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<td>ACCC</td>
<td>Area of Critical County Concern</td>
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<td>BOCC</td>
<td>Board of County Commissioners</td>
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<tr>
<td>CFR</td>
<td>Code of Federal Regulations</td>
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<tr>
<td>CUES</td>
<td>Catanese Center for Urban and Environmental Solutions</td>
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<tr>
<td>DCA</td>
<td>Florida Department of Community Affairs</td>
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<tr>
<td>DEP</td>
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<tr>
<td>DRI</td>
<td>Development of Regional Impact</td>
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<td>FAC</td>
<td>Florida Administrative Code</td>
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<td>Florida Keys National Marine Sanctuary</td>
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<td>FNAI</td>
<td>Florida Natural Areas Inventory</td>
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<td>Florida Fish and Wildlife Conservation Commission</td>
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<td>Florida Fish and Wildlife Research Institute</td>
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<td>FWS</td>
<td>U.S. Fish and Wildlife Service</td>
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<tr>
<td>GIS</td>
<td>Geographic Information System</td>
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<tr>
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<td>Interim Development Ordinance</td>
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<tr>
<td>INBS</td>
<td>Index Nesting Beach Survey</td>
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<tr>
<td>LDR</td>
<td>Land Development Regulation</td>
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<tr>
<td>NOAA</td>
<td>National Oceanic and Atmospheric Administration</td>
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<td>OFW</td>
<td>Outstanding Florida Water</td>
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<tr>
<td>SFRPC</td>
<td>South Florida Regional Planning Council</td>
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<td>Statewide Nesting Beach Survey</td>
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I. MONROE COUNTY MARINA SITING PLAN

A. Background

The Monroe County Board of County Commissioners (BOCC) acknowledged the urgent need to address the loss of both commercial and recreational “working waterfronts” in the Florida Keys following public meetings in the Summer of 2004. Monroe County has been experiencing the loss and redevelopment of waterfront marine facilities and their associated businesses and employment. The current trends are conversion of waterfront to non-water dependent uses and privatization of waterfront, reducing public water access.

The BOCC adopted Interim Development Ordinance (IDO) No. 017-2005 in July 2005, imposing a moratorium on the redevelopment and conversion of marine facilities, including commercial marinas and the working waterfront. Concurrently, the BOCC directed the County’s Marine Resources Department (Department) to prepare a countywide Marina Siting Plan as required by the Monroe County 2010 Comprehensive Plan (Comprehensive Plan). At the request of the Department in 2005, the Catanese Center for Urban and Environmental Solutions (CUES) at Florida Atlantic University entered into a subcontract for Phase 1 of this work with the South Florida Regional Planning Council (SFRPC) to prepare a Marine Management Strategic Plan for unincorporated Monroe County.

The Final Report of the Monroe County Marine Management Strategic Plan\(^1\) was submitted to the County in January 2006. This Plan provides a comprehensive strategy with action steps for protecting and preserving the County’s working waterfronts. The BOCC accepted the findings of this report in March 2006. By adopting these principles and implementing the associated action steps, Monroe County is working to maintain the marine industry and its various components in the Florida Keys, continuing its commitment to the history and culture that makes the Keys unique, and protecting a valuable resource that is essential to the Keys quality of life.

In June 2006, the BOCC directed the County to extend the IDO and adopt amendments to the Comprehensive Plan and Land Development Regulations (LDRs) to help preserve working
waterfronts. The IDO is set to expire on July 10, 2007, or on the date when the amendments to the Comprehensive Plan and LDRs become effective, whichever occurs first.

As part of the IDO extension and as a follow-up to the Monroe County Marine Management Strategic Plan, Monroe County retained the SFRPC and CUES in June 2006 for a second project phase. Phase 2, the Working Waterfronts Preservation Master Plan, is designed to enhance the understanding of existing water dependent uses through a survey of the marine facilities identified in the first phase of the project and amendments to the Comprehensive Plan and LDRs, along with a Marina Siting Plan. Stakeholder involvement is being solicited throughout this process, as the overall waterfront protection strategy is developed for the Florida Keys.

B. Introduction to Marina Siting

In January 1983, the Governor’s Blue Ribbon Marina Committee issued its final report with recommended criteria that formed the basis for future policies regarding marina siting. The Monroe County 2010 Comprehensive Plan contains Goals, Objectives, and Policies have incorporated many of the committee’s recommendations. For example, Policy 212.4.3 of the Comprehensive Plan, which is consistent with guidance from the Florida Department of Community Affairs (DCA) and the Florida Fish and Wildlife Conservation Commission (FWC) with respect to preparing a marina siting plan, includes the following caveat:

In general, marinas will be located in areas where maximum physical advantages exist and where no unreasonable or excessive impacts are foreseen on marine resources. Marina construction will not involve destruction of any significant marine wetlands or seagrass beds.

In other words, areas with adequate water depth and good flushing (requiring no new dredging) are preferred, and marinas should not be sited in:

- essential manatee habitat or
- areas of high manatee mortality

Impacts to seagrass should also be avoided, and mitigation for seagrass destruction should not be allowed.
To date, Florida counties that have adopted marina siting plans have been required to do so under a 1989 Executive Order of the Governor and Cabinet entitled, Recommendations to Improve Boating Safety and Manatee Protection for Florida Waterways: Interim Boating Facility Expansion Policy and County MPPs (Section 9J-5.012(3)(c)9, FAC). While Monroe County is not among those required by law to prepare a manatee protection plan, which includes a boat facility siting element, the necessity of preparing marina siting criteria is mandated by the Comprehensive Plan to enhance the sound development and effective management of shoreline uses countywide.

These criteria are consistent with the Florida Keys Marina and Dock Siting Policies and Criteria set forth in Section 18-21.0041, FAC, regarding Sovereignty Submerged Lands Management, as well as the City of Marathon Marina Siting Plan.

According to Policy 212.4.3 in the Monroe County Comprehensive Plan, specific criteria for new or expanding marina facilities with three or more slips shall reflect consideration of the following primary criteria:

1. benthic vegetation and faunal assemblages;
2. adequacy of circulation and tidal flushing;
3. access to deep water through existing channels of adequate depth; and
4. impact of boats on crocodiles, manatees, and turtles.

Other secondary factors to be considered include:

1. minimal shoreline modification necessary and
2. location of propeller dredging problem areas.

Additional factors that may be considered include the quality and size of upland areas and degree of alteration necessary, and the ability to restore and enhance marina resource values at sites subject to past alteration (Policy 212.4.3, Comprehensive Plan).

Site suitability is based on these guidelines and, to the extent data currently exist, the criteria have been mapped using Geographic Information System (GIS) techniques. Maps with siting suitability areas/zones indicated countywide are based on these criteria.
C. Regulatory Environment

1. Jurisdiction
It is important to note at the outset that the marina siting guidance in this Plan applies to unincorporated Monroe County only and shall not supersede, preempt, or nullify applicable federal, state, or municipal rules, regulations, or requirements that apply. Any entity intending to develop or renovate a marina within a municipality’s boundaries must consult that municipality’s comprehensive plan and land development regulations. It is the applicant’s responsibility to obtain the necessary permits from all applicable state and federal regulatory agencies prior to issuance of a County permit (Policy 212.4.7, Comprehensive Plan). Compliance with the provisions of this Plan does not imply approval of other permitting requirements.

The complex set of local, state, and federal laws and regulations guiding land development and natural resource protection in Monroe County provides an extensive framework that has resulted in limiting marina siting and expansion in many areas of the County. For example, the GIS maps accompanying this Marina Siting Plan define “Exclusionary Zones” as those areas deemed unsuitable for marina siting or expansion based on the existing regulatory framework. A brief overview of the major mechanisms in place that affect marina development in the Keys is provided immediately below (see Appendix A for a more complete listing of federal and state permit requirements). This is followed by specific regulatory authority that addresses the marina siting criteria identified in the Comprehensive Plan and which forms the basis for the maps upon which Site Suitability Zones are then established.

2. Federal Regulation
The U.S. Congress enacted the Florida Keys National Marine Sanctuary (FKNMS) and Protection Act in 1990. Under this Act and the implementing regulations, the National Oceanic and Atmospheric Administration (NOAA) established five types of marine zoning to assist resource users in the Keys: (1) Wildlife Management Areas, (2) Ecological Reserves, (3) Sanctuary Preservation Areas, (4) Existing Management Areas, and (5) Special-use Areas. The geographic boundaries of these areas are delineated on the map in Appendix B and specified in 15 CFR Sections
922.160-922.168. *Wildlife Management Areas* are designed to protect endangered or threatened species while providing opportunities for public use with water use restrictions that include “no-access buffer” zones, “no-motor” zones, “idle speed only/no wake” zones, and “closed” zones. *Ecological Reserves* protect areas that represent the full range of diversity of resources and habitats found throughout the sanctuary by limiting consumptive activities but continuing to allow activities that are compatible with resource protection. *Sanctuary Preservation Areas* are designed to enhance the reproductive capabilities of renewable resources by reducing user conflicts in high use areas. *Existing Management Areas* delineate the existing jurisdicational authority of other agencies (i.e., state parks, aquatic preserves, sanctuaries, and other restricted areas) and may require additional regulations or restrictions to adequately protect resources. *Special-use Areas* are set aside for scientific research and educational purposes, restoration, monitoring, or to establish areas that confine or restrict activities, such as personal watercraft operations.

The U.S. Fish and Wildlife Service (FWS) of the U.S. Department of the Interior administers a number of national wildlife refuges in Monroe County, including the National Key Deer, Key West, Great White Heron, and Crocodile Lake National Wildlife Refuges. These areas offer a variety of recreational and other uses, and public entry may be prohibited by law in certain places.

Mainland Monroe County consists primarily of lands within Everglades National Park, which is under the jurisdiction of the National Park Service, a branch of the U.S. Department of the Interior. (Because of this federal jurisdiction, the Monroe County Marina Siting Plan applies to the Florida Keys portion of the County and not to the Everglades National Park area.) There is only one Everglades in the world:

Everglades National Park is the largest subtropical wilderness in the United States. The area boasts rare and endangered species, such as the American crocodile, Florida panther, and West Indian manatee. It has been designated an International Biosphere Reserve, a World Heritage Site, and a Wetland of International Importance, in recognition of its significance to all the people of the world. The open waters of Florida Bay and the Ten Thousand Islands represent roughly one-third of the park’s total acreage. Boats are the perfect way to explore some of the more remote areas of the park.
(Source: http://www.nps.gov/ever/index.htm.)
At the federal level, marinas and other boating facilities are also regulated by various laws, which include:

- Rivers and Harbors Act of 1899
- Fish and Wildlife Coordination Act of 1958
- Wild and Scenic Rivers Act of 1968
- National Environmental Policy Act of 1969
- Clean Water Act of 1972
- Marine Protection, Research and Sanctuaries Act of 1972
- Coastal Zone Management Act of 1972
- Marine Mammal Protection Act of 1972
- Endangered Species Act of 1973
- Magnuson-Stevens Act (Essential Fish Habitat) of 1996

The primary federal agency responsible for issuing permits for marina facilities is the U.S. Army Corps of Engineers (USACE). Federal permits for marine facilities will require either an individual permit (single family dock permit) or a joint permit filed with both the USACE and the Florida Department of Environmental Protection (DEP). In many cases, the USACE will also require a dredge and fill permit application, especially for large marina facilities. In the past, the USACE has also issued State Programmatic General Permits (SPGP) to DEP. Through this program, the USACE has delegated the authority to issue federal permits for certain activities to the State of Florida. Projects that impact seagrasses, marshes, or mangroves, impact manatees or their critical habitat, or are located near the Intracoastal Waterway or federal channels do not qualify for the SPGP and must therefore go through the full federal permitting process. However, in one attempt to streamline the permitting process, the 2005 Florida Legislature enacted House Bill 989, which created subsection 373.118(5), FS, directing DEP to adopt by rule one or more general permits to authorize local governments to construct, maintain, and operate public marina facilities and public boat ramps. To date, the rules implementing this recent law are still being developed.

3. State Regulation

Monroe County was declared an Area of Critical State Concern in 1975 (Chapter 380.05, FS) to ensure the long-term sustainability of the Keys. Issues such as protecting the natural environment and character of the Keys were a major concern. Also, the declaration was intended to address concerns for affordable housing, to maintain adequate public facilities, to support a sound economic base, to protect property rights, and to require adequate emergency planning and post-disaster
planning to ensure public safety. As required by state law, Monroe County prepared the 2010 Comprehensive Plan to address these concerns, but after a series of legal challenges, the County was ordered to initiate a five-year work program to make planning improvements and a Florida Keys Carrying Capacity Study to assess the ability of the Keys’ ecosystem to protect against the impacts of additional land development activities. The Florida Department of Community Affairs has jurisdiction to review all local development projects in Monroe County and to review and approve amendments to the Comprehensive Plan and LDRs. The SFRPC also has authority to review certain local development orders in the County.

At the state level, boating and marina activities are regulated by several different state agencies through a variety of law and code. The following is a listing of the major laws under which marina facilities are currently regulated (and see Appendix A):

- Chapter 253, FS: State Lands
- Chapter 258, FS: Aquatic Preserves
- Section 370.12(1), FS: Marine Turtle Protection Act
- Section 370.12(2), FS: Florida Manatee Sanctuary Act
- Chapter 373, Part IV, FS: Water Resources Act
- Chapter 376, FS: Coastal Protection
- Chapter 403, FS: Environmental Control

Among other requirements, these laws provide that the construction or modification of marina facilities calls for an Environmental Resource Permit to be submitted to the State of Florida. Either the DEP or the appropriate Water Management District reviews permit applications, depending upon the type of project proposed.

