin, Miami-Dade, Palm Beach, St. Lucie, Sarasota, and Volusia. Clay County, while not a designated key county, voluntarily developed an MPP, which was approved in 2006.

However, the counties with manatee habitat and regular manatee use should consider developing an MPP. These counties are (in alphabetical order): Charlotte, Flagler, Glades, Hendry, Hillsborough, Levy, Manatee, Monroe, Pasco, Pinellas, Putnam, and St. Johns. Other counties with manatee use include: Bay, Desoto, Dixie, Escambia, Franklin, Gilchrist, Gulf, Hernando, Jefferson, Lafayette, Lake, Marion, Nassau, Okaloosa, Okeechobee, Santa Rosa, Seminole, Suwannee, Taylor, Wakulla, and Walton. Some of these counties may only have a portion of their county that would require consideration for developing manatee protection. Also, the manatee protection needs for these counties may not be as extensive as the counties in the other groups.

Counties that are not required by Florida statute to develop MPPs may choose to do so for the benefits they provide to manatee protection, as well as the benefits for the development community. MPPs provide more predictability for development and assure a consistent response from federal and state wildlife agencies concerning the impacts of development to manatees. The improvement in the permitting process provides the greatest incentive for non-key counties to be proactive in developing county MPPs. If a county chooses to voluntarily develop an MPP, the FWC will assist the county in that effort as much as possible.

3 Recommended MPP Structure and Organization (Template)

To assist counties that may choose to develop or revise MPPs, the FWC has developed a general template (see Enclosure 1). This template represents the various required sections and provides examples of the information generally needed in each section. Each county will still need to customize the sections of the plan based on the needs of the county as well as the data and information available for their county. Because each county is different and issues can be county-specific, plans between counties are not expected to be identical. However, the template is intended to provide prompts for needed information in county MPPs, to make the MPPs easier to read and implement.

4 MPP Required Components (Approval Criteria)

The criteria used historically for MPP approval are contained in Attachment K (See Enclosure 2). This document was an attachment to a report that was approved by the Governor and Cabinet in 1989. In 2002, this document (referred to as Schedule K) was included in statute by the Legislature (Section 370.12 (2)(t) F.S.). All existing, approved MPPs were generally evaluated for approval by FWC under Attachment K.

The FWC is authorized (but not mandated) in Florida statutes to develop rules for establishing MPP approval criteria. FWC staff favors development of guidance documents rather than rule promulgation. Guidance documents may provide greater flexibility for the agency to consider innovative approaches for manatee protection plans and allow adjustments to plans based on evolving needs.

The following discussion is intended to expand upon criteria in Attachment K, outlining the basic requirements of an MPP:

4.1 Requirements by Rule or Statute

FWC Approval: In order for FWC to approve a new or revised MPP that will be used by the FWC as a strategy in the state permitting process, recommendations and policies within an MPP must provide reasonable assurance that no harm or harassment to manatees will occur and no adverse impacts to manatees will occur [see § 379.2431(2) and § 373.414 F.S.]. There must be a net protection benefit to manatees by adopting the plan as a whole.

Service Approval: In order for the Service to approve a new or revised MPP that will be used by the Service as a strategy in the federal permitting process, an MPP needs to meet the goals of the Federal Florida Manatee Recovery Plan, the Endangered Species Act and the Marine Mammal Protection Act. Recommendations and policies within an MPP must provide assurance that Incidental Take is not reasonably certain to occur. There must be a net protection benefit to manatees by adopting the plan as a whole.

4.2 Parameters for MPP Development

The MPP must be clearly and concisely written. It is important that the MPP is not ambiguous or subject to interpretation. Since governmental staff who implements MPPs may change, plans must be written such that policies and the intent of policies are interpreted the same way. The conclusions of data analysis and the policies that are developed must follow a reasonable and logical conclusion. Recommendations for boat facility development must include practical suggestions that can be implemented in the permitting process. MPPs, at a minimum, must be countywide in order to meet the need to provide comprehensive review and planning.

GIS models (such as when using Spatial Analyst) are experimental and should not be the single component used to make conclusions. Models should not be

used to combine datasets in an attempt to derive correlations between manatee datasets or used to produce boat facility siting maps using manatee data. Spatial Analyst can be used to consider data but should be limited to individual dataset analysis.

