

5 Working Waterfronts and Resource Protection

Pinellas County is blessed with hundreds of miles of shoreline that is highly attractive to a variety of interests. Boaters from across the region and beyond are drawn to the tranquil waters of Tampa Bay and the beauty of the Gulf of Mexico. In addition, area waters attract millions of tourists and visitors per year, help define community character, and lend much to the County's overall quality of life. The waterfront is also in high demand for residential development. The high values developers and certain home buyers are willing to pay for waterfront property threatens other waterfront uses, including those that are water dependent such as public access and recreational and commercial working waterfronts. A healthy mixture of uses is important toward maintaining a vibrant, sustainable community. It is also important to recognize and protect the natural marine, estuarine and upland coastal environment, including manatees and their habitat. A primary goal for Pinellas County and this Coastal Management Element, therefore, is to help ensure an intelligent mixture of coastal uses that strives to achieve an equitable balance that meets the needs of residents, promotes the continued prosperity of the local economy and protects the natural environment.

THE BOATING ACCESS TASK FORCE

In May of 2005, the Boating Access Task Force was convened by Pinellas County Administration in response to concern over economic trends that were threatening the future of boat access in Pinellas County. The issue was highlighted by the conversion, or pending conversion of several marina properties to residential uses, resulting in the loss of public access to boat storage and water access. In addition, increasing competition at boat ramps on weekends for parking and water access evidenced a need to look at better understanding and managing demand on these facilities. Because of the pace of marinas being converted to other uses, finding ways to not only preserve, but to also increase public boating access to the water has been deemed critical, not just in Pinellas County, but throughout the State.



Vision and Purpose

The Task Force was timely, aligning with the completion of the *Recreation, Open Space and Culture System Master Plan* (see the *Recreation, Open Space and Culture Element* for more information on the *Master Plan*), which assessed some of the same issues of public access for boaters. In fact, the data collection, staff assessment, public meetings, focus groups, and survey results associated with the *Master Plan* process concluded with this Vision for boating access in Pinellas County:

“To provide the greatest possible access to Pinellas County waters for both recreational and commercial boaters, while protecting the integrity of natural resources, and enhancing the County’s reputation as the preeminent boating/diving/fishing center of Florida.”

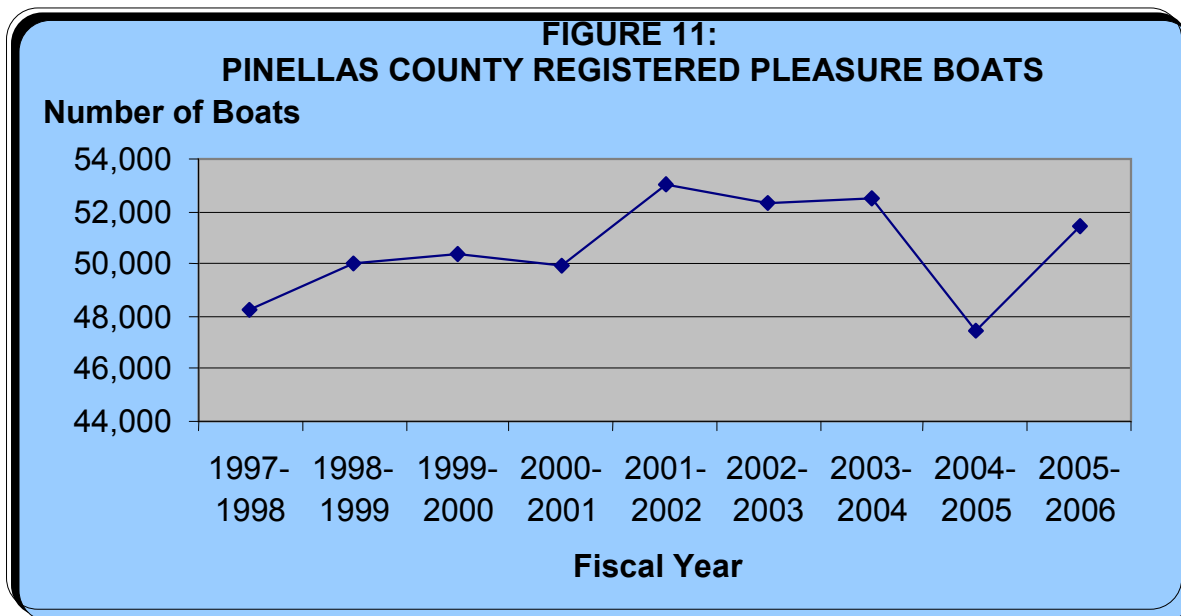
The purpose of the Boating Access Task Force was as follows:

- To identify obstacles toward achieving the Vision for boating access;
- To help identify innovative and effective strategies for sustaining and enhancing public boating access to Pinellas County waters;
- To develop recommendations for consideration by elected officials on how to best implement the changes that came out of the 2005 legislative session; and
- To encourage boating interests to be partners with local governments on boating access solutions.