Moreover, Florida Keys Marina and Dock Siting Policies and Criteria are specifically described in Section 18-21.0041, FAC, regarding Sovereignty Submerged Lands Management. Significant provisions are excerpted in Section II.A.1., below.

In addition, Section 9J-5.012(3)(c)9, FAC, which is implemented by DCA, directs Florida’s coastal counties to establish marina siting criteria in the Coastal Management Element of those counties which have adopted a marina siting plan as part of the comprehensive plan. Previously, Section 380.0651, FS, had defined the threshold at which new or expanded marinas would be reviewed as
Developments of Regional Impact (DRIs), subject to certain exemptions if a local government had adopted a boat facility siting plan or policy as part of its comprehensive plan. However, the 2006 Florida Legislature enacted House Bill 683, which amended Section 380.06(24)(k), FS. This provision currently states: “Waterport and marina development, including dry storage facilities, are exempt from the provisions of this section” (i.e., the DRI review process).

4. County Regulation

The Monroe County Comprehensive Plan, Code of Ordinances, and accompanying LDRs have a number of policies and requirements in place to address both boat facility siting and the protection of natural resources. As these requirements relate to the marina siting criteria and the site-suitability evaluation process described in this Plan, they are discussed in greater detail in Section II.A.2., below. The Future Land Use Plan as well as land use districts (zoning code) delineate a number of areas specifically for water dependent uses, such as those related to recreational and commercial working waterfronts (see Appendix C for additional information).

Monroe County has taken steps to complement specific federal and state regulations. Similar to the boating restrictions found in the Florida Keys National Marine Sanctuary, the County has adopted Boat Restricted Zones in various areas countywide (see Sections 5.5-108, et seq., Monroe County Code). In addition, the County has identified a number of Areas of Critical County Concern (ACCC); these places, which include Big Pine Key, North Key Largo, Windley Key/Holiday Isles, and Ohio Key, have been determined to have special planning and regulatory needs (see Sections 9.5-471, et seq., Monroe County Code). The Technical Document accompanying the Future Land Use element of the Monroe County 2010 Comprehensive Plan describes the extensive planning initiatives undertaken for these areas and the rationale for creating and designating them as Areas of Critical County Concern. It should be noted, however, that the 2004 Master Plan for Future Development of Big Pine Key and No Name Key (under the Livable CommuniKeys Program) recommended removing the ACCC land use designation from this planning area and replacing it with applicable land use designations on a parcel basis (per Policy 103.1.2 of the Comprehensive Plan).
Monroe County developed the **Tier System** to guide the future development of land that is in private ownership and remains vacant today. The Tiers are categorized into three levels: (1) Conservation, Restoration, and Protection, (2) Transition, Reduce Sprawl, and (3) Redevelopment and Infill Development. Maps depicting Tier designation are used to overlay onto current zoning maps to determine appropriate use and intensity of future development or redevelopment. Tiers will also be used as part of Monroe County’s 20-year land acquisition program. Tier I land will be the most aggressively pursued due to its environmentally sensitive designation. These areas will be set aside for conservation, restoration, and protection and are often found adjacent to existing publicly owned lands and/or high quality habitat. Tier II land consists of subdivisions that are less than 50 percent built out, lacking necessary infrastructure, or contain less than four acres of isolated environmentally sensitive land. Tier III land is greater than 50 percent built out, presently equipped with infrastructure, or currently planned for development.

Finally, a major planning effort has been underway throughout unincorporated Monroe County in the past several years to work in conjunction with other planning mechanisms currently in place. The incorporated areas of the County have been engaging in similar planning initiatives, such as the Marina Siting Plan for the City of Marathon and related activities in Islamorada and the City of Key West. As mentioned above regarding unincorporated areas of the County, Livable CommuniKeys Plans are either now in progress or already completed for Stock Island/Key Haven, Big Pine and No Name Keys, Tavernier Creek to Mile Marker 97, Key Largo, and the Lower Keys. Having the benefit of extensive community involvement, these plans often provide recommendations on the desired development level of boating facilities and the County’s recreational and commercial working waterfronts.

**II. MARINA FACILITY SITING**

**A. General Requirements**

A marina siting plan guides marina development through maps or siting criteria, or a combination of both, as is the case with this particular Plan. It is based on collection and analysis of data on marina uses, natural resources, and recreation issues. Such a plan is usually manifested through a set of
goals, objectives, and policies adopted in a local government comprehensive land-use plan and implemented through local ordinances, including land development regulations.

This section identifies existing legal requirements for marina siting in Monroe County. Because the mainland portion of the County consists largely of Everglades National Park, as noted earlier, this Plan addresses marina siting in the Florida Keys Area of Critical State Concern only. The critical factor or criterion in marina siting and expansion in the Keys is water depth. Highlighted in this section are a number of state and county regulations defining the threshold for various types of boating facilities as minus four feet mean low water. This depth is based on considerations of light penetration for seagrass growth as well as minimizing impacts to seagrass, an essential habitat resource in the Keys and elsewhere around the State of Florida.


1. State Regulations

As noted above, Section 18-21.0041, FAC, sets forth State of Florida regulations implemented by DEP and which specifically address Florida Keys Marina and Dock Siting Policies and Criteria:

2. No docking facilities shall be approved which require either dredging or filling to provide access by canal, channel, road, or any other means. This restriction shall also apply to widening or deepening any existing canal or channel, but not to regular maintenance dredging of existing canals, basins, or channels, providing such maintenance does not exceed currently acceptable water depths.

3. Water depths requirements. Docking facilities shall only be approved in locations having adequate water depths in the boat mooring, turning basin, access channels and other such areas to accommodate the proposed boat use.

   a. A minimum water depth of -4 (minus four) feet mean low water shall be required.

   b. Greater depths shall be required for those facilities designed for, or capable of, accommodating boats having greater than a 3 (three) foot draft, so that a minimum of one foot of clearance is provided between the deepest draft of a vessel and the bottom.
Recognizing that the natural water bodies of the Keys and Monroe County are an “irreplaceable asset which require special protection,” Section 62-312.430, FAC, specifies permitting requirements for marinas in the County. These DEP rules relate to dredge and fill activities in those waters of the Keys (Sections 62-312.400 through 62.312.460, FAC) designated as Outstanding Florida Waters (OFW) (excluding all artificial water bodies), as identified in Section 62-302.700, FAC, and is in addition to regulations relating to environmental resource permit and grandfathered dredge and fill permit applications under Part IV of Chapter 373, FS. (Note that ‘artificial water bodies’ include any water body created by dredging, excavation, or by the filling in of its boundaries, including canals under Section 62-312.020(3), FAC., and borrow pits or waters resulting from rock mining activities.)

Specifically, Section 62-312.430, FAC, provides the DEP permit requirements for marinas:

Marinas shall be evaluated on the following criteria. For the purpose of this Part a marina shall be defined as a dockage facility providing ten or more wet storage slips or providing commercial marine products or services.

1. Fueling facilities shall have automatic shutoff valves.
2. Fuel storage or pumping facilities shall not be located on over-water structures.
3. Spill containment equipment shall be located on site sufficient to prevent the discharge of pollutants into state waters beyond the marina boundary. Personnel trained in the use of the containment equipment shall be in attendance during all operating hours. At any time such personnel are not in attendance, fuel facilities shall be adequately secured to prevent use.
4. Sewage pumpout facilities shall be provided.
5. Water depths at the specific mooring sites shall not be less than four feet mean low water.
6. The applicant shall affirmatively demonstrate to the Department that adequate depths exist for ingress and egress of boats to the mooring sites and in no case shall the depths of the access area be less than the minimum depth specified in subsection (5).
7. Proposed construction techniques shall protect the viability of a seagrass bed community or other biological communities as listed in paragraph 62-312.410(1)(a), F.A.C.
8. Boat mooring sites shall not be located over a seagrass bed community or coral reef regardless of water depth.

The minus four foot mean low water depth threshold is again specified as in the state sovereignty submerged lands rule under Section 18-21.0041, FAC (also excerpted above).
2. Monroe County Policies and Regulations

This section excerpts a number of provisions in the Monroe County 2010 Comprehensive Plan Policies and Code of Ordinances applicable to marina siting issues and specifications.

Policy 212.5.2 – Siting of single family docks, boat ramps, and boat slips on manmade water bodies shall require minus four (-4) feet mean low water (MLW) depths at the terminal end. These structures must have continuous access to open water at depths of minus four (-4) feet (MLW) or greater...to open water....

1. Docking facilities may be developed on any shoreline if there is a mean low water (MLW) depth of a least minus four (-4) feet at the terminal end of the docking facility, and continuous access to open water, or

2. Docking facilities may be developed on the shoreline of lots in a subdivision if the docking facility is located in a channel or canal or basin that connects five or more contiguous lots which was dredged before 1986, and if there is a mean low water (MLW) depth of at least minus four (-4) feet at the terminal end of the docking facility.

Policy 212.5.3 – The minimum water depth requirement at the mooring site shall be minus four (-4) feet mean low water.

Policy 212.5.4 – The following restrictions shall apply to all structures built over or adjacent to water (including...boat docks, fishing piers...):

1. The maximum permitted length of docks shall be commensurate with the shoreline width of the land parcel at which the dock is located, subject to a maximum length of 100 feet from the mean low water line;

2. The length of docks shall not exceed ten (10) percent of the width of the waterbody as measured laterally across the waterbody....

Monroe County Code Section 9.5-348(d) – Mangroves, Wetlands, and Submerged Lands

All structures ... on land classified as mangroves, wetlands, or submerged lands ... shall be designed, located, and constructed such that:

(1) Generally: Only docks and docking facilities, boat ramps, ...boat shelters ... shall be permitted on or over mangroves, wetlands, and submerged lands, subject to the specific restrictions of this subsection. These restrictions shall not apply to disturbed wetlands... lawfully converted into uplands through filling.

... (3) Dredging:

a. No new dredging shall be allowed in Monroe County except as specified for boat ramps in section 9.5-349(1) (shoreline setback, boat ramps);
b. No maintenance dredging shall be permitted within areas vegetated with seagrass beds or characterized by hard bottom communities except for maintenance dredging in public navigation channels;

c. In order to facilitate establishment of bottom vegetation, maintenance dredging in artificial waterways shall not exceed depths greater than six (6) feet at mean low water (MLW). This policy does not apply to the entrance channels into Key West Harbor and Safe Harbor;

... All dredge activities require approvals by the Florida Department of Environmental Protection and the U.S. Army Corps of Engineers prior to issuance of a county permit.

Monroe County Code Sections 5.5-76 through 5.5-83 – County Mooring Fields

Mooring fields shall be managed so as to eliminate abandoned and derelict vessels, ensure compliance with the Clean Vessel Act, minimize benthic damage, and provide a safe, secure harbor for transient and long-term recreational vessels.

Of particular importance is Monroe County Code Section 9.5-349, which sets forth the shoreline setback regulations for different types of structures. Because many of these requirements and restrictions are applicable to specific marina siting criteria, they are described in more detail in II.B.1., below. Following are some highlights:

- Section 9.5-349(l) specifies shoreline setback requirements for boat ramps.
- Section 9.5-349(m) specifies shoreline setback requirements for docking facilities.
- Section 9.5-349(o) relates to Special Approvals:
  (1) For structures serving commercial uses, public uses, or more than three (3) dwelling units, the director of planning and environmental resources or the planning commission may approve deviations from the requirements...as part of a minor or major conditional use permit. Such approval may include additional structures or uses provided that such approval is consistent with any permitted uses, densities, and intensities of the land use district...and the proposed structures are located in a disturbed area of an altered shoreline. Such additional uses are limited to waterfront dining areas, pedestrian walkways...fuel or septic facilities, and water-dependent marina uses. Any such development shall make adequate provision for a water quality monitoring program for a period of five (5) years after the completion of the development.

3. Site Suitability Zones

The Monroe County Marina Siting Plan provides three categories or Site Suitability Zones defining Preferred, Conditional, and Exclusionary locations for new or expanded marinas with three (3) or more slips (Policy 212.4.1, Monroe County Comprehensive Plan). Facilities within each category will be required to meet certain criteria to minimize impacts on natural resources. Restrictions will
be greatest in areas of highest risk to resources (Exclusionary locations) and least in areas of lowest risk (Preferred locations). The Plan does not affect single-family docks with fewer than three (3) slips or existing multi-slip facilities unless they are expanding.

“Exclusionary” shoreline segments include those areas with a water depth of less than four (4) feet mean low water (within 100 feet of a parcel boundary, per maximum dock length), and/or include existing conservation lands managed at a protection status of 1 as defined by the Florida Natural Areas Inventory (FNAI). This category includes parcels already acquired under the Florida Forever program and designated at a protection status of 1.

It should also be noted that lands adjacent and in close proximity to boat restricted areas, such as those in the Florida Keys National Marine Sanctuary (including, but not limited to, Wildlife Management Areas with access restrictions designated “no-access buffer zones,” “no-motor zones,” and “closed”), as well as those described in Monroe County Code Section 5.5-108(c) and (d) (“combustion engine exclusion” and “motorboats prohibited” zones), can be considered “Exclusionary” for the purposes of this Plan.

“Preferred” shoreline segments include those areas with a minimum water depth of four (4) feet (within 100 feet of a parcel boundary, per maximum dock length) and a minimal risk of natural resource impacts. Preferred areas are considered appropriate for all types of new or expanding marinas.