Policies that allow slip aggregations or pooling of slip densities are experimental and should not be used. Slip transfers, or transfers of slips from one location to another are not encouraged. However, they may be considered if it results in a net benefit to manatees. Thresholds of manatee mortality that trigger other actions to occur are discouraged. Recommendations for manatee protection measures should be commensurate with the manatee conservation needs for that county.

4.3 Required Components

In order to be considered complete, MPP recommendations, provisions and initiatives must include:

All listed baseline information, including MPP elements listed in FWC's Recommended MPP Structure and Organization and in Attachment K.

An analysis, synthesis and discussion of all pertinent data.

Recommendations for appropriate boat facility locations and slip densities. Boat facilities with five or more slips must be addressed. Facilities with less than five slips that generate high traffic, are transient, or are freight/ship/port facilities, may be addressed in the plan or these types of facilities can be reviewed on a case by case basis outside of the purview of the plan.

Discussion and recommendations for:

Increased and coordinated law enforcement.

Recommendations to reduce manatee harassment.

Protection for habitat resources.

New or continued manatee education.

An implementation schedule of plan recommendations, including incorporation into the comprehensive plan.

How recommendations in the plan will be adequately funded.

New or continued research and monitoring.

4.4 MPP Approvals and MPP Approval Expirations

The FWC and the Service recommend that counties developing MPPs or revising MPPs coordinate closely with our agencies so that the final plan will fulfill the needs of all agencies involved. Partnering with our agencies in the development of these plans also facilitates the process.

It is recommended that MPPs be re-evaluated (and revised if found necessary by the County, FWC or Service) after five to seven years. These reviews assure that an approved plan will not become outdated. If recommendations in approved MPPs become outdated, it will become more difficult for FWC or the Service to continue using

them as guidance during the permitting process.

If revisions are needed and take a prolonged amount of time, it is possible that the Service or FWC will notify the County that permit reviews will revert back to a case by case basis until the MPP is revised and approved.

5 Tips for Developing and Revising MPPs

5.1 Misconceptions about MPPs

Early documents providing guidance on developing MPPs included information about manatee protection speed zones. There is a misconception that MPPs must include speed zone evaluation and recommendations. Because speed zones are a very different and separate process which requires rulemaking, it is ideal that MPP development occurs after speed zone development. There is also a misconception that manatee protection speed zones are manatee protection plans, with the terms sometimes being used interchangeably. Manatee protection speed zones are regulations for boat speeds on waterways. Manatee Protection Plans (MPPs) are planning documents, and are not regulatory.

In order to establish regulations for manatee protection speed zones, a local rule review committee is required. While similar local committees have been appointed during the development of some existing MPPs, such committees are not required by FWC or the Service. However, FWC and the Service strongly encourage public involvement, and suggest that a minimum of two public meetings, workshops or hearings be held for public input when developing MPPs.

FWC and the Service encourage the counties to engage city and municipal governments during the development of an MPP, and for the cities to incorporate relevant approved sections in their own comprehensive plans. City participation, however, is not required for approval. FWC and Service will consider and implement the MPP recommendations on a county-wide basis, including city jurisdictions. When implemented at a county level, however, the county will only consider and implement the MPP in the areas within its jurisdiction.

MPPs do not traditionally address single family docks, when single family docks are defined as small docks associated with detached single family homes with waterfront/riparian access. There are some circumstances where single family docks may result in adverse impacts to manatees that must be addressed, such as large structures with significant SAV impacts, docks with five or more slips, new developments with multiple parcels subdivided (more than five platted lots), or when previously unconnected water bodies are connected to navigable waters by dredging new canals or basins, or by conveyance of boats by lift or lock.

There is a misconception that MPPs will reduce or eliminate existing watercraft-related manatee mortality problems, and that the success or failure of an MPP depends on the number of watercraft-related deaths in a county. The intent of MPPs is to manage

development in a way that reduces the likelihood of boat/manatee overlap, by analyzing manatee travel patterns and boat travel patterns. In conjunction with education and law enforcement initiatives, this management provides for the long term, comprehensive plan for development in a county.