In all, there were five meetings of the Task Force. Membership grew with each successive meeting. Every municipality with a waterfront was invited to participate, as were representatives from the marine industry, area boaters, marine scientists and the environmental community. Each meeting was also attended by a number of interested citizens, including boaters, representatives from environmental organizations, and individuals with individual interests.

Important Trends

Perhaps the most notable statistic regarding boating in Pinellas County is the fact that Pinellas County, Florida's smallest coastal county geographically, has one of the State's largest number of registered pleasure boats, and trends show (with the exception of FY 2004-2005) the number of boaters in Pinellas County is generally increasing or remaining steady, as evident in **Figure 11** (see **Table 23** on page 4-18 for actual pleasure boat registration numbers).



Source: FL Dept. of Hwy Safety & Motor Vehicles

Table 24, however, indicates that the once-stable commercial marina industry in Pinellas County has recently changed, reacting and responding to escalating taxes, the scarcity of land, and persistent pressure from residential/condominium developers who want to buy their property. Although the overall number of wet slips in the County has been increasing, wet slips at marinas for lease to the public are disappearing with the recent commercial marina to condominium conversions. In addition, dry storage spaces at commercial marinas experienced a dramatic decline in numbers between 2005 and 2006 when 472 spaces were lost.

Table 24
Number of Marina Slips in Pinellas County: 1996, 2005 & 2006

	1996	2005	2006
Wet Slips	5,040	5,005	4,889
Dry Spaces	4,031	5,664	5,192

Source: Pinellas County Planning Department, 2006.
 Includes commercial, municipal and membership marinas

While commercial marina slips are starting to disappear, a new phenomenon is the emergence of “dockominiums”, which are actually adding wet slips to the County’s overall inventory. In two recent cases, the sale and dismantling of a traditional marina was followed by the construction of a waterfront condominium with both private wet slips and a percentage of publicly-available wet slips for rent. Island Yacht Estates in Clearwater includes the only currently operating dockominium, and the conversion of the Hubbard Marina in St. Petersburg is planned to include the other. Currently, information on dockominiums is anecdotal, as data is not being captured in the development review process. However, this phenomenon may play an important role in meeting the need for publicly-available wet slips, and better analysis of their impact on slip capacity and demand is needed.

Commercial marinas are not the only target for conversion to other uses. Boat yards are subject to the same economic pressure, and each boat yard loss incrementally affects the ability to support the County’s commercial fishing and commercial charter industry.

Overall, Florida remains the top destination in the Country for marine-based recreation, with the supporting industry creating well over 180,000 jobs and providing over \$15.7 billion annually to the State economy.

Task Force Recommendations

While the meetings and recommendations of the Task Force covered small boats and large boats, boat access, boater behavior and boat storage, it appears that the most critical concern among the boating community remains conversion and ultimate loss of marina operations – largely to residential uses. Driven by high taxes and a frenetic high dollar condominium market, marina owners often feel they have no choice but to sell what has often been a long-standing family operation. Paramount among the concerns expressed at Task Force meetings was the need to make the “cost of doing business” cheaper so that the marina operator could compete financially against the tantalizing offers from waterfront developers. In addition, the weekend

boater who trailers his/her boat clearly is looking for more efficient and less crowded access to the water, evidencing the need for new and expanded, and better managed, boat ramp operations. In addition, it was clear that a countywide approach to solutions was required, and there was interest among the Task Force participants in collaboration and partnership.

Ultimately, the Task Force agreed on the following list of recommendations for consideration by the Board of County Commissioners:

- Increasing access at selected publicly-owned properties;
- Boater education and staging area improvements to facilitate and improve boat ramp etiquette and operations;
- Preserving existing marina properties through acquisition and partnership;
- Pursuing certain planning and regulatory considerations;
- Intergovernmental coordination initiatives and public-public partnerships; and
- Funding strategies

The Boating Access Task Force experience helped to explain, refine and clarify the condition of boat access and boat storage in Pinellas County. It also provided the opportunity for interested boaters, citizens with environmental concerns, marina interests, elected officials, and County and municipal staff to share ideas, formulate new strategies and commit to working together to assure that public access to, but also the protection of, Pinellas County waters, remains a priority.

With the conclusion of the Task Force, and development of the resultant recommendations, a diverse array of short and long term strategies were presented for consideration, agreement and action.