“Conditional” shoreline segments include those areas where there is a moderate risk of natural resource impacts. Criteria include a minimum water depth of four (4) feet (within 100 feet of parcel boundary, per maximum dock length); in addition, any or all of the following conditions may be present:

- The land is managed at a protection status of 2 or 3 as defined by the FNAI.
- The parcel boundary includes an area of continuous seagrass.
- The parcel is in an area of known American crocodile range.
- The water quality of an adjacent canal is listed as poor.
- The parcel is in an area of high watercraft manatee mortality (within Monroe County).
- The parcel boundary includes a beach known to be used for sea turtle nesting.
The parcel is listed by the Florida Forever Board of Trustees as lands proposed and approved by the state’s Acquisition and Restoration Council for acquisition because of outstanding natural resources.

B. Comprehensive Plan Marina Siting Criteria

1. Primary Criteria
This part describes the main factors or criteria to be considered in finding suitable locations for siting new marinas or expanding/modifying existing marinas in Monroe County.

a. Benthic Vegetation and Faunal Assemblages
i. Overview
The Florida Keys are characterized by vast areas of subtropical nearshore benthic communities of seagrass beds and hardbottom systems. The federal regulations governing the Florida Keys National Marine Sanctuary define ‘seagrass’ as “any species of marine angiosperms (flowering plants) that inhabit portions of the seabed in the Sanctuary. Those species include, but are not limited to: Thalassia testudinum (turtle grass); Syringodium filiforme (manatee grass); Halodule wrightii (shoal grass); Halophila decipiens, H. engelmannii, H. johnsonii; and Ruppia maritima. In addition, the term ‘hardbottom’ refers to “a submerged marine community comprised of organisms attached to exposed solid rock substrate. Hardbottom is the substrate to which corals may attach but does not include the corals themselves.” (15CFR922.162(a).)

Seagrass beds represent essential components of both the marine environment and the economy of a coastal state such as Florida. Seagrass leaves help maintain water clarity by trapping fine sediments and particles; their rhizomes and root systems stabilize bottom sediments. Seagrass communities provide food and shelter for numerous marine organisms, including the Florida manatee. Because more than 70 percent of Florida’s recreational and commercial fish, shellfish, and crustacean species spend part of their lives in seagrass communities, the environmental and economic values provided by seagrasses are substantial.³ Faunal assemblages associated with a seagrass community are typically composed of a diversity of such organisms as microscopic zooplankton, invertebrates, fishes, and mammals associated with mangrove or coral reef systems.
The benthic vegetation and faunal assemblages occurring in Monroe County are described in greater detail in such documents as the Conservation and Coastal Management Element (with accompanying Technical Documents) of the Monroe County 2010 Comprehensive Plan and the Florida Keys National Marine Sanctuary Management Plan (with environmental impact statement), among others.

Seagrasses are presently threatened throughout Florida by water quality degradation, physical damage from boat propellers, shading from moored vessels or docks, dredging and filling projects, and muck sediment deposition. Hence, protection of benthic resources is a primary consideration in developing marina siting criteria. The FWC’s recommended siting criteria include, but are not limited to, the following (FWC 2000):

- No impact to seagrass
- Areas with adequate water depth and good flushing sites which require no new dredging are preferable
- Piling construction is preferred over dredge and fill techniques

ii. Policies and Regulations

As noted above, current Monroe County 2010 Comprehensive Plan Policies and ordinances, in addition to state regulations, require adequate water depth (-4 feet mean low water) for docking facilities and restrict docking over sensitive benthic communities including seagrasses and hardbottoms. Other pertinent provisions are excerpted as follows.

**Policy 212.5.6** – Docking facilities and piers shall not terminate on submerged land which is vegetated with seagrasses or characterized by a hard-bottom community, regardless of water depth, except as may be permitted by the Florida Department of Environmental Protection. Design criteria to permit sunlight to reach the bottom shall be adopted. …. 

**Monroe County Code Section 9.5-349(l) – Boat Ramps**

Boat ramps shall be permitted, provided that:

(2) All boat ramps shall be confined to shorelines of manmade canals, channels, and basins with little or no native vegetation.

(6) Construction of a boat ramp shall not involve any filling of surface waters except for the minimum amount needed for the actual boat ramp surface, side slopes, walls or pilings for accessory docks. …. 

(7) Dredging shall be limited to the minimum amount necessary to construct the boat ramp…. No dredging of submerged grass beds or hard bottom communities shall be allowed.
(8) All such projects shall require approval by the Florida Department of Environmental Protection and the U.S. Army Corps of Engineers prior to issuance of a county permit.

**Monroe County Code 9.5-349(m) – Docking Facilities**

Docking facilities shall be permitted, provided that:

(1) All required permits from the Florida Department of Environmental Protection and Army Corps of Engineers shall be obtained prior to issuance of a county permit;

...  

(5) Any docking facility shall meet at least one of the following conditions:

(a) At least four (4) feet water depth at MLW at the terminal end of the docking facility, and continuous access to open water; or

(b) A docking facility that extends across a full ten (10) percent of the width of any body of water may terminate in water less than four (4) feet at MLW if this water depth occurs within five (5) horizontal feet of the terminal end of the docking facility such that the centerline of an average vessel will rest in water of adequate depth, and continuous access to open water is available; or

(c) Docking facilities may be developed on the shoreline of lots in a subdivision that was approved before September 15, 1986, if the docking facility is located in a channel or canal that was dredged before September 15, 1986, and if there is a MLW depth of at least four (4) feet at the terminal end of the docking facility. Such docks shall not exceed ten (10) percent of the width of the channel or canal.

(d) Docking facilities may be permitted which terminate over seagrass beds or hardbottom communities when the water depth at the terminal platform is at least four (4) feet above the top of all seagrasses, corals, macro algae, sponges, or other sessile organisms at MLW and continuous access to open water is available. All such projects shall require approval by the Florida Department of Environmental Protection and the U.S. Army Corps of Engineers prior to issuance of a county permit.

The State of Florida, through DEP permit requirements for marinas in Monroe County, specifies general criteria in Section 62-312.410, FAC, which are in addition to others described above. For example:

(1) Subject to the provisions of the mitigation section of this part (Rule 62-312.450, F.A.C.), no environmental resource permit or grandfathered dredge and fill permit under Part IV of Chapter 373, F.S., shall be issued for any activity in Outstanding Florida Waters in Monroe County if such activity:

(a) Alone or in combination with other activities damages the viability of a living stony coral community (*Scleractinia* and *Milleporina*), soft coral community (*Alcyonacea*, *Gorgonacea* and *Pennatulacea*), macro marine algae community (*Chlorophyta*, *Phaeophyta* and *Rhodophyta*), sponge bed community (*Porifera*), or marine seagrass (*Hydrocharitaceae* and *Cymodoceae*) bed community….For the purposes of this Part a marine seagrass bed or marine macroalgal community means an area dominated by the listed biota having an areal extent of at least 100 square feet…. 
iii. Site Suitability
The seagrass communities of Monroe County are represented in Figures 1, 2, and 3 (see Appendix D) and are based on statewide data available from the Florida Fish and Wildlife Conservation Commission-Florida Fish and Wildlife Research Institute (FWC-FWRI) (2003 survey). The maps differentiate between ‘Continuous’ and ‘Discontinuous’ (shown as ‘Patchy’) coverage. Construction activities that may impact seagrass areas in Monroe County are subject to an array of existing restrictions, specifications, and permit regulations as described above. Hence, for the purposes of this siting plan, if a parcel with potential for marina siting or expansion has a boundary that includes an area of continuous seagrass, that parcel is considered to be located in a “Conditional” zone for site-suitability.

b. Adequacy of Circulation and Tidal Flushing
i. Water Quality
Water quality has been a major concern in the Florida Keys at the federal, state, and local levels. The scope of the issue ranges from water quality impacts due to regional and mainland development to local efforts to replace septic tanks with central sewage treatment facilities. Marina-generated water quality impacts have prompted two main efforts: provision of sewage pump-out and treatment for live-aboards and cruisers, and proper treatment and disposal of site-generated stormwater and wastes. The design and location of water bodies in which marinas are developed may also influence the level of water quality problems that may ensue. In general, the policy is to encourage the development of new marinas or modifications of existing marinas at sites with good tidal flushing and turnover rates (i.e., adequate circulation). Note also that Section 18-21.0041(b)6., FAC, states that marina development in the Florida Keys shall be encouraged to locate in already developed or disturbed areas.

In Monroe County, as it has been noted, new dredging is restricted by existing regulations and creation of new water bodies for marinas is prohibited. This prohibition also applies to the deepening of existing water bodies (Section 18.21.0041(1)(b)2, FAC). Therefore, the current configuration of waterways, boat basins, and available natural deep water sites cannot be physically altered in ways that could potentially result in water quality degradation.
It has already been mentioned that Section 62-302.700, FAC, prohibits the degradation of water quality in such Outstanding Florida Waters as those of the Florida Keys (Section 62-302.700(9)(i)13.c, FAC). This includes all waters except artificial water bodies, such as canals (Section 62-302.400(12), FAC). Waters within the OFW are afforded the highest level of water quality protection at the state level. One federal law that affects marinas and mooring fields is the creation of the Florida Keys No Discharge Zone, in effect since June 2002. This law prohibits the discharge of sewage from all vessels into state waters within the Florida Keys National Marine Sanctuary, whether the sewage is treated or not (see also, Monroe Code Section 5.5-47). Monroe County has adopted requirements for live-aboard marinas to provide pump-out facilities and by providing a mobile pump-out service themselves. In addition, the DEP has established the Clean Marina program statewide, and marinas in the Keys that are not already certified under this program may decide to consider applying for certification. This will result in improved water quality in areas surrounding the marina.

This siting criterion mainly applies to manmade channels and residential canals in unincorporated Monroe County. MACTEC Engineering and Consulting, Inc., prepared a report entitled, *Monroe County Residential Canal Inventory and Assessment* (MACTEC Report), in 2003 to address water quality issues in the canals; wide-ranging recommendations for water quality improvement were presented. Potential sites for marinas and boat ramps will be evaluated for these impacts pursuant to the Marina Siting Plan. Monroe County Code Section 9.5-349(j) provides that shoreline structures must be designed to protect circulation patterns and tidal flushing (see also Section 9.5-348(d)(2) regarding environmental design criteria for specific habitats). Any potential changes that may result from a project must meet with County approval.

**ii. Stormwater**

Monroe County adopted a stormwater ordinance in the early 1990s. New development must comply with this ordinance. During construction, some canals and boat basins were dug fairly deep but not designed to flush back out to open water. These so-called “dead end canals” collect pollutants derived from stormwater runoff, septic tanks, and other debris. Most canals are perpendicular to the shoreline and, depending on location, serve as a natural trap for floating vegetation, which sinks and
decays on the bottom, resulting in an anoxic condition. Dredging to create new water bodies and access is prohibited; hence, water body design is not a major concern in siting new marinas (Section 18.21.0041(1)(b)2, FAC).

iii. Site Suitability

Figures 4, 5, and 6 (see Appendix D) delineate the water quality in Monroe County based on canal water quality data from the MACTEC Report. Water quality has been mapped in five intervals (as defined in the MACTEC Report):

- Good
- Fair/Good
- Fair
- Fair/Poor
- Poor

Potential parcels will be considered “Conditional” if the existing water quality in the adjacent canal is poor.

c. Access to Deep Water through Existing Channels of Adequate Depth

i. Overview

Section 922.163(a)(3)(v) of 15 CFR Ch. IX (NOAA regulations governing the FKNMS) prohibits drilling into, dredging (including prop-dredging), constructing or placing structures, and/or material on the seabed of the Sanctuary except as an incidental result of certain activities, which include the construction and repair of legally authorized docks, piers, or marinas with fewer than 10 slips.

Monroe County Code Subsections 9.5-349(l) and (m) provide additional regulations for boat ramps and docking facilities relevant to this criterion and as outlined in II.B.1.a., above.

In addition, Section 18-21.0041, FAC, Sovereignty Submerged Lands Management, outlines the Florida Keys Marina and Dock Siting Policies and Criteria, which are provided below for purposes of review:

2. No docking facilities shall be approved which require either dredging or filling to provide access by canal, channel, road, or any other means. This restriction shall also apply to
widening or deepening any existing canal or channel, but not to regular maintenance
dredging of existing canals, basins, or channels, providing such maintenance does not
exceed currently acceptable water depths.

3. Water depths requirements. Docking facilities shall only be approved in locations having
adequate water depths in the boat mooring, turning basin, access channels and other such
areas to accommodate the proposed boat use.

a. A minimum water depth of -4 (minus four) feet mean low water shall be required.

b. Greater depths shall be required for those facilities designed for, or capable of,
accommodating boats having greater than a 3 (three) foot draft, so that a minimum of
one foot of clearance is provided between the deepest draft of a vessel and the
bottom.

ii. Site Suitability

Because of the extent of current regulations governing this criterion and the assumption that the
requirements will be met pursuant to existing local, state, and federal permitting processes, no
additional site suitability considerations are expected to be generated by this Plan for this criterion.

Water depths in the Keys are mapped as shown in Figures 7, 8, and 9 (see Appendix D) and are
based on 2006 bathymetry data from NOAA and FWC. As indicated above, water depth, in addition
to those lands that are deemed “Exclusionary” based on existing natural resource protections, is a
critical factor in finding suitable locations for new or expanding marinas in the Keys. Water depth of
-4 feet mean low water is a limiting criterion in each of the three Site Suitability Zones
(Exclusionary, Preferred, Conditional) recommended in this Plan.

d. Impact of Boats on Crocodiles, Manatees, and Turtles

i. Overview

The Monroe County 2010 Comprehensive Plan contains objectives and policies related to
crocodiles, manatees, and turtles. (As noted above, the impact of boats on these creatures is listed
among the marina siting criteria specified in the Comprehensive Plan.) The following excerpts
provide specific information on each of these macrofaunal species.