5.2 What is needed before MPP development can begin

In order to meet the informational needs and requirements for an MPP outlined in this document (as well as Attachment K), there are studies and data collection that need to be completed, particularly for counties where there is significant manatee use. This data must be fairly recent, in order to accurately reflect existing circumstances and provide useful conclusions when analyzed. Historically, much of this data collection has been done in partnerships between counties, FWC and the Service. The types of data that may need to be collected by the county are:

- Boat facility inventory, for all boating facilities with five or more slips (marinas, multifamily, yacht clubs, Ports, etc.), including wet, dry, boat ramps and boat ramp trailer parking, mooring, racks, blocks, etc. It should be inclusive of all commercial, private, and residential slips, be available as a database and GIS cover, and include the numbers of each type of slip/lane/parking spaces. An inventory of single family docks is not required, but a general idea of the number of existing slips and number of single family lots without slips (where slips could be built) is helpful when considering cumulative impacts.
- Pertinent habitat information, such as SAV, fresh water sources, etc.
- Distributional manatee aerial survey studies, typically flown twice a month for two years. Less frequent monitoring surveys may be used for the years in between the distributional studies, if the study scope has been approved by FWC.
- Boating activity and compliance studies. Boating activity studies, at a minimum, should include aerial and fixed-point surveys. A minimum of 20 aerial survey flights (five per quarter, two weekday and three weekends) should be conducted to collect the following data: vessel type, vessel size, activity and speed. A minimum of four land-based sites for the fixed point surveys should be chosen representative of the county. Over the course of one year, these sites should be surveyed a minimum of 8 days (four weekday and four weekend) for a six hour interval. Holidays may also be included. The following data should be collected: time of day, vessel type, vessel size, origin, destination and qualitative speed. Boating compliance studies should be designed mindful of the speed regulations in place within a county, and may be boat and land based surveys.

For new counties considering the development of an MPP where manatee use is low, the type of studies and MPP policies needed should be coordinated with the FWC and Service.

5.3 What is needed before an existing, approved MPP can be revised

The information in existing plans will need to be updated (same data as mentioned above for new MPPs): boat facility inventories including boat ramps, boat traffic and

distribution studies, manatee distribution aerial surveys, and other sources of information (habitat assessments, etc.). When deciding whether or not an MPP needs to be revised, the following should be considered:

- Status of available data for the review. Manatee and boating data, and boat facility inventories, must be more recent than when the MPP was developed or last reviewed.
- Length of time since the last review of the MPP, and the age of the data used to develop the MPP.
- Identification of a particular manatee-related issue or concern that could be addressed by the MPP.
- A need to clarify language in the plan that makes implementation difficult or results in mixed interpretation.

5.4 Clarification of requirements in Attachment K

Since Attachment K was created a long time ago (1989) and was the first document created to outline guidelines on developing an MPP, it is in need of clarification and revision. There have been lessons learned during the development of MPPs, and guidelines need to be clarified. Specifically related to Attachment K, please note the following clarifications:

Under the heading, “An Information Base”, it is stated that the location of manatee information displays is needed. Posting manatee information, such as educational signs, is typically required for boat facilities when permitted, or when submerged land leases are renewed. There is no comprehensive database of addresses for these facilities, and we have concluded that this type of database is not required as part of the MPP development. We encourage counties to keep track of where educational materials are located as part of the education portion of the MPP; however it is not required prior to MPP development.

Under the heading “Recommendations – with Accompanying Implementation Schedule to Increase Manatee Protection in the County”, it is stated that the MPP should identify recommended areas for water-related activities requiring high speeds, and include new or expanded speed zones, refuges or sanctuaries. Since regulating speeds and developing the plan are two separate activities, this task is not required. If a county is interested in planning for the location of high speed boat races, this information can be included in the plan but is not a required component. In this section, it is also stated that there should be a plan for marking navigational channels in currently unmarked waterways used by manatees. It is understood that marking channels is a separate process, so such a plan is an optional component rather than a required component of an MPP. This section also mentions the development of appropriate aquatic plant control methods in manatee areas. To clarify, discussion of this issue may only be necessary for specific counties with exotic vegetation, and this discussion is not a required component for all counties.