Local Government Follow-Through

In the time since the Boating Access Task Force disbanded in September of 2005, many of its recommendations have been addressed. In terms of preserving and/or increasing public access to the water, the County has purchased two properties – one existing boat ramp and one existing marina, both of which were in danger of conversion to non-water-dependent uses. The County has also expanded the boat ramp parking area at War Veterans Memorial County Park to accommodate more users. In addition, the Belleair County Boat Ramp will be expanded along with the reconstruction of the adjacent bridge. Evaluations and negotiations are ongoing at a host of other sites. On the flip side, a couple of locations (Honeymoon Island and Travatine Island) were removed from consideration for expanded boat access locations based on environmental concerns and other factors.

In terms of boater education and staging area improvements, County staff is in the process of installing educational signage on boater etiquette at all County boat ramps. In addition, courtesy docks are being installed at War Veterans Memorial Park.

Municipal partnerships are an emerging focus in the effort to preserve and promote access. There are potential partnerships between the County and at least four separate municipalities, ranging from marina improvements to the establishment of new mooring fields. The first

intergovernmental coordination meeting, a directive of the Task Force, was held in April of 2006. Since then, coordination has been directly with individual municipalities related to specific partnership opportunities.

Recommended Task Force planning and regulatory considerations, namely 'no-net-loss' legislation and working waterfront overlays, are addressed below.

Importantly, the 2006 Florida Legislature eliminated the Development of Regional Impact (DRI) requirements for marinas, which were of a primary concern to the Task Force. Escalating taxes, however, remain a critical issue for marina preservation – the Task Force determined the 2005 tax deferral legislation as not a viable solution.

In terms of funding, negotiations are continuing on a site-by-site basis, rather than the compilation of a large-scale acquisition package. The current Penny-for-Pinellas list includes boating access improvements. Importantly, staff continues to collect and refine boat access data.

The slowing of the housing boom has relieved some of the pressure for converting water access facilities to other uses, at least on a temporary basis. The pace of marina slip losses has lessened since the height of the conversion trend in 2005. Nevertheless, the threat of more conversions still lingers and the lull in the housing cycle will eventually shift. It is important that the County and its partners remain committed to the recommendations of the Boating Access Task Force and to the overarching goal of providing adequate public water access to all Pinellas County residents and visitors.

'No-Net-Loss' Policy

A 'no-net-loss' policy is a potential tool toward ensuring the retention of marina spaces. Popular as a wetland mitigation technique, no-net-loss criteria could be geared toward maintaining current marina slip numbers. In essence, under a no-net-loss directive, a marina would be prohibited from converting to another use, unless it could be documented that no reduction in the overall number of marina slips available for public use would occur as a result. This could mean that the number of available slips at the particular marina facility in question does not decline, or an offsetting number of slips could be made available elsewhere in the county. If deemed appropriate, other working waterfront uses, such as boatyards, could also be protected from conversion. This would not prohibit the development of vacant waterfront lands or the conversion of lands not used as a working waterfront, such as retail, to permanent residential use.

If enacted, the no-net-loss policy would be implemented via Land Development Regulations (LDRs) designed to enforce the intent of the legislation. Most likely, if a developer purchased a marina property with the intent to convert it to other uses, he or she must ensure that, at a minimum, the same number of boat slips or storage spaces available for public use prior to the conversion must either remain on site or made available (added) elsewhere in the county. Specific criteria to ensure the no-net-loss policy is adhered to could be established via an approved development agreement.

To this date, Martin County is the only known local government in Florida that has adopted a no-net-loss policy for working waterfront lands. In Martin County's case, the policy was only recently adopted and has yet to be fully implemented. One distinct difference between Martin County and Pinellas County is that in addition to the County government, Pinellas also has 24 municipalities within its borders. Martin County only has four. In order for a no-net-loss policy to be truly effective in Pinellas County, the municipalities must also adopt similar provisions. The loss of boating opportunities is a burden shared by all Pinellas County governments, and it will take communication and cooperation to successfully confront the marina conversion issue. While no-net-loss is a potential tool to ensure the status quo and preserve existing marina slips, it would not be effective toward actually *increasing* public access to the water.

Recreational and Commercial Working Waterfronts Overlay/Zoning District

A working waterfronts overlay is another potential solution toward preserving Pinellas County's recreation and commercial-based waterfronts, including marinas. The purpose of the overlay would be to depict those areas that are now developed, or are appropriate to be developed, with a publicly-available water-dependent, or sometimes water-related, use that contributes positively to the local character and economy of Pinellas County. Qualifying uses, for the purpose of the overlay, are those uses and activities that can only be carried out on, in, or adjacent to, water areas, where the water-body and its associated uplands are integral to waterborne transportation, water-based recreation, transient mooring, or the support, storage and/or repair of watercraft.

The uses that would be appropriate and be consistent with the recreational and commercial working waterfronts overlay include:

Public marinas, boat building, repair and maintenance yards, commercial docks, commercial fisheries, seafood dealers, public boat ramps, public lodging establishments, support facilities, and other uses as described in s 342.07 FS.