Objective 207.8 – Monroe County shall implement activities to prohibit the destruction of
the Florida manatee (Trichechus manatus), American Crocodile (Crocodylus acutus), and
marine turtles, as well as to protect the habitat of these species. Species of marine turtles to
be protected shall include the Atlantic Loggerhead Turtle (Caretta caretta), Leatherback
Turtle (Dermochelys coriacea), Atlantic Hawksbill Turtle (Eretmochelys imbricata), Green
Turtle (*Chelonia mydas*), and any other marine turtle using Monroe County beaches as nesting habitat.

**Policy 207.8.3** – By January 4, 1998, Monroe County shall develop and implement a boating impacts management program for protection of marine turtles and manatees. (See Objective 203.6 and related policies).

**Policy 207.8.6** – By January 4, 1998, Monroe County shall adopt a turtle protection ordinance.

**Policy 207.8.7** – Monroe County shall protect marine turtles, crocodiles, and alligators from land development activities. Regulations shall generally accomplish the following:
1. restrict existing and prohibit new beachfront outdoor lighting in the vicinity of nesting areas;
2. prohibit structures within fifty (50) feet of the crest of the beach/berm for any beach which is known to serve as an active nesting area;
3. establish general standards for coastal construction in the vicinity of active nesting areas; and
4. require removal of invasive exotic vegetation from development sites in beach/berms as a condition of development approval for adjacent uplands.

**ii. Crocodiles**

**Overview**

In 1975 the American crocodile was listed under the federal Endangered Species Act, when estimates of nesting females ranged from only 10 to 20 in a small area in northeastern Florida Bay. The State of Florida provides legal protection for the American crocodile under Section 372.0725, FS. Monroe County also has authority to implement activities to protect the habitat and prohibit the destruction of the American crocodile (see Objective 207.8.12, 207.12.1.6 and supporting policies).

Much of the remaining crocodile habitat in South Florida has been acquired by federal, state, and county agencies and is protected from development. In fact, the U.S. Fish and Wildlife Service in coordination with Monroe County (pursuant to Comprehensive Plan Objective 103.2 and Policy 103.2.6) created Crocodile Lake National Wildlife Refuge in 1980, encompassing more than 5,000 acres and covering a significant part of north Key Largo off Card Sound Road on
the Gulf of Mexico side. Administered by the National Key Deer Refuge, the refuge is currently closed to general public use due to the sensitivity of the six federally threatened and endangered species inhabiting the refuge. These protected areas should allow the crocodile population to expand and may provide additional nesting opportunities. Besides the American crocodile, this area is critical habitat for the Key Largo cotton mouse (*Peromyscus gossypinus allapaticola*), Key Largo wood rat (*Neotoma floridana smallii*), Eastern indigo snake (*Drymarchon corais couperi*), Stock Island tree snail (*Orthalicus reses*), and Schaus’ swallowtail butterfly (*Heraclides aristodemus ponceanus*).6

**Population**

Crocodiles are now observed throughout most of their historical range in Florida, including Biscayne Bay, Key Largo, and Florida Bay. Nests have occasionally been spotted on the southwest coast and Marco Island. Figure 10 (see Appendix D) shows the approximate range of the crocodile in Southern Florida. The map is based on habitat areas derived from NOAA’s Environmental Sensitivity Index Geodatabase, which includes many other species of interest and can be viewed on the FWC-FWRI website (see http://ocean.floridamarine.org/esimaps/). The maps for the South Florida region were originally made in 1996 and are expected to be updated on a regular basis.

On March 20, 2007, the U.S. Fish and Wildlife Service reclassified the American crocodile “distinct vertebrate population segment” in Florida from endangered to threatened. This downlisting is based on new population estimates of 1,400 to 2,000 crocodiles, not including hatchlings, and a research finding in 2005 of more than 90 documented nests in the state.5

**Mortality**

At this writing, research has not uncovered a database of documented impacts of boats on crocodiles. Instead, statistics are kept with respect to impacts of automobiles on crocodiles, according to information provided by such sources as FWC and FWS.
iii. Manatees

Overview
In addition to federal and state protections, Monroe County has the following provisions related to manatees, in addition to those outlined above.

**Policy 207.8.3** – By January 4, 1998, Monroe County shall develop and implement a boating impacts management program for protection of marine turtles and manatees. (See Objective 203.6 and related policies).

**Policy 207.8.11** – By January 4, 1998, Monroe County shall consider requests by the Boating Impacts Workshop to adopt speed controls in nearshore waters and/or creation of a boating restricted or boating protection zone.

Manatees, Florida’s state marine mammal since 1975, are members of the scientific Order Sirenia, large air-breathing aquatic mammals that inhabit both fresh- and salt-water areas, including oceans, estuaries, rivers, canals, and dredged channels. The Florida manatee (*Trichechus manatus latirostris*) has long been observed along the eastern seaboard of the United States from Florida to Georgia, although some individuals have been found as far north as Rhode Island (FWS 2001a). Recognized as an integral part of Florida’s ecology for millions of years, Sirenians evolved from four-footed land mammals more than 60 million years ago. Their 45 million-year-old fossils have been found in the state.

**Population**
To determine the presence and abundance of this federally listed endangered species (listed as threatened in Florida), synoptic surveys of the state’s manatee population are legislatively mandated (Ch. 370.12(4)(a), FS). These surveys are performed annually by FWC during the winter to coincide with the passage of major cold fronts, periods when manatees gather at various warm water refugia around the state. Counts are generally performed on the same two days per year throughout Florida from fixed-wing aircraft to survey manatees in places and at times when they are most concentrated. The number and dates of surveys may vary from year to year depending on weather conditions. No surveys were conducted in 1993 or 1994 because of the lack of strong winter cold fronts (FWS
2001a). Water clarity/visibility, weather conditions, and time of day significantly affect observations of manatees during these surveys. As such, it remains unknown what percentage of the total manatee population is actually counted in the synoptic surveys.

Survey results (1991-2006) are indicated in Table 1 below and in the accompanying countywide manatee abundance and manatee density maps (see Figures 11 and 12, respectively; see Appendix D). The Monroe County and Florida totals listed in the table represent the highest single count for each year synoptic surveys were flown. Location data from the synoptic surveys was mapped using the Spatial Analyst extension of ArcGIS® (Environmental Systems Research Institute, Inc.) to generate the surface density of manatees within the waterways of Monroe County. Data reveals that manatees are primarily found in mainland Monroe (Everglades National Park) and along the bayside of Key Largo. Synoptic surveys show manatees as far south as Marathon, but in small numbers. Aerial surveys to determine manatee abundance and distribution are presently only flown in the Upper Keys because manatee use of the Lower Keys does not seem to justify aerial surveys at this time. Areas of relatively low abundance (among areas surveyed) include Marathon, Long Key, Lower Matecumbe Key, and Upper Matecumbe Key. Large numbers of manatees have been found to congregate in the estuaries where the Everglades meets Florida Bay.
Table 1. Number of Manatees Sighted During Synoptic Surveys, 1991 - 2006

<table>
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<th>Survey Year</th>
<th>Monroe County Total</th>
<th>Florida Total</th>
<th>Percentage</th>
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<tr>
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<tr>
<td>2006</td>
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</tr>
</tbody>
</table>

Source: FWC-FWRI.

Mortality

In Florida, there has been a clear increase in the number of manatee deaths over the last quarter-century (FWS 2001a). Manatees are subjected to a variety of threats, both human and non-human related. Red tide, disease, and cold stress are among the natural causes of mortality. Human activities affect manatees both directly and indirectly. Watercraft strikes, entanglement in or ingestion of fishing line and gear, poaching, and crushing in water control structures are among the direct impacts. Indirect impacts result from activities that degrade manatee habitat, such as dredging, water quality degradation resulting from coastal development, loss of warm water refugia, and propeller scarring of seagrass beds. This section describes the causes and spatial distribution of mortalities documented within Monroe County.
Information on manatee mortality is derived from FWC’s manatee salvage and rescue program, which has recorded information on the location, time of year, and cause of manatee deaths since April 1974. Mortalities are assigned by FWC to one of nine categories:

- Category 1: Watercraft-related
- Category 2: Floodgate/canal lock
- Category 3: Other human-related
- Category 4: Perinatal (dependent calf)
- Category 5: Cold stress
- Category 6: Other Natural
- Category 7: Carcass verified but not recovered
- Category 8: Undetermined (too decomposed)
- Category 9: Other undetermined

The information presented in this section is derived from data collected between January 1977, when the first manatee death was documented in Monroe County, and December 2006 (available from http://www.myfwc.com). Within that timeframe, there have been 6,043 manatee mortalities statewide; Monroe County accounts for 216 (3.6%) of these deaths. Forty-three of the Monroe mortalities occurred in 2006 alone, representing approximately one-fifth (19.9%) of all County manatee deaths during this 29-year period. (Note: These calculations include some of the 2006 data, which is still considered preliminary at this writing.)

From 1977 through 2006, 1,452 confirmed watercraft-related manatee mortalities have occurred statewide; 33 (2.3%) of which have occurred in Monroe County. Two of the 43 deaths in 2006 have been attributed to watercraft, based on the preliminary findings. It is recognized that the use of mortality data as a screening criterion is limited. Some manatees whose deaths have been assigned to “undetermined” may also have been struck by boats, so the percentage of watercraft-related deaths may be conservative. In addition, manatee mortalities record the site of carcass recovery, which may not be the site of injury, and therefore data may be skewed by mortalities that occurred in Miami-Dade and/or Collier counties. A manatee struck and killed by a boat may drift a significant distance before its carcass is recovered. Additionally, a manatee hit by a boat may not die immediately and may swim some distance before it succumbs to the injury. Nonetheless, carcass recovery locations represent the best available information for estimating the general area of the County where manatees have an increased probability of being mortally wounded by a boat collision. Figure 13
Figure 13. Total Manatee Mortality Among 13 "Key" Counties Compared to Monroe County*, 1977-2006

*Monroe County manatee mortality total is based on the reported deaths of manatees in the Florida Keys excluding mainland Monroe County.
Source: FWC-FWRI.

Figure 14 shows vessel registration data for Monroe County. Statewide, there has been a general increase in manatee mortality as the number of vessels on the state’s waterways has increased.

Source: FWC; Florida Department of Highway Safety and Motor Vehicles.
Second Draft For Review, 4-30-07
Monroe County Marina Siting Plan

Using ArcGIS (v9.1)® (Environmental Systems Research Institute, Inc.), the maps comprising
Figures 15, 16, 17, and 18 (see Appendix D) are based on the FWC-FWRI GIS data, which
document locations of recovered carcasses (dataset verified from January 12, 1977 through January
31, 2006). Figures 15 and 16 show manatee mortality locations and density, respectively, for all
causes of death; Figures 17 and 18 show the watercraft-related manatee mortality locations and
density, respectively. The data indicates that during this time, 16 of the 33 watercraft-related Monroe
County mortalities occurred in and around the Keys (48.5%) with the majority from Key Largo
north; no carcasses have been recovered south of the Marathon area. Eleven individuals were
recovered in northwest mainland Monroe (the animal could have been struck in Collier County and
succumbed to its injuries in Monroe, but this is not confirmed by the data). Five carcasses were
recovered in southern mainland Monroe (near Flamingo), and one was found in west mainland
Monroe. This dataset revealed that manatee mortalities are highest in areas with the highest recorded
synoptic abundance. Areas with low abundance, such as Lower Matecumbe Key, had fewer reported
deaths. Mainland Monroe and the surrounding area accounted for 80 percent of the total manatee
mortality countywide; the Keys made up the remaining 20 percent. The months of January and
February accounted for 44.4 percent of all mortalities, and 30.3 percent of all watercraft-related
deaths.

Implications for Marina Siting
Manatee presence and conflicts with watercraft use have driven the majority of marina siting plans
in Florida. The FWC’s recommended siting criteria include the following (FWC 2000):

- Marinas should not be sited in essential manatee habitats,
- Marinas should not be situated in areas with high manatee mortality occurrence.

Under the Florida Manatee Sanctuary Act, the entire State of Florida is designated as “a refuge and
sanctuary for the manatee” (Ch. 370.12(2)(a), FS). However, there are no established critical or
essential manatee habitats in Monroe County so therefore, the first criterion above is automatically
met by virtue of the County’s location and current conditions. As noted above, the County has had a
low rate of manatee mortality overall. Therefore, manatee-watercraft conflicts in general will not
drive the siting of marinas on a countywide basis. However, the majority of watercraft-related
manatee mortalities have occurred from Key Largo north (these are the carcass recovery locations;
see Figures 17 and 18), with no carcasses recovered south of the Marathon area. Hence, there has
been a recent increase in the level of scrutiny regarding permit applications for boat slips in the Upper Keys. Protection efforts for manatees will focus on awareness and education to be incorporated into marina design.

In recent developments, the FWC released Draft 2 of its *Florida Manatee Management Plan* on April 12, 2007. The Upper Keys area of Monroe County (north of Marathon) have been identified in this plan as one area of the state that is a possible candidate for the evaluation of new manatee protection speed zones (p. 40). The following factors will be considered when the FWC begins the process of prioritizing the need for review of areas for new zones:

- There is an identified manatee risk from watercraft impacts that requires immediate attention.
- There are no zones or only limited zones in place and the area could benefit from a review to ensure protection of manatees and their habitat.
- Manatee and boating data have been collected recently and are available to use in the analysis.
- The Boating and Waterways Section (BWS) is considering the need for boating safety zones in a county. In these cases, consideration of manatee zones (where appropriate) at the same time could result in increased agency efficiencies.
- A county requests new manatee zones and provides a detailed rationale and discussion supporting its request. For example, counties may request zone reviews to facilitate coastal development permits that add boat traffic to an area.
- Some other type of information becomes available that suggests a need to review an area (pp. 40-41).