5.5 Clarification of requirements in the FWC 2000 Boat Facility Siting Guide

This Guide was a draft document that became referenced in Florida Statute, and was never finalized (See Enclosure 3). In 2002, statutory changes (Section 380.06 F.S.) allowed boat facilities to be exempted from the Development of Regional Impact (DRI) process if facilities were located within counties or cities that had Boat Facility Siting Plans (BFSPs). The Department of Community Affairs also produced a guidance document, called "Preparing a Boating Facility Siting Plan" that was specific to this exemption. It is our understanding that there are a few BFSPs written by cities and counties created for the purpose of this DRI exemption. While FWC guidance for writing a BFSP was referenced in statute for this exemption, these plans were not reviewed and approved by FWC for the purposes of manatee protection. In 2006, the statute was revised again and boat facilities were exempted completely from the DRI process (without the need for BFSPs). At the same time, additional language was added to Florida statutes in order to permit boat facilities that previously may only been captured during the DRI process. These facilities are now brought under review by the Environmental Resource Permitting program (Section 373.4132 F.S.). Specifically related to the 2000 Guide, please note the following clarifications:

Under the heading "Information to be Assessed", number 5 discusses how existing upland zoning should be considered when determining areas to study for future boat facility development while developing an MPP. While an MPP should include discussions and maps about existing land use and zoning, the development of a boat facility siting strategy should not depend on these designations. Once boating and manatee data have been thoroughly analyzed for all areas of the county, potential outcomes can then be considered against the existing land use and zoning for potential conflicts. All areas of the county should be considered when developing an MPP in order to adequately address potential impacts to manatees.

In this same section, number 6 discusses the boat facility inventory for multi-family residential facilities. The boat facility siting strategy in an MPP must include all new or expanding boat facilities with five or more boats, regardless of whether it is commercial or residential. MPPs have not traditionally addressed single family docks, because historically these types of docks were very small, were associated with existing waterfront single family lots, and usually had a maximum of two slips. In more recent years, more single family home lots are building multi-slips, and new single family developments have arisen in areas previously not waterfront (new lakes, canals, with boat lifts, etc.). As such, we recommend that MPPs address single family developments as multi-slip marinas, and single family docks with five or more slips.

In number 7, the marina inventory outlined as required includes information such as boat types (power/sail) and percent occupancy. Because this information can be difficult to collect, it is encouraged but not required. Similarly, in number 8 regarding boat ramps, it can be difficult and time consuming to collect data on the number of boats launched (seasonal, weekend/weekday use identified). While general information about use must be collected for ramps during boat studies, for those counties that have numerous ramps it is not always required to collect data from all ramps.

Under the “Evaluation of Data” heading, it is again mentioned that areas with conflicting upland land use zoning can be removed from the analysis. As discussed above, all areas of the county should be considered for possible boat facility development when developing an MPP. This section also mentions that counties should consider whether to assign slip density thresholds for specific areas. Be aware that for counties where there is significant manatee use, recommendations for slip densities for most areas is considered just as important as the location of slips.

A general factor that is also mentioned as something that needs to be considered are shellfish harvesting areas. While it is good to be aware of these areas and include them within the resources inventory of a county, they are not always a limiting factor in boat facility development. Conclusions regarding manatee and boating overlap should still be determined for these areas, just like the rest of the county.

The Guide also states that existing marinas should be at full capacity before expansions and new marinas are permitted. As discussed earlier, the percent occupancy of boat facilities can vary from season to season and year to year, so it is difficult to collect this type of data for all facilities. If a county would like to address the demand for new facilities as part of developing the MPP, this discussion can be included but is not required.

6 Enclosure 1: Recommended MPP Structure and Organization (Template)

General recommended structure

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List of Abbreviations
List of Definitions
Introduction
Information Assessment
Habitat and Resource Protection
Boat Facility Siting Strategy
Manatee Educational Efforts
Law Enforcement
MPP Implementation and Monitoring

Information needed in these sections of a plan include, but are not limited to:

Introduction

Describe manatees in general, the main goal of the plan, and summarize the manatee presence and threats in the County.

Information Assessment

Manatee

Describe manatee data, including discussions on relative abundance; seasonal distribution (if any); movement and use patterns indicating areas of recurrent use, site fidelity by individual manatees, travel patterns; manatee mortality; and areas of recurrent manatee use; and data supported conclusions. Include visual aids (maps, table, charts, etc.) to support manatee data discussion and data analysis conclusions.

Boating

Boating Activity

Describe and summarize boat distribution and use patterns, including seasonal use if applicable. Include discussions on vessel composition (size and type), vessel abundance (location and calendar days), daily variations in boat traffic (peak uses in 24 hour period), boater compliance of regulatory speed zones by area, boat registration levels over time, and known vessel strikes of manatees (statewide and county). Use visual aids (maps, table, charts, etc.) to support boat data discussion and data analysis conclusions.