Within a few years, new manatee protection speed zones could be established in the Upper Keys, but this action is dependent upon the collection of both boating data and new or additional manatee data, according to the draft plan. Emphasis is also placed on the significant seagrass habitat in the Keys: “Almost half of the state’s seagrass beds are located in the Florida Keys, with Monroe County having the most seagrass scarring (30,050 acres)” (p.150). Manatees are among the many species that forage upon seagrass, and it is thought that manatee protection speed zones can have the added benefit of safeguarding seagrass beds, as well as reducing the potential for manatee/boat interaction (p. 150).
iv. Turtles

Overview

Marine turtles are protected under a number of local, state, and federal laws and regulations. For example, the State of Florida, through the FWC-FWRI, coordinates the Statewide Nesting Beach Survey (SNBS) program under a 1979 cooperative agreement between FWC and FWS. This is one initiative aimed at implementing the state’s responsibilities under the Florida Marine Turtle Protection Act (Section 370.12(1), FS) and the federal Recovery Plans under FWS for five species of threatened or endangered marine turtle – loggerhead (Caretta caretta), green (Chelonia mydas), leatherback (Dermochelys coriacea), hawksbill (Eretmochelys imbricata), and Kemp’s ridley (Lepidochelys kempii). Monroe County currently provides for specific protection of marine turtles, especially with respect to nesting activities (Policy 212.2.1; and see excerpts below). Monroe County Code Section 9.5-349(k)(6) provides for the restoration of suitable turtle nesting habitat and also prohibits the permitting of bulkheads, seawalls, riprap, and other shoreline hardening structures in beach areas known (or with potential) to be marine turtle nesting sites. Section 9.5-349(p) specifies setback requirements for development near nesting sites (e.g., maximum total setback of 100 feet from mean high water; see also Section 9.5-348(c)(5) regarding environmental design criteria for marine turtle beaches), in addition to mandating certain habitat restoration activities.

In addition to excerpts at the beginning of this section, Monroe County 2010 Comprehensive Plan Policy 207.8.9 provides:

Staff of the Monroe County Department of Environmental Resources and the Monroe County Department of Marine Resources shall attend routine DNR training sessions in marine turtle handling. This training shall qualify staff to handle marine turtles and their eggs, as appropriate, when they are observed during beach site inspections.

Policy 207.8.10 – By January 4, 1998, Monroe County shall identify undisturbed beach nesting habitat of marine turtles as priority acquisition sites for conservation purposes. Particular emphasis shall be placed upon acquisition of undisturbed beaches which are located within Improved Subdivisions. Acquisition shall be considered.
The County’s sea turtle protection ordinance, Sections 13-61 - 13-67, Monroe County Code, places restrictions on outdoor and indoor artificial lighting that apply to all development on or near nesting beaches. These requirements also apply to marina development (see sections 13-63 and 13-64, as does Section 9.5-391: Outdoor lighting, and Section 9.5-395: Waterfront lighting). (For Florida’s Model Lighting Ordinance for Marine Turtle Protection, see 62B-55, FAC.)

In addition, Section 13-62, Monroe County Code, which implements Comprehensive Plan Policy 212.2.1 and Policy 212.2.3 regarding shoreline setbacks, provides the following:

(b) **Prohibiting storage or placement of any material in the nesting area.** The storage or placement of any material such as but not limited to construction material, rip-rap, trash and debris, mulch or other organic material, landscaping material, fill, vehicles, or boats, that has potential to impede movement of hatchlings or adults between ocean and nesting areas, or that may cover existing nests or nesting sites is strictly prohibited.

(c) **Development.** All development shall be set back a minimum of fifty (50) feet from any area which serves as an active or potential nesting area for marine turtles. The fifty (50) foot setback will be measured from the landward toe of the most landward beach berm or from fifty (50) feet landward of mean high water (MHW), whichever results in the smaller total setback. The maximum total setback shall be one hundred (100) feet from MHW.

Requirements for educational signage may be needed to increase awareness with respect to marine turtles, especially near nesting beaches (Section 13-65(b)(4), Monroe County Code).

Park use is subject to certain restrictions also:

**Policy 1201.11.3** – Park management plans shall be designed so as to avoid and/or mitigate adverse impacts of park use upon sensitive natural resources. Such areas include, but are not limited to the following:
1. high quality undisturbed pineland and hammock vegetation;
2. documented habitat of species designated as rare or endangered by the state and federal governments;
3. undisturbed beach/berm (particularly turtle nesting beaches)....

Three species of marine turtle, the loggerhead, the green, and the leatherback, which routinely nest on Florida beaches, are the primary focus of the SNBS in Monroe County. For example, the Great White Heron National Wildlife Refuge, which stretches north of Marathon to north of Key West on the Gulf side and covers nearly 124,000 acres of islands and marine environment accessible only by boat (i.e., “the Backcountry”), provides habitat for loggerhead, green, leatherback, and Kemp’s
ridley turtles. Moreover, the Key West National Wildlife Refuge, which encompasses 2,019 acres of land on 26 islands and more than 300 square miles of open water, has both loggerhead and green turtle nests and is also said to serve as the only breeding site in the United States for the endangered hawksbill turtle.7 Another program, the Index Nesting Beach Survey (INBS) created in 1989, has coordinated detailed sea turtle nesting-trend monitoring in conjunction with the SNBS. Approximately 30 percent of Florida’s SNBS beach length is surveyed under INBS criteria.

Population
The map accompanying this section (Figure 19 in Appendix D), showing sea turtle nesting areas in Monroe County, is derived from information gathered by the SNBS program and available through the FWC-FWRI Marine Resources GIS Map Server (2004 data). Information on distribution, abundance, and seasonality of sea turtle nesting sites is collected by a statewide network of permit holders, including volunteers, academics, consultants, private conservation groups, and local, state, and federal agency personnel. Survey results are analyzed to evaluate and help reduce impacts to turtles and their nesting and foraging habitats from such human activities as recreation, coastal construction, and beach renourishment. Based on this data, recommendations for enhanced protection and land acquisition can be made. Lighting, debris, and nesting beach protection are the primary issues upon which public education efforts are centered. Current programs are focused on the loggerhead, as approximately 90 percent of the world’s largest loggerhead nesting population occurs in Florida, while leatherback and green turtle nesting populations are regionally significant.9 Green turtles and leatherbacks have overlapping but different nesting seasons and are not fully represented in the data. (For additional data limitations see http://ocean.floridamarine.org/mrgis/metadata/meta_full/meta.cfm?AXLID=9.)
Mortality
Figures 20 and 21 (see Appendix D) identify marine turtle stranding sites and density of strandings, respectively, in Monroe County. This information was obtained from the Florida Sea Turtle Stranding and Salvage Network, which has been collecting data on sick, injured, or dead sea turtles found in Florida since 1980. Both figures are based on information obtained from the FWC-FWRI Marine Resources GIS Map Server (1989-1999 data).

Live strandings are rescued and transported to authorized rehabilitation facilities. Strandings data includes date, species, location, carapace length and width, carcass condition, carcass disposition, and information on anomalies (e.g., entanglement, propeller damage, and fibropapillomas). In addition, some carcasses are collected by FWRI staff for gross or detailed necropsy. On a weekly basis, FWRI reports Florida strandings to the National Marine Fisheries Service as a part of a management plan designed to reduce the incidental take of turtles in the shrimp fishery. Table 2 provides details on the number of sea turtle strandings in the Florida Keys (1989-2005), including those determined to have vessel-related propeller wounds. Figure 22 (see Appendix D) shows the locations of those sea turtle strandings with propeller wounds, and Figure 23 (see Appendix D) indicates boat-impacted turtle strandings by species and by year (1989-2006).10
Table 2. Sea Turtle Strandings in the Florida Keys, including Those with Propeller Wounds, 1989-2005

<table>
<thead>
<tr>
<th>Year</th>
<th># of sea turtle strandings</th>
<th># of sea turtle strandings with propeller wounds</th>
<th>% occurrence of propeller wounds</th>
</tr>
</thead>
<tbody>
<tr>
<td>1989</td>
<td>76</td>
<td>11</td>
<td>14.5%</td>
</tr>
<tr>
<td>1990</td>
<td>98</td>
<td>16</td>
<td>18.3%</td>
</tr>
<tr>
<td>1991</td>
<td>68</td>
<td>16</td>
<td>23.5%</td>
</tr>
<tr>
<td>1992</td>
<td>56</td>
<td>9</td>
<td>16.1%</td>
</tr>
<tr>
<td>1993</td>
<td>91</td>
<td>17</td>
<td>18.7%</td>
</tr>
<tr>
<td>1994</td>
<td>55</td>
<td>14</td>
<td>25.5%</td>
</tr>
<tr>
<td>1995</td>
<td>73</td>
<td>18</td>
<td>24.7%</td>
</tr>
<tr>
<td>1996</td>
<td>95</td>
<td>9</td>
<td>9.5%</td>
</tr>
<tr>
<td>1997</td>
<td>112</td>
<td>16</td>
<td>14.3%</td>
</tr>
<tr>
<td>1998</td>
<td>89</td>
<td>14</td>
<td>15.7%</td>
</tr>
<tr>
<td>1999</td>
<td>97</td>
<td>8</td>
<td>8.2%</td>
</tr>
<tr>
<td>2000</td>
<td>151</td>
<td>24</td>
<td>15.9%</td>
</tr>
<tr>
<td>2001</td>
<td>169</td>
<td>24</td>
<td>14.2%</td>
</tr>
<tr>
<td>2002</td>
<td>106</td>
<td>22</td>
<td>20.8%</td>
</tr>
<tr>
<td>2003</td>
<td>148</td>
<td>29</td>
<td>19.6%</td>
</tr>
<tr>
<td>2004</td>
<td>105</td>
<td>27</td>
<td>25.7%</td>
</tr>
<tr>
<td>2005</td>
<td>99</td>
<td>19</td>
<td>19.2%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>1688</strong></td>
<td><strong>293</strong></td>
<td><strong>17.4%</strong></td>
</tr>
</tbody>
</table>

Table 2. Number of dead or debilitating sea turtles (i.e., sea turtle strandings) documented each year along the Florida Keys during 1989 through 2005, the number of those each year that were reported as having propeller wounds, and the percent occurrence of propeller wounds each year in those strandings. The propeller wounds may have been pre- or post-mortem, and were not necessarily the cause of death. By species, sea turtle strandings with propeller wounds included 214 loggerheads (778 total loggerhead strandings, 27.5% occurrence of propeller wounds), 66 green turtles (697 total green turtle strandings, 9.5% occurrence of propeller wounds), 4 hawksbills (94 total strandings, 4.3% occurrence of propeller wounds), one leatherback (31 total leatherback strandings, 3.2% occurrence of propeller wounds), one Kemp's ridley (19 total strandings, 5.3% occurrence of propeller wounds), and seven sea turtles that were not identified to species.

Source: FWC-FWRI.

v. Site Suitability

As set forth above in Section II.A.3., the criterion specified in the Monroe County Comprehensive Plan as “impact of boats on crocodiles, manatees, and turtles” relates to the “Conditional” siting zone. These Conditional shoreline segments include those areas where there is a moderate risk of natural resource impacts. Criteria include a water depth of four (4) feet (within 100 feet of parcel...
boundary, per maximum dock length); in addition, any or all of the following conditions, among others, may be present:

- The parcel is in an area of known American crocodile range.
- The parcel is in an area of high watercraft manatee mortality (within Monroe County).
- The parcel boundary includes a beach known to be used for sea turtle nesting.

Sites of sea turtle strandings with propeller wounds (see Figures 22 and 23 and Table 2) have not specifically been incorporated in the site suitability criteria because, as explained in Table 2, propeller wounds may have been pre- or post-mortem and may not have been the cause of death. Because cause of death cannot be determined with absolute certainty in each instance of sea turtle mortality, nesting beach location was used as an alternative criterion for the site suitability analysis.

2. Secondary Criteria
Additional factors for consideration in marina siting and expansion/modification decisions include shoreline modification and propeller dredging problem areas.

a. Shoreline Modification
The extent of shoreline modification necessary will have to be determined on a case-by-case basis as projects are submitted for permit approval under this Plan. Only minimal shoreline modification should be allowed (Section 212.4.3.4., Monroe County Comprehensive Plan). See, generally, Section 9.5-348 – Environmental design criteria for specific habitat types.

b. Propeller Dredging Problem Areas
The prop scarring analysis reveals some known problem areas and others that need more documentation. It appears that those damage areas that can be linked to a land point usually involve a group of commercial users (marinas) or a combination of commercial and residential users. There is an opportunity, through the Marina Siting Plan and the County’s marina operating permit program, when implemented, to improve current navigation through channel marking and education efforts. Education efforts could include environmental signage showing boating routes and directing boaters on how to avoid shallow areas. Moreover, FWC may designate manatee protection speed zones in the Upper Keys in the future, according to the Draft 2 Florida Manatee Management Plan.
mentioned above. This is anticipated to help reduce the incidence of prop scarring where such speed zones are in effect.

The three accompanying maps, Figures 24, 25, and 26 (see Appendix D), show the range of seagrass beds that have been scarred by boat propellers. Based on FWRI datasets from 1999, the maps indicate the extent of scarring as Light, Moderate, or Severe for the Upper, Middle, and Lower Keys.

C. Evaluation Method

1. Overview

In general terms, if one examines all aspects of habitat preservation, permit regulation, educational initiatives, and law enforcement activity already in place in Monroe County, it becomes readily apparent that multiple layers of protection currently exist with regard to preserving the County’s unique and valuable natural resources. It has been seen that this results in restrictions on the level of new development and redevelopment that could occur countywide. Much of the land in the Keys with potential for boating facilities of some kind has already been developed with those uses. New development and redevelopment must meet stringent regulatory standards for approval. It is anticipated that very few new marinas will be proposed in the future. Moreover, the trend for redevelopment or expansion of existing facilities may center on reconfiguration of existing slips and changes in use rather than the addition of slips, again due to such factors as physical constraints and existing regulatory limitations.

2. Boating Facilities in Monroe County

Figures 27 through 33 (see Appendix D) show the densities of the marina facilities and boat ramps in Monroe County. Figure 27 presents countywide marine facility density, Figure 28 shows marine facility density in the Upper Keys region, and Figure 29 depicts the density of boat ramps in that region. Figure 30 indicates marine facility density in the Middle Keys area with boat ramp density
there shown on Figure 31. The Lower Keys maps include Figure 32 with marine facility density and Figure 33 with boat ramp density.

Appendix D also contains Figure 34, outlining the incorporated areas of Monroe County; Figures 35 through 37 highlight the marine facility locations in unincorporated portions of Monroe County by region (facilities in the Upper, Middle, and Lower Keys are pictured in Figures 35, 36, and 37, respectively) and are the areas to which this Plan applies.

From a review of these maps, it is apparent that the Keys are characterized by several clusters or nodes of existing marine facilities. It is anticipated that marina expansion and/or modification will be preferred in these nodes. This is consistent with the mandate of Section 18-21.0041(b)6., FAC, that marina development in the Florida Keys shall be encouraged to locate in already developed or disturbed areas.

The maps represent a total of 484 marine facilities and 61 boat ramps countywide. Of this total, 270 have been identified as marinas. 137 marinas are located in the unincorporated areas of the County and the remaining 133 are found in the municipalities.

### 3. Site Suitability Analysis

The Monroe County Marina Siting Plan provides three categories or Site Suitability Zones defining Exclusionary, Preferred, and Conditional locations for new or expanded marinas with three (3) or more slips (Policy 212.4.1, Monroe County Comprehensive Plan). Facilities within each category will be required to meet certain criteria to minimize impacts on natural resources. Restrictions will be greatest in areas of highest risk to resources (Exclusionary locations) and least in areas of lowest risk (Preferred locations). The Plan does not affect single-family docks with fewer than three (3) slips or existing multi-slip facilities unless they are expanding.

It should be noted that the Monroe County marina siting criteria identified and described in this Plan have been approved by the Florida Department of Community Affairs. These criteria serve as the basis for the Site Suitability Zone maps, which are intended to be used for illustrative purposes only.
Land use designations and future land use categories, among other factors, are also likely to be considered during permit review processes. Moreover, commercial fishing areas are currently recognized in the Plan and Land Development Regulations through zoning classifications, but the trend toward mixed use in these areas and the potential for net loss of commercial fishing dockage is generally not addressed. Modifications to the Comprehensive Plan and LDRs now in progress are expected to address these issues.

A review of the marine facility and boat ramp maps accompanying this Plan reveals that the Keys are characterized by several clusters or nodes of existing marine facilities. It is anticipated that marina expansion and/or modification will be preferred in these nodes. Given the regulatory and physical factors operating in Monroe County to limit new and expanding marinas, however, the overall projected increase in the number of slips is expected to be low.

The maps showing the Site Suitability Zones are included in Appendix E.

a. Exclusionary Zones

"Exclusionary" shoreline segments include those areas with a water depth of less than four (4) feet mean low water (within 100 feet of a parcel boundary, per maximum dock length), and/or include existing conservation lands managed at a protection status of 1 as defined by the Florida Natural Areas Inventory (FNAI). This category includes parcels already acquired under the Florida Forever program and designated at a protection status of 1.

It should also be noted that lands adjacent and in close proximity to boat restricted areas, such as those in the Florida Keys National Marine Sanctuary (including, but not limited to, Wildlife Management Areas with access restrictions designated “no-access buffer zones,” “no-motor zones,” and “closed”), as well as those described in Monroe County Code Section 5.5-108(c) and (d) (“combustion engine exclusion” and “motorboats prohibited” zones), can be considered “Exclusionary” for the purposes of this Plan.

Managed Areas are depicted on three regional maps, Figures 38, 39, and 40 (see Appendix D), using the FNAI as the primary source for information on Florida's conservation lands. The Inventory
database includes boundaries and statistics for more than 1,600 federal, state, local, and private managed areas, all provided directly by the managing agencies. National parks, state forests, wildlife management areas, local and private preserves are examples of the managed areas included. The managed areas shapefile is updated quarterly; these maps were made from December 2006 data.

The Florida Forever lands are shown on three regional maps, Figures 41, 42, and 43 (see Appendix D). The FNAI maintains the boundaries of all Florida Forever land acquisition projects administered by the Florida Department of Environmental Protection, Division of State Lands, for the Florida State Board of Trustees. This file does not include projects from other land acquisition programs, such as Save Our Rivers or local initiatives. This shapefile is updated every two to four months; these maps are based on December 2006 data.

b. Preferred Zones

“Preferred” shoreline segments include those areas with a minimum water depth of four (4) feet (within 100 feet of a parcel boundary, per maximum dock length) and a minimal risk of natural resource impacts. Preferred areas are considered appropriate for all types of new or expanding marinas.

c. Conditional Zones

“Conditional” shoreline segments include those areas where there is a moderate risk of natural resource impacts. Criteria include a water depth of four (4) feet (within 100 feet of parcel boundary, per maximum dock length); in addition, any or all of the following conditions, which have been described in detail in other sections of this Plan, may be present:

- The land is managed at a protection status of 2 or 3 as defined by the FNAI.
- The parcel boundary includes an area of continuous seagrass.
- The parcel is in an area of known American crocodile range.
- The water quality of an adjacent canal is listed as poor.
- The parcel boundary includes a beach known to be used for sea turtle nesting.
- The parcel is in an area of high watercraft manatee mortality (within Monroe County).
- The parcel is listed by the Florida Forever Board of Trustees as lands proposed and approved by the state’s Acquisition and Restoration Council for acquisition because of outstanding natural resources.
D. The Screening Process

It is important to reiterate that the marina siting guidance in this Plan applies to unincorporated Monroe County only and shall not supersede, preempt, or nullify applicable federal, state, or municipal rules, regulations, or requirements that apply. Any entity intending to develop or renovate a marina within a municipality’s boundaries must consult that municipality’s comprehensive plan and land development regulations. It is the applicant’s responsibility to obtain the necessary permits from all applicable state and federal regulatory agencies prior to issuance of a County permit (Policy 212.4.7, Comprehensive Plan). Compliance with the provisions of this Plan does not imply approval of other permitting requirements.

The approach recommended in this Plan is criteria-based. Potential sites for new marinas or expansions/modifications of existing marinas will have to be made on a case-by-case basis after agency evaluations determine whether environmental, land use, and site planning requirements will be met. This Plan presents an attempt to satisfy state-agency concerns about natural resource protection, while beginning to address some larger issues impacting the County’s waterfront character.

E. Siting Policy

New or expanding marine facilities shall meet all of the criteria in this Plan. Further, all new or expanding boat facilities must provide documentation to Monroe County Growth Management Division describing how each site will satisfy these criteria. Once it has been established that a prospective site has been approved by the relevant state and federal permitting agencies, it must then meet the requirements of the Monroe County Marina Siting Plan. In addition:

1. The provisions of this Plan shall not preempt or nullify any other applicable federal, state, or local regulations that apply.

2. For the purposes of the Monroe County Marina Siting Plan, existing boat facilities shall be defined as those facilities which have received all active and required permits and are legally authorized, constructed, and in operation as of the effective date of this Plan. All legally existing boat facilities shall be allowed to continue with the existing use, and may renovate according to permitting guidelines, provided there is no change in facility size, including no increase in the
number of wet or dry slips, unless the facility meets the expansion criteria as provided in the Monroe County Marina Siting Plan.

F. Mitigation

Section 62-312.450, FAC, sets forth the mitigation provisions under DEP’s dredge and fill requirements related to permitting marina in the Keys:

Notwithstanding any of the prohibitions contained in this rule, the Department shall consider mitigation pursuant to Section 373.414(1)(b), F.S., and applicable Department rules to determine whether the project may otherwise be permissible. In any application for mitigation, the applicant shall demonstrate before issuance of any permit for the construction of the intended project that the proposed mitigation will be effective. Mitigation shall not be permitted where it appears after due considerations that construction of the intended project will cause irreplaceable damage to the site.

Monroe County Comprehensive Plan Policy 212.5.4.: A variance procedure, separate from that set forth in the current Land Development Regulations Section 9.5-523, shall be included in the Land Development Regulations to allow the minimum relaxation of the above restrictions which is necessary to provide the upland owner reasonable access to adjacent waters for recreational use. That variance procedure shall incorporate, among other criteria, requirements that such structures not be inconsistent with community character, not interfere with public recreational uses in or on adjacent waters, and pose no navigational or safety hazard.

Monroe County 2010 Comprehensive Plan Policy 212.4.3 states that marinas are to be located in areas with maximum physical advantages and “where no unreasonable or excessive impacts are foreseen on marine resources. Marina construction shall not involve destruction of any significant marine wetlands or seagrass beds.”

It should be noted that the Florida Department of Environmental Protection uses the Uniform Mitigation Assessment Method (UMAM; see Section 62-345, FAC), which provides a standardized procedure for assessing the functions provided by wetlands and other surface waters. This procedure can also be used to determine the amount by which those functions are reduced by a proposed impact and the amount of mitigation needed to offset the anticipated loss. However, UMAM does not assess whether the adverse impact meets other criteria for issuance of a permit, or the extent to which such impacts may be approved.
In Florida, the general standard is that a project may request a possible variance if a pressing need is demonstrated and if the facility is used by the general public. If a variance is requested and the project does not meet submerged aquatic vegetation/seagrass requirements then adequate mitigation and restoration of seagrass is required after minimization. If adequate minimization is not possible or mitigation is not expected to be successful, the variance shall be denied.

In addition, Monroe County Code Section 9.5-346 describes the relationship between mitigation standards and the County’s environmental land management and restoration fund.

Mention should also be made of Big Pine Key and No Name Key (of which roughly 70 percent is in public ownership with 66 percent managed for conservation). The Habitat Conservation Plan for the Florida Key Deer and other protected species serves as the basis for a mitigation plan with respect to incidental take permits.

G. Conclusion

Monroe County has been experiencing the loss and redevelopment of waterfront marine facilities and their associated businesses and employment. The current trends are conversion of waterfront to non-water dependent uses and privatization of waterfront, reducing public water access. The Monroe County Board of County Commissioners acknowledged the urgent need to address this loss and adopted Interim Development Ordinance (IDO) No. 017-2005 in July 2005, imposing a moratorium on the redevelopment and conversion of marine facilities, including commercial marinas and the working waterfront.

In a related County-directed initiative, a Marine Management Strategic Plan was submitted to the County in January 2006. Prepared by the South Florida Regional Planning Council and the Catanese Center for Urban and Environmental Solutions at Florida Atlantic University, this plan provides a comprehensive strategy with action steps...
for protecting and preserving the County’s working waterfronts. The BOCC accepted the findings of this report in March 2006. In June 2006, the BOCC directed the County to extend the IDO and adopt amendments to the 2010 Comprehensive Plan and Land Development Regulations. The IDO is set to expire on July 10, 2007, or upon the effective date for amendments to the Comprehensive Plan and LDRs, whichever occurs first.

In response to the IDO extension and as a follow-up to the earlier work, Monroe County retained the SFRPC and CUES to enhance the understanding of existing water dependent uses by compiling a Working Waterfronts Preservation Master Plan. The Master Plan is comprised of this Marina Siting Plan, accompanied by an extensive inventory of the boating-related facilities identified in the first phase of the project, together with amendments to the Comprehensive Plan and LDRs aimed at preserving and retaining the County’s recreational and commercial working waterfronts. Both the Marina Siting Plan and the marina survey are required by Objective 212.4 of the Comprehensive Plan.

It has been noted that a complex set of local, state, and federal laws and regulations currently exists to guide land development and natural resource protection in Monroe County. This extensive framework has resulted in limiting marina siting and expansion in many areas. The Marina Siting Plan has compiled the legal authority upon which siting decisions are initially based due to constraints of water depth and protected status of environmentally sensitive habitats. Further direction is provided by the 2010 Comprehensive Plan, which lists siting criteria for new or expanding marina facilities with three (3) or more slips:

1. benthic vegetation and faunal assemblages;
2. adequacy of circulation and tidal flushing;
3. access to deep water through existing channels of adequate depth; and
4. impact of boats on crocodiles, manatees, and turtles.

Other secondary factors to be considered on a case-by-case basis include:

1. minimal shoreline modification necessary and
2. location of propeller dredging problem areas.
Additional factors that may be considered include the quality and size of upland areas and degree of alteration necessary, and the ability to restore and enhance marina resource values at sites subject to past alteration (Policy 212.4.3, Comprehensive Plan).

Site suitability is based on these guidelines and, to the extent data currently exist, the criteria have been mapped in GIS. Maps with siting suitability areas/zones indicated countywide have been based on these criteria. The Marina Siting Plan provides three categories or Site Suitability Zones defining Preferred, Conditional, and Exclusionary locations for new or expanded marinas (Policy 212.4.1, Monroe County Comprehensive Plan). Facilities within each category will be required to meet certain criteria to minimize impacts on natural resources. Restrictions will be greatest in areas of highest risk to resources (Exclusionary locations) and least in areas of lowest risk (Preferred locations). The Plan does not affect single-family docks with fewer than three (3) slips or existing multi-slip facilities unless they are expanding.