Boat Facility Inventory

Include a table and maps of an up to date boat facility inventory for the county for all facilities

with five or more slips (commercial, public, private, residential, boat ramps, mooring fields and wet and dry facilities).

If a Port is located in the county, a separate Port section should be included to address all manatee issues related to the Port, including a discussion of the Port operations (number of shipping berths and type and level of operations), master plan, and protective measures (existing and proposed).

If studies have been done regarding the future demand for boat facilities, include that information in this section.

General Setting

Include a general discussion about county demographics, comprehensive plan policies pertinent to marine/freshwater resource regulation, and manatee and manatee habitat protection, waterfront zoning and land use, (including maps), and any other local efforts relevant to waterfront planning and development. Include general discussions and maps of county waterways, aquatic preserve boundaries, federal, state and local parks, refuges, preserves, national seashores or other special natural area designations, and Outstanding Florida Waters Designations. Other general setting topics should include an overview of federal, state and local manatee protection mechanisms in place, including authorities. Discuss all existing protection measures, including existing Speed Zones, Refuges, and Sanctuaries (include maps). If power plants are located within a county, make reference to or summarize existing manatee protection plans for the power plants.

Habitat and Resource Protection

Discuss and identify foraging habitat, such as submerged and emergent vegetation, fresh water sources (such as tributaries, outfalls, etc.) and warm water refugia, (include maps). Discuss existing and proposed habitat restoration and protection measures (restoration programs/projects, ordinances, permit requirements, etc.). Provide information regarding protective measures for manatee habitat (existing and proposed measures).

Boat Facility Siting Strategy

Discuss and summarize the manatee and boat use analysis in a way that helps to identify various levels of use and potential for overlapping patterns of manatees and boats. This is typically done by waterway or waterway system for discussion purposes, but any way that helps characterize the individual areas of a county is adequate. Relevant data analysis discussion should include levels of existing shoreline development and shoreline use patterns, manatee foraging and calving/resting habitats, existing disturbances to manatee habitat, areas of high concentration of boating facilities, existing speed zones, proximity to inlets and passes, water depths, widths of waterways, etc. Include maps as needed to support analysis. Discuss an appropriate strategy for siting new and expanding boat facility locations within the county, and at what size (number of slips), including maps. This strategy can be based strictly on criteria, or the criteria described and outcomes depicted on maps or a combination of criteria and maps. The boat facility siting strategy should be based on logical conclusion from the information assessment discussions. Summarize additional measures intended to offset potential impacts from projects (education, law enforcement, etc.).

Manatee Educational Efforts

Discuss and summarize existing manatee educational programs and efforts (if any). Include a discussion on proposed local educational programs and efforts (the intensity of an education plan will be contingent on the level of protection needed for the specific county, determined by the FWC, the Service, and the County). Discuss the development of new manatee education materials or initiatives, including how these ideas will be coordinated with the FWC and the Service (i.e., education on habitat, speed zones, general biology, etc.). A separate discussion of entanglement, marine debris, recycling and disposal should be included in this chapter, including proposed initiatives to reduce impacts to manatees. An additional separate discussion should be included regarding harassment (what constitutes harassment, specific laws and rules, fines, enforcement, etc.). Initiatives to reduce these impacts should be included, including possibly increasing coordination with law enforcement, if needed.

Law Enforcement

Discuss existing levels of federal, state and local on-water enforcement. Include discussions on proposed levels of manatee protection zone enforcement, including a discussion or mechanism to assure that there is adequate funding for on-water law enforcement (if needed). Discuss existing or proposed Interagency Law Enforcement Coordination between federal state and local authorities.

MPP Implementation and Monitoring

Identify all action items in the MPP and include a schedule and action plan for implementation. Examples of action items include: education proposals, habitat protection measures, law enforcement proposals, plan for new data collection needs, etc. Include a proposed schedule for incorporation of the MPP into the comprehensive plan, and a proposed schedule for Periodic MPP Review and Revision. Discuss the funding provisions for implementation of MPP provisions and proposals, and a plan for monitoring these provisions.