As noted, the Monroe County Marina Siting Plan is but one component of the Working Waterfronts Preservation Master Plan, a Monroe County initiative designed, in large part, to address concerns and respond to the mandates of both the 2010 Comprehensive Plan and the 2005 Waterfront and Waterway Improvement Act, Ch. 342, FS. Stakeholder involvement has been solicited throughout the process, as this multi-faceted waterfront protection strategy has evolved. It may be stated that the goal of this overall effort is to preserve and retain a sustainable number of public waterfront access points, together with recreational and commercial fishing industries and related support facilities, at various points throughout the County. By taking these ambitious steps, Monroe County is striving to maintain the marine industry and its various components, continuing its commitment to the history and culture that makes the Keys unique, while protecting a valuable resource that is essential to the quality of life enjoyed by residents of and visitors to Monroe County and the Florida Keys.

**H. Recommendations**

The recommendations highlighted in this section are additional steps that Monroe County may take to protect, preserve, and enhance public water access and boating-related uses. Additional, detailed
recommendations are presented in documents prepared during the first phase of this work and can be found on pages 38-54 of the Final Report of the Monroe County Marine Management Strategic Plan (available online at http://www.sfrpc.com/mcmmsp.htm).

During implementation of this Marina Siting Plan, it may be most economical and practical for the County to focus on expansions of and/or modifications to facilities located within the existing commercial nodes or clusters of water dependent marine-related uses throughout the Keys. This recommendation is consistent with the requirement of Section 18-21.0041(b)6., FAC, that marina development in the Florida Keys shall be encouraged to locate in already developed or disturbed areas.

The County could consider and support efforts to link public water access points and/or commercial nodes of boating-related uses throughout the Keys using a variety of economic and commercial activities (e.g., shoreline restaurants and attractions, boat tours, ecotours) and transportation modes (e.g., bus, water taxis, bicycles, boats). Public/private partnerships could be created to implement this recommendation. In addition, residents and visitors should be made aware of these access points through improvements in signage and information about public transportation to these destinations, which may offer a mix of uses.

The County could proactively plan for future opportunities for new public recreational and educational experiences on public lands, causeways, and public parks abutting the shoreline. Public lands include local, state, and federal access points. A countywide bond issue could be used as a source of funding to improve existing County parks and public boat ramps to enhance recreational boating access. In addition, infrastructure in these areas should accommodate existing and future public needs. The County may consider recommending that the improvements suggested in DEP’s Recreational Boating Access in Florida State Parks study (January 2006; available online at http://www.dep.state.fl.us/parks/planning/forms/boating%20report%2012-20-05.pdf) be implemented, as appropriate, in the state parks located in Monroe County.

In furtherance of assessing boater needs, the County may decide to conduct a countywide boat use and traffic pattern study to gather additional information on user needs and travel routes (points of
origin and destination). Such a study should describe the volume and types of boats, seasonal variations of boating patterns, and the types and distribution of boating activities. The study could include partnering with the Florida Department of Transportation to estimate the volume of trailerable boats entering Monroe County to help characterize boat use and the capacity of the Keys to accommodate and provide services to boaters in general. In addition, Draft 2 of FWC’s *Florida Manatee Management Plan* may necessitate the collection of boat use and characterization data for the analysis of whether manatee protection speed zones should be established for the Upper Keys.

The results of the boater needs assessment (recommended immediately above) could assist the County in developing a projection of marina needs. It is worth noting that Section 18-21.0041(b)8., FAC, requires permit applicants to provide documentation to show there is an economic demand for the number of slips being requested if the number is inconsistent with the County’s projections of marina needs.

The County should consider following up on the recommendations of the Livable CommuniKeys plans as they relate to and are consistent with this Marina Siting Plan. For example, the Livable CommuniKeys Plan for Tavernier Creek to Mile Marker 97 recommends prohibiting the permitting of new marinas in the planning area, while encouraging the redevelopment of existing marinas. This CommuniKeys Plan also recommends improving and expanding existing water access, providing additional shoreline access for residents, and protecting the existing water related and water dependent uses (e.g., marinas, restaurants, commercial fishing), while allowing rebuilding in the footprint if these uses are destroyed. Moreover, the specific recommendations of the master plan for Stock Island and Key Haven could be implemented in conjunction with this Marina Siting Plan.

The County could consider a timetable for future review and updating of this plan after it is formally approved by the BOCC and adopted by reference in the Comprehensive Plan.

Recommendations of the North Carolina Waterfront Access Study Committee Final Report (dated April 13, 2007) could be considered and implemented. For example, allowing present or current use value taxation for working waterfronts would be a means to lower property taxes, and a working
waterfronts trust fund, or similar set-aside of state funds, could assist in the retention and enhancement of working waterfronts.

Finally, additional initiatives should be made to foster intergovernmental coordination among stakeholders representing all local, state, and federal agencies, along with other entities, involved in managing and protecting the Keys’ unique natural resources, while guiding the future development of Monroe County. Improved communication at all levels should help ensure sound decision-making in the effort to balance competing needs of current and future water access, while preserving valuable natural resources for the enjoyment of current and future generations.

ENDNOTES

1 Available online at http://www.sfrpc.com/mcmmsp.htm.

2 The Florida Department of Community Affairs approved the application of these siting criteria per email communication from Julia Trevarthen, Principal Investigator, South Florida Regional Planning Council, dated Dec. 1, 2006.

3 *Conserving Florida’s Seagrass Resources: Developing a Coordinated Statewide Management Program* (FWC 2003). 59 pp. Available online at http://research.myfwc.com/features/view_article.asp?id=23185. In addition to providing key recommendations for an effective seagrass management program in Florida, this document presents a useful summary of the environmental and economic value of seagrass habitats, among other resources.


7 Ibid.

8 Based on information from Monroe County staff, the U.S. Fish and Wildlife Service has recently been consulting on permits for boat slips in the Upper Keys using the “Manatee Key” protocol found on the U.S. Army Corps of Engineers website at http://www.saj.usace.army.mil/permit/Endangered_Species/Manatee%20Update%20Aug%202005/contents_updAug05.htm, as well as the FWC-FWS “Interim II” Process for Evaluating New Watercraft Access in Florida (see http://www.saj.usace.army.mil/permit/Endangered_Species/Manatee%20Update%20Aug%202005/Manatee%20Key_Interim%20II/Interim%20II%202005.pdf). These protocols are purportedly based on the fact that Monroe County (1) is not required to have a Manatee Protection Plan in place, (2) does not have manatee “protection measures” in place [defined as state-mandated manatee protection speed zones (see Sec. 68C-22.001 *et seq.*, FAC), signage, and law enforcement], and (3) is a county in which watercraft-related manatee mortality exceeds the annual average of 0.5 deaths.
per year for the last 10-year period. However, it is important to note that Monroe County does have boating restricted zones in place for resource protection in areas such as the Florida Keys National Marine Sanctuary (e.g., the Wildlife Management Areas have access restrictions designated as “no-access buffer zones,” “no-motor zones,” and “closed” areas; see 15CFR922.163-922.164 and Appendices II through VII for the complete listing of restrictions, including “areas to be avoided”), as well as areas delineated in Monroe County Code Sec. 5.5-108(c) and (d) (“combustion engine exclusion” and “motorboats prohibited” zones). The County also distributes manatee educational materials and maintains a law enforcement presence on the water.

In addition, as noted in the text, the FWC has recently issued Draft 2 of its Florida Manatee Management Plan, which could result in new manatee protection speed zones being established in the Upper Keys in the near future, depending on collection of both boating and manatee data.


The data and information provided in Table 2 and Figures 22 and 23 were provided in response to an information request made during preparation of this Marina Siting Plan. Special thanks are extended to Dr. Allen M. Foley, Wildlife Biologist with the FWC-FWRI, and his colleague, Ms. Rhonda A. Bailey, Sea Turtle Stranding Coordinator, also with FWC-FWRI.
LITERATURE REVIEWED


Florida Fish and Wildlife Research Institute. 2005. FWC Conducts Biological Status Review of theFlorida Manatee Available on the web at:

Florida Keys National Marine Sanctuary. Available online at

Florida Keys National Marine Sanctuary Final Management Plan. Available online
http://floridakeys.noaa.gov/regs/5yearreview/welcome.html.

Florida Statutes (various sections). Available online at http://www.leg.state.fl.us/Statutes.


Monroe County. 2006. Habitat Conservation Plan for Florida Key Deer (Odocoileus virginianus clavium) and other Protected Species on Big Pine Key and No Name Key, Monroe County, Florida. 86 pp. Available online at http://monroecofl.virtualtownhall.net/Pages/MonroeCoFL_Planning/pdfs/BPK%20HCP%20Final%202006.


Other Florida County Manatee Protection Plans were also reviewed and are available online at http://myfwc.com/manatee/mpp/mpp_links.htm. Plans reviewed included:

Lee County
Palm Beach (final draft)
Volusia County
APPENDICES
APPENDIX A

SELECTED STATE AND FEDERAL PERMIT REQUIREMENTS

Note: The Volusia County Manatee Protection Plan provides an excellent compilation of permit requirements for the siting of boating facilities. This summary is available online at: http://www.volusia.org/environmental/natural_resources/manatees/phaseII/Attachment_B.pdf. The permit applicant is advised to check each regulation, as applicable, for the most recent revisions.

In addition, current guidance from state and federal agencies is excerpted below for informational purposes. These provisions relate to boat facility siting in the context of manatee protection. However, it is anticipated that the agencies will refer to these materials when permit applications for marinas in Monroe County are submitted. As FWC has stated in Draft 2 of its Florida Manatee Management Plan, the establishment of manatee protection speed zones in the Upper Keys is expected within the next few years, dependent upon data collection pertaining to boat use and considerations of manatee habitat and mortality.
FWC-FWS Interim II

Process for evaluating new watercraft access in Florida

Introduction

The Florida Fish and Wildlife Conservation Commission (FWC) and U.S. Fish and Wildlife Service (Service) recognize the need to have a similar approach to evaluating watercraft access projects in Florida. The following describes how those reviews will be carried out and coordinated between the State and Federal wildlife agencies.

Background

Manatees have been protected by Florida law since 1892. Existing State rules for coastal construction and the use of State-owned submerged lands carry out these protections. Manatees are also protected under the Marine Mammal Protection Act (MMPA) as well as the Endangered Species Act (ESA). The incidental take of these marine mammals must meet the requirements of the MMPA as well as the ESA; however, regulations have not been developed pursuant to the MMPA that allow the incidental take of manatees at this time. Until such regulations are developed under MMPA, the Service cannot allow incidental take for manatees under ESA. The most significant known cause of manatee deaths and injuries is collisions with watercraft. Intensive coastal development throughout Florida poses a long-term threat to the manatee. As partners in the ongoing efforts to recover the manatee, one approach for the Service and FWC to address this threat is to review and comment on applications for Federal and State permits, respectively, for watercraft access projects in manatee habitat areas and to minimize their impacts on the species. Under section 7 of the ESA, the Service annually reviews hundreds of permit applications submitted to the U.S. Army Corps of Engineers for construction projects in waters and wetlands that include manatees or are adjacent to manatee habitat through the consultation process. FWC provides similar reviews to environmental permitting programs at the State level (Florida Department of Environmental Protection, water management districts or county governments). The Service and FWC believe there is a need to implement a collaborative review process that addresses Federal and State permit issues as they relate to manatees.

To that end, FWC and the Service believe that county Manatee Protection Plans (MPPs) are the appropriate tool with which to evaluate permits providing watercraft access in counties where MPPs are required. In addition to reducing the number of watercraft-related manatee mortalities and protecting manatee habitat, MPPs are designed to promote boating safety and improve enforcement of speed zones, to increase public awareness of manatees and their environment, and to minimize the amount of interaction between boats and manatees.

Manatee Protection Plans and an Interim Review Process

To date, ten counties (Brevard, Citrus, Collier, Duval, Indian River, Lee, Martin, Miami-Dade, St. Lucie and Sarasota counties) have completed their MPPs, which the State of Florida has approved. Implementation of a State-approved MPP will have met State standards and addressed Service concerns in maximizing benefits to the manatee while providing regulatory certainty to the public. In the counties with approved MPPs, Service reviews are coordinated with the State
to ensure consistent application of the MPP provisions. If both the State and Service agree upon the adequacy of the MPP, there should be little or no difference between the State and Service’s position on a particular project. An added benefit to applicants in counties with approved MPPs is that, if their projects are consistent with the MPP, their permit reviews will be conducted more quickly and with predictable outcomes from both the State and Federal reviews.

There is also a need to implement a framework for a permit review process for counties that are required to develop MPPs, but have yet to complete them, as well as for those counties that are currently not required to implement MPPs. Presently, there are three remaining counties (Broward, Palm Beach, and Volusia) of the required 13 that have plans in varying stages of development. With some exceptions (see Table), the Service and FWC will conduct a comprehensive site-specific analysis for each multi-slip project proposing watercraft access in the counties without MPPs in place (as described above). Once the remaining three counties finalize their MPPs and they are approved by FWC with concurrence from the Service, they can be used in the permit review process instead of the comprehensive site-specific review that requires a longer timeframe in the permit process.

While in some cases this framework for reviewing permit applications for watercraft access is considered an interim process, in reality, there are portions of the process that are relatively permanent. For multi-slip projects in counties with approved MPPs in place, the evaluation process should not change, unless the status of the approved plans change. For example, counties where approved plans are subsequently deemed inadequate and approval is rescinded, multi-slip projects will undergo comprehensive site-specific evaluations until the plans are amended and approved. Also, multi-slip projects in counties required to have MPPs, but do not, will undergo comprehensive site-specific evaluations until they complete their MPPs.