Identify data that needs to be collected and possible implementation schedule in order to monitor the implementation of the plan, or to adequately revise the plan in the future. Such data may include: manatee aerial survey data collection, boating activity and speed zone compliance, educational program needs, law enforcement needs, and update of boat facility inventories.

Identify reports that are needed, and how often they will be provided to FWC and FWS. These reports may include: status of educational efforts, and results of law enforcement efforts. Law enforcement reports should be compiled reports of local law enforcement activities (County and City) designed to report at least the following: the number of officers assigned to patrols, manatee-specific patrol hours, and the number of manatee-specific citations. Any problems with speed zone signage that may contribute to sub-optimal compliance rates should be included in monitoring efforts and reports.

7 Enclosure 2: Attachment K

MANATEE PROTECTION PLAN GUIDELINES

Area-specific manatee protection plans need to be developed by all counties in which manatees regularly occur to ensure the long-range protection of the species and its habitat. The objective of manatee protection plans are: to reduce the number of boat-related manatee mortalities; to achieve an optimal sustainable manatee population (the goal of the Marine Mammal Protection Act); to protect manatee habitat; to promote boating safety; and to increase public awareness of the need to protect manatees and their environment. These plans will address manatee-human interactions, land use (including boat facility siting), and the protection of suitable habitat (including water quality, thermal refugia, freshwater sources, and grass beds). The information needed to prepare manatee protection plans will include manatee studies, habitat assessments, and, if available, boating studies to evaluate boater use patterns and activities.

Boat facility siting elements are necessary components of area-specific manatee protection plans. Boat facility siting must address marinas with wet slips and dry storage, and boat ramps. The objectives of boat facility siting plans are: to determine appropriate dock densities for particular areas; and to develop criteria for designating special use areas (i.e.; for water skiing, jet skiing, and commercial fishing).

Necessary components of a manatee protection plan are:

An Information Base

- location and capacity of all marina facilities (including dry storage) in the county (proposed and existing);
- location of all boat ramps in the county (proposed and existing);
- boating activity patterns, including travel routes and major destination areas;
- manatee sighting information for the county;
- manatee mortality for the county;
- any aquatic preserves; Outstanding Florida Waters or other refuge/reserve information;
- port facility information;
- location of significant habitat resources, such as grass beds, warm water discharges and fresh water sources;
- location of manatee protection and boating safety speed zones in the county (proposed and existing);
- location of manatee information displays; and
- other relevant data as determined by the Department of Natural Resources.

Recommendations—with an Accompanying Implementation Schedule—to Increase Manatee Protection in the County

- boating expansion criteria;
- identification of recommended areas for water-related activities requiring high boat

- speeds, such as water skiing, boat races and certain types of commercial fishing;
- a plan for marking navigation channels in currently unmarked waterways used by manatees.
- new or expanded speed zones, refuges or sanctuaries for the regulation of boat speeds in critical manatee areas;
- installation of manatee educational displays at all boating facilities;
- development and dissemination of a pamphlet to county boaters describing manatee protection and boating safety speed zones in the area, and recommendations for boaters on how to avoid hitting manatees;
- inclusion of manatee and marine habitat educational material in the county school board's elementary, middle school and high school curricula;
- development of appropriate aquatic plant control methods in manatee areas;
- identification of land acquisition projects to increase refuges, reserves and preserves for manatee protection; and
- other actions as specified by the Department of Natural Resources.

8 Enclosure 3: Boat Facility Siting Guide August 2000

Florida Fish and Wildlife Conservation Commission (FWC)
Bureau of Protected Species Management (BPSM)
Boat Facility Siting Guide
August 2000

DEFINITION

A boat facility siting plan can be defined as a Commission-approved, county-wide plan for the development of boat facilities (docks, piers, dry storage areas, marinas and boat ramps) which specifies preferred locations for boat facility development based on an evaluation of natural resources, manatee protection needs, and recreation and economic demands. The boat facility siting plan is one component of the Manatee Protection Plan (MPP). It should include, but is not limited to, the following:

- An inventory of existing boat facilities and natural resources;
- An evaluation of boat use and traffic patterns;
- Criteria on which proposed sites will be screened;
- A list and map of preferred locations, unacceptable locations, and locations which are acceptable with specific conditions;
- Appropriate dock densities; and
- Boat facility siting policies including a policy for the expansion of existing boat facilities.

The main goal of the resulting boat facility siting criteria will be to minimize the amount of interaction between manatees and boats. Part of this goal is also to evaluate impacts of boat facility developments on manatee habitats. The resulting criteria should be based on certain baseline information general to all Florida waterways and then tailored to fit the specifics of each county. While the primary concern of BPSM is manatee protection, we recognize that counties will need to consider recreational uses, economic factors and other marine and coastal resource needs. Much of the analysis of water-dependent facilities required by this boat facility siting plan will aid other county planning efforts.

INFORMATION TO BE ASSESSED

The following information should be collected in order to select areas appropriate for boat facility development.

1. The boating activity study should provide a detailed overview of boat traffic patterns for the county waterways. It should describe traffic routes (points of origin and destination), the volume and types of boats, seasonal variations of boating patterns, and the types and distribution of boating activities. It should also include inventories of marina facilities, boat ramps and port facilities. Boating studies will vary from county to

county depending on the nature of each county's waterways and how they are used locally.

2. Manatee use patterns of county waters should be studied so that when evaluating locations for further water-dependent development, impacts to manatees and their habitats can be minimized. With the assistance of FWC, each county should determine sites of preferred manatee use and aggregation. The location of travel corridors, freshwater outfalls and warm water refuges should be determined. Seasonal variations of use patterns should be described and mortality information should be analyzed. Most of this information is available from FWC, USFWS and various other entities depending on the county. Manatee use information should be compared and overlaid with the boating patterns information in order to understand how boats and manatees currently interact. Then problem areas can be identified and measures can be developed that will minimize and eliminate problems.

3. Habitat inventories should be done for the location of seagrass beds, freshwater, submerged vegetation, shellfish areas, existing water depths, and water circulation patterns. This information will give details about habitat quality and location, as well as insight into manatee usage of these areas. Some of this information may already exist for some counties and may only need to be checked and updated.

4. Specially-designated areas should be identified, such as Outstanding Florida Waters, aquatic preserves, federal, state and local parks, sanctuaries and research reserves, wildlife refuges, and any other lands set aside for preservation and open space. Some of these areas are not available for boating facility development or have certain restrictions. The process of identifying the locations of these areas will narrow down areas that will need to be screened for potential boat facility development.

5. Existing upland zoning appropriate for marina and boat facility development should be located and displayed on maps. Counties need to consider whether future land use zoning changes will be allowed to change the location of acceptable boat facility sites. If changes will be allowed, counties need to determine and specify how the areas will be evaluated for such changes. Criteria will need to be developed for these changes. Counties may choose not to allow zoning changes that would alter locations where boating facilities may be sited once the MPP is approved. By collecting this information, counties will reduce the number of sites that need detailed evaluation and can direct their efforts toward sites that are available for development of boat facilities. This process should minimize the amount of areas that will need to be studied in depth.

6. An inventory of the location of existing multi-family residential docking facilities should be shown on maps of the county waters. The Department of Environmental Protection's (DEP) Division of State Lands issues submerged land leases for residential docking facilities and marinas. The division defines multi-slip docks as moorings of three or more vessels. The DEP requires permits for dock construction on both private and sovereign submerged lands. Counties should also consider developing a threshold for residential multi-slip dock densities. Some of the more urban counties may have

already reached their threshold in many areas because all available lands have already been developed.

7. The location of all existing marinas and boating facilities should be determined and exhibited on maps. A table for existing marinas should be compiled that will show the number of slips (both wet and dry), a break down of boat types (power vs. sail) and sizes, the percent occupancy (and any seasonal variations), the distance to the nearest inlet, the proximity of existing speed zones and the distance to popular boating destinations. Also, it should be noted if there are any plans for expansion of the current facilities. Much of this information is often obtained in conjunction with the boating study.

8. An inventory of all the boat ramps in the county should be conducted and the locations should be depicted on a map. Information concerning each ramp should be collected such as the number of ramps, the amount of parking (on and off site), and the number of boats launched (with seasonal and weekday/weekend use variations identified). The ramp's proximity to inlets, the ICW and popular boating destinations should be determined. Again, this information should be available from the boating study.

9. An inventory and map showing the locations of port facilities, freight terminals, fuel and transient docks, and boat yards should also be completed for each county. A description of the activities occurring at each of the different types of facilities should be provided. This will be useful when developing criteria for each type of facility that will guarantee appropriate protection for manatees and their habitats. Our office is developing a proposed rule that will address wharf bumpers and fenders. (Please request an update from our office on the status of this rule.)