Implementing an interim permit review process can result in shortened time frames for completing our analysis and overall permit evaluation without any reduction in protection for manatees. The interim permit review process takes advantage of MPPs and other manatee protection measures (like speed zones and enforcement for counties not required to have MPPs) to reduce unnecessary delays and expense in the permitting of watercraft access facilities. We believe that these plans and measures provide a sufficient manatee protection framework to accommodate increases in watercraft access and, more importantly, identifies the specific circumstances and locations where incidental take of manatees from new facilities is not reasonably certain to occur.

The Table accompanying this guidance is available online at:

Lawrence C. Evans  
Chief, Regulatory Division  
U.S. Army Corps of Engineers  
Post Office Box 4970  
Jacksonville, Florida 32232-0019  

Attention: Stuart L. Santos  

Dear Mr. Evans:  

This letter serves to amend the Fish and Wildlife Service’s (Service) July 12, 2005, letter to the Army Corps of Engineers (Corps) concurring that implementation of the 2005 Manatee Key and its attachments are not likely to adversely affect the Florida manatee (Trichechus manatus) or its critical habitat. This consultation has been assigned Service Log Number 4-1-05-PL-12600.  

Our July 12, 2005, concurrence letter stated that for all future applications analyzed with the July 2005 version of the Manatee Key in which the Corps reached a "may affect, not likely to adversely affect" determination for manatees and/or their critical habitat, the Service concurred with those determinations. As originally intended, the Service would not receive permit applications from the Corps for single-family docks since these types of facilities are already covered by the consultation on the manatee key.  

However, an unintended outcome has arisen from this letter for multi-slip facilities that reach a "may affect, not likely to adversely affect" determination using the manatee key. Based on our concurrence letter, the Corps does not have to forward to the Service applications for multi-slip facilities with this effect determination which is inconsistent with the manatee key. The Service intends to conduct evaluations of all multi-slip facilities regardless of their respective effect determinations. The Corps has agreed to forward such applications to the Service consistent with the manatee key.  

Therefore, in order for the intent of our letter to comply with the implementation of the 2005 Manatee Key and to maintain consistency with Interim II, we have revised the following paragraph to read as follows:  

We have examined the July 2005 version of the Manatee Key along with its attachments and agree with its structure and content. Therefore, all future applications for single-family dock facilities analyzed with the July 2005 version of the Manatee Key are to be evaluated consistent with the Service's criteria.
of the Manatee Key in which the Corps reaches a “may affect, not likely to adversely affect” determination with respect to the manatee and/or its designated critical habitat, the Service hereby concurs with those determinations in accordance with 50 CFR 402.14(b).1. As such, the January 2001 version of the Manatee Key and its attachments, as well as other earlier versions of the Manatee Key, are no longer applicable as regulatory planning tools.

This amended concurrence letter fulfills the requirements of section 7 of the ESA and no further action is required. If modifications are made to the project, if additional information involving potential effects to listed species becomes available, or if a new species is listed or new critical habitat is designated that may be affected by the project, then reinitiation of consultation may be necessary.

If you have any questions or concerns about this consultation, please feel free to contact Kalani Cairns of this office at 772-562-3909, extension 240.

Sincerely yours,

James J. Slack
Field Supervisor
South Florida Ecological Services Office

cc:
Service, Atlanta, Georgia (David Flemming)
Service, Jacksonville, Florida (David Hanks)
Service, Panama City, Florida (Gail Carmody)

The full text of the USACE Manatee Key is available online at:

http://www.saj.usace.army.mil/permit/Endangered_Species/Manatee%20Update%20Aug%202005/Manatee%20Key_Interim%20II/Manatee%20Key%202005%20Final.pdf.
APPENDIX B

FLORIDA KEYS NATIONAL MARINE SANCTUARY MAP
APPENDIX C

MONROE COUNTY ZONING AND LAND USE

Policy 101.4.21
Monroe County hereby adopts the following density and intensity standards for the future land use
categories, which are shown on the Future Land Use Map and described in Policies 101.4.1 -
101.4.17: [9J-5.006(3)(c)7].

[See chart on next page.]
<table>
<thead>
<tr>
<th>Future Land Use Category and Corresponding Zoning</th>
<th>Allocated Density (per acre)</th>
<th>Maximum Net Density (per buildable acre)</th>
<th>Maximum Intensity (floor area ratio)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture (A) (no directly corresponding zoning)</td>
<td>0 du 0 rooms/spaces</td>
<td>N/A</td>
<td>0.20-0.25</td>
</tr>
<tr>
<td>Airport (AD) (AD zoning)</td>
<td>0 du 0 rooms/spaces</td>
<td>N/A</td>
<td>0.10</td>
</tr>
<tr>
<td>Conservation (C) (CD zoning)</td>
<td>0 du 0 rooms/spaces</td>
<td>N/A</td>
<td>0.05</td>
</tr>
<tr>
<td>Education (E) (no directly corresponding zoning)</td>
<td>0 du 0 rooms/spaces</td>
<td>N/A</td>
<td>0.30</td>
</tr>
<tr>
<td>Industrial (I) (I and MI zoning)</td>
<td>1 du 0 rooms/spaces</td>
<td>2 du</td>
<td>0.25-0.60</td>
</tr>
<tr>
<td>Institutional (INS) (no directly corresponding zoning)</td>
<td>0 du 3-15 rooms/spaces</td>
<td>N/A 6-24 rooms/spaces</td>
<td>0.25-0.40</td>
</tr>
<tr>
<td>Mainland Nature (MN) (MN zoning)</td>
<td>0.01 du 0 rooms/spaces</td>
<td>N/A</td>
<td>0.10</td>
</tr>
<tr>
<td>Military (M) (MF zoning)</td>
<td>6 du 10 rooms/spaces</td>
<td>12 du 20 rooms/spaces</td>
<td>0.30-0.50</td>
</tr>
<tr>
<td>Mixed Use/Commercial (MCF) (SC, UC, DR, RV, and MU zoning)</td>
<td>1-5 du 5-15 rooms/spaces</td>
<td>6-18 du 10-25 rooms/spaces</td>
<td>0.10-0.45</td>
</tr>
<tr>
<td>Mixed Use/Commercial Fishing (MCF) (CFA, CFV, CFSD zoning)</td>
<td>Approx. 3-8 du 0 rooms/spaces</td>
<td>12 du 0 rooms/spaces</td>
<td>0.25-0.40</td>
</tr>
<tr>
<td>Public Facilities (PF) (no directly corresponding zoning)</td>
<td>0 du 0 rooms/spaces</td>
<td>N/A</td>
<td>0.10-0.30</td>
</tr>
<tr>
<td>Public Buildings/Grounds (PB) (no directly corresponding zoning)</td>
<td>0 du 0 rooms/spaces</td>
<td>N/A</td>
<td>0.10-0.30</td>
</tr>
<tr>
<td>Recreation (R) (PR zoning)</td>
<td>0.25 du 2 rooms/spaces</td>
<td>N/A</td>
<td>0.20</td>
</tr>
<tr>
<td>Residential Conservation (RC) (OS and NA zoning)</td>
<td>0-0.25 du 0 rooms/spaces</td>
<td>N/A</td>
<td>0-0.10</td>
</tr>
<tr>
<td>Residential Low (RL) (50%, SR, and SR-L zoning)</td>
<td>0.25-0.50 du 0 rooms/spaces</td>
<td>5 du N/A</td>
<td>0.20-0.25</td>
</tr>
<tr>
<td>Residential Medium (RM) (IS zoning)</td>
<td>approx. 0.5-8 du (1 du/lot) 0 rooms/spaces</td>
<td>N/A</td>
<td>0</td>
</tr>
<tr>
<td>Residential High (RH) (IS-D, IUR, UM, and UR) (IS zoning)</td>
<td>approx. 3-16 du (1-2 du/lot) 10 rooms/spaces</td>
<td>12 du 20 rooms/spaces</td>
<td>0</td>
</tr>
</tbody>
</table>

Notes:
(a) "N/A" means that maximum net density bonuses shall not be available.
(b) The allocated densities for submerged lands, salt ponds, freshwater ponds, and mangroves shall be 0 and the maximum net density bonuses shall not be available.
(c) The allocated density for CFV zoning shall be 1 dwelling unit per lot and the maximum net density bonuses shall not be available.
(d) Maximum net density bonuses shall not be available to the SS district.
(e) The allocated density for IS-D and URM zoning shall be 2 and 1 dwelling units per lot, respectively and the maximum net density bonuses shall not be available.
(f) The maximum net density for the UR district shall be 25 for units where all units are designated as affordable housing.
(g) For properties consisting of hammocks, pine forests or disturbed wetlands within the Mixed Use/ Commercial and Mixed Use/ Commercial Fishing land use categories, the floor area ratio shall be 0.10 and the maximum net residential density bonuses not apply.
(h) Uses under the categories of Agriculture, Education, Institutional, Public Facilities, and Public Buildings and Uses, which have no directly corresponding zoning, may be incorporated into new or existing zoning districts as appropriate.
In addition, Monroe County has the following zoning designations in place to help implement the 2010 Comprehensive Plan.

**Urban Commercial District (UC)** designates areas for high-intensity commercial uses intended to serve retail sales and service, professional services and resort activity needs at a regional or multiple planning area scale. This district should be established at discrete nodes along U.S. 1 and should be designed to serve the needs of both residents and visitors.

**Urban Residential District (UR)** provides areas appropriate for high-density residential uses designed and intended for occupancy by persons gainfully employed in the Florida Keys and creates areas to provide for vacation rental use of detached dwellings, duplexes, and multifamily dwellings. This district should be established at or near employment centers.

**Urban Residential Mobile Home District (URM)** recognizes the existence of established mobile home parks and subdivisions, but does not create new such areas, and provides for such areas to serve as a reservoir of affordable and moderate-cost housing in Monroe County.

**Urban residential Mobile Home-Limited District (URML-L)** recognizes the existence of parks and subdivisions which consist exclusively, or almost exclusively, of mobile homes, but does not create new such areas, in order to permit property owners in such areas to replace or establish mobile homes below base flood elevation as authorized by certified federal regulations.

**Sub Urban Commercial District (SC)** establishes areas for commercial uses designed and intended primarily to serve the needs of the immediate planning area in which they are located. The district should be established at locations convenient and accessible to residential areas without use of U.S. 1.

**Sub Urban Residential District (SR)** establishes areas of low to medium density residential uses characterized primarily by single-family detached dwellings.

**Sub Urban Residential District – Limited (SRL)** establishes areas of exclusive low to medium density residential uses.

**Sparsely Settled Residential District (SS)** establishes areas of low density residential development where the predominant character is native or open space lands.

**Native Area District (NA)** establishes areas that are undisturbed, with the exception of existing solid waste facilities, and because of their sensitive environmental character should be preserved in their natural state.
Mainland Native District (MN) protects the undeveloped and environmentally sensitive character of lands within Monroe County that are located on the mainland of the Florida Peninsula.

Offshore Island District (OS) establishes areas that are not connected to U.S. 1 as protected areas, served by cisterns, generators, and other self-contained facilities.

Improved Subdivision District (IS) accommodates the legally vested residential development rights of the owners of lots in subdivisions that were lawfully established and improved prior to the adoption of this chapter. For the purpose of this section, improved lots are those which are served by a dedicated and accepted existing road of porous or non porous material, that have a Florida Keys Aqueduct Authority approved potable water supply, and that have sufficient uplands to accommodate the proposed use in accordance with the required setbacks. This district is not intended to be used for new land use districts of this classification within the county.

Destination Resort District (DR) establishes areas suitable for the development of planned tourist centers providing on-site residential, recreational, commercial, and entertainment facilities of a sufficient magnitude to attract visitors and tourists for tenancies of three or more days. Destination resorts are contemplated to contain (1) single-family homes as of right, or (2) one or more resort hotels as the principal use, to utilize the water-related natural resources of the Keys, and to be located on sites of at least ten gross acres where the location and character of the site and the development itself and amenities are such that off-site impacts will be reduced.

Recreational Vehicle District (RV) establishes areas suitable for the development of destination resorts for recreational vehicles. This district contemplates developments that provide on-site recreational, commercial, and resort facilities.

Commercial Fishing Area District (CFA) establishes areas suitable for uses which are essential to the commercial fishing industry, including sales and service of fishing equipment and supplies, seafood processing, fishing equipment manufacture and treatment, boat storage, and residential uses.

Commercial Fishing Village District (CFV) establishes areas where limited commercial fishing activities, including the mooring of boats, the non-mechanized off-loading of catches, the storage of a limited number of traps, and residential uses, can be integrated.

Commercial Fishing Special District (CFS) establishes areas where various aspects of commercial fishing have been traditionally carried out while prohibiting the establishment of additional commercial fishing uses which are inconsistent with the natural environment, immediate vicinity, or community character of the area.
Mixed Use District (MU) establishes or conserves areas of mixed uses, including commercial fishing, resorts, residential, institutional, and commercial uses, and preserves these as areas representative of the character, economy, and culture of the Florida Keys.

Industrial District (I) establishes areas that are suitable for the development of industrial and manufacturing warehousing and distribution uses.

Maritime Industries District (MI) establishes and conserves areas suitable for maritime uses such as ship building, ship repair, and other water-dependent manufacturing and service uses.

Military Facilities District (MF) establishes areas for military facilities and installations and ensures to the maximum extent allowed by federal law, that all development activity within such areas is consistent with the Monroe County Comprehensive Plan.

Airport District (AD) prohibits the development of residential, educational, or other uses which are characterized by the regular presence of large numbers of people within the hazard areas of civil and military airports.

Park and Refuge District (PR) establishes and protects areas like parks, recreational areas and wildlife refuges.

Conservation District (CD) provides an area acquired for conservation purposes or subject to deed restrictions limiting the use of the property for conservation purposes.
APPENDIX D

SUPPORTING FIGURES
APPENDIX E

MARINA SITE SUITABILITY MAPS