10. For all of the inventoried information described in points 1-9 above, the information should be exhibited on maps. This will facilitate the spatial analysis that is needed for evaluating areas for boat facility development. For ease of analysis, similar scale maps should be used so that information can be overlaid. The use of a Geographic Information System (GIS), if available, will enhance the mapping process. All of the inventoried information should be considered before choosing a particular scale, especially if GIS is unavailable. Maps for the final boat facility component of the MPP will need to be legible and easy to interpret so that the process of evaluation can be clearly understood.

EVALUATION OF DATA

Once all the information above is compiled, the focus of the detailed analysis can be narrowed by removing lands that are unavailable for boating facilities. Examples may be public wildlife refuges, or areas with conflicting upland land use zoning. The remaining areas will be the focus of the boat facility siting plan.

Next, a search should be made for areas where manatee use patterns and boat use patterns overlap. Areas should be identified where boat use patterns show minimal overlap with manatee use patterns and these should be examined further to evaluate them as preferred marina site locations. It should be determined whether boating activities and facilities located in these areas will affect manatees and their habitats in a negative way and to what degree, if any. Through this evaluation it can be decided whether these areas would be the preferred locations for boating facilities.

In locations where boat/manatee use patterns converge significantly, an assessment should be made of the degree of overlap. Once identified, these locations should be scrutinized carefully to determine if additional boat facilities will significantly impact manatees. The siting plan should specify areas where different types of facilities would be allowed. Additionally, the type of facility proposed (ramp, dry storage, marina, etc.) may be restricted by physical, environmental or operational factors - or by land use. In creating the specific criteria for each area, the local baseline information should be used. The criteria should be customized for each area and be written to allow the size or type of facility that would be best in the area (if allowed at all). For example, certain sized marinas may be allowed in areas with moderate manatee use if seagrasses are not present, dredging is not required, appropriate speed zones are in place and boat slips are limited in number. In areas where seagrasses are present but manatee usage is low, dry storage or ramp facilities may be more appropriate. Counties should consider whether to assign density thresholds for specific areas. For example, several counties have used the 1:100' ratio of power boat slips to amount of linear shoreline owned for areas deemed as essential manatee habitat.

Some general factors to consider in selecting marina and boat facility sites include:

- proximity to inlets and/or the ICW,
- existing water depths adequate for clearance beneath vessels,
- presence of seagrass beds, and/or shellfish harvesting areas (Class 11 waters),
- proximity to popular boating destinations,
- amount of manatee use, and
- distances of boat/manatee use pattern overlap.

Criteria should also be developed for marina expansions. Some areas may not warrant expansion. Some expansion might be considered under specific circumstances. The expansion of existing facilities in some areas may also be the preference over new boat facility development. The percent occupancy of marinas in the adjacent area should be considered when evaluating requests for marina expansions. While demand for boat slips must be addressed by county officials, existing marinas should be used to their fullest capacity before expansions and new marinas are permitted.

Some general criteria to be considered for siting of marina facilities are:

- Expansion of existing facilities may be preferred over new facilities if environmentally sound
- There should be no impact to seagrass,
- Mitigation for seagrass destruction should not be allowed,

- Areas with adequate depth and good flushing which require no new dredging are preferable,
- Locations near inlets and popular boating destinations are preferable,
- Piling construction is preferred over dredge and fill techniques,
- Marinas should not be sited in essential manatee habitats, and
- Marinas should not be situated in areas with high manatee mortality occurrence.

There are also some special considerations for port and associated facilities. Port facilities, freight terminals, fuel and transient docks, and boat yards should require wharf fenders on all new facilities located in manatee habitat areas and require retrofitting of existing facilities on an established time table if these facilities do not provide adequate clearance through an open-face pier design. Prop guards for tug boats and other large vessels regularly using manatee inhabited waters should be considered once an operationally functional and efficient design is developed. Expansion of port facilities or the development of new facilities should not impact seagrass beds.

The boat facility siting plan should describe the process and discuss the criteria used to evaluate and identify where and how boating facilities would be allowed. It should be clear why certain areas were determined to be unavailable for boating facilities. The whole process of screening and layering mapped resources and areas using specific criteria should be clearly stated in this boat facility siting plan.

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