The use of the overlay would be locationally appropriate where it has been determined by the local government that the protection and preservation of waterfront activities and water-dependent uses are integral to the local economy and the local character of the community. In addition, the overlay is appropriate where adequate support facilities exist, consistent with the siting criteria and standards in the Pinellas County Comprehensive Plan and the Water and Navigation Control Authority.

It is important to note that most Pinellas working waterfronts are located in municipal jurisdictions. Unincorporated communities with working waterfronts include Ozone, Tierra Verde and the north Anclote area.

It is also important to note that the working waterfront overlay/zoning district concept differs from the Waterfronts Florida Partnership Program administered by the Florida Department of Community Affairs, which is designed to help participating communities revitalize, renew and promote interest in their waterfront district.

INVENTORY OF EXISTING BOAT FACILITIES

Public Marinas and Boat Ramps

Despite the recent marina conversions, public boat access facilities are still found throughout Pinellas County. As discussed in the previous section, there were 4,889 wet slips and 5,192 dry storage spaces located at commercial, municipal and membership marinas throughout the County as of 2006. **Figure 12** depicts their distribution. With limited land for new development in Pinellas County, marina expansions are more likely than the construction of new marinas. Most marinas appear to be at, or near, capacity. While just a few years ago it seemed unlikely that these successful marinas would fail or redevelop to other uses, that notion has dramatically changed as a result of soaring land values, particularly on the waterfront.



Safety Harbor Marina

Due to redevelopment pressure and very high tax bills, a number of marinas have converted to residential uses. As costs continue to rise, expansion may be a way for some marinas to stay in business. Based on information from Water and Navigation Control Authority records, between 1996 and 2006, one new marina was permitted with 70 slips, one new boat sales operation was permitted with ten slips, one new municipal transient dock was permitted with five slips, and 82 slips were added to existing marinas. This represents an average of 16.7 new slips per year for that ten year period.

In addition to marinas, there are 109 boat ramp lanes that provide public access to County waters. Their locations are shown on **Figure 13**. As the number of boaters continues to increase, increased public demand for boat ramps can be expected. Please see the *Recreation, Open Space and Culture Element* for a comprehensive listing of specific countywide boat ramps and marinas, including their contact information and available amenities.

Association Marinas and Private Docks

Of course, public marinas and boat ramps are not the only means of accessing Pinellas County waters. Many waterfront condominium associations provide water access opportunities for their residents and most single family properties on the water already have private docks with a potential of two slips for each. As of November 2007, there are approximately 4,766 privately-held multi-family wet slips in the County. In addition, there are 14,386 single family docks located at individual residences, according to Pinellas County Property Appraiser records, each with the potential for two slips. As a result, single family docks provide for the largest number of slips in the County, making up approximately 75 percent of the slip total.

FIGURE 12
PINELLAS COUNTY MARINA DISTRIBUTION

FIGURE 13
PINELLAS COUNTY BOAT RAMP DISTRIBUTION

Pinellas County has been permitting docks since the mid 1950s throughout the County. The type of dock allowed is based on the type of land use and zoning on the property. Between 1996 and 2006, 13,680 dock permits were issued by the Water and Navigation Control Authority. Dock permits include permits for new construction as well as permits for minor repairs and modifications. Thus, in combination, there are approximately 38,427 wet slips, 5,192 dry storage spaces and 109 boat ramp lanes in Pinellas County today. These figures underscore the near built-out condition of the area, the scarcity of locations available for new marinas, and the close connections Pinellas County and its residents have to the water.



Residential Dock along Boca Ciega Bay

Boatyards and Marine Repair Facilities

With such a high number of registered boats and a still-viable fleet of commercial fishermen in Pinellas County, boatyards and marine repair facilities are an integral component of the overall boating industry. Like marinas, boatyards and repair facilities, particularly those outfitted to work on yachts and other large vessels, often occupy waterfront areas that are attractive to developers and residential interests. Although no official statistics are available, a number of repair facilities in Pinellas County have shut down and converted to competing uses in recent years. The Clearwater area has been particularly hard hit – repair facilities are nonexistent between north Dunedin (Pirate’s Cove Marina) and south Largo (Largo Intercoastal Marine). Those facilities that do remain in the county are commonly (but not always) clustered in certain areas, such as the Anclote River in Tarpon Springs, the Gandy Bridge area, and St. Petersburg’s Salt River near Bayboro Harbor. Such clustering patterns lend themselves toward the potential establishment of working waterfront overlay districts. Please see **Figure 14** for a depiction of existing boatyards and marine repair facilities in Pinellas County.

Mooring Fields

A mooring field is a facility that provides, for a fee, anchorage, marine-related services, and upland support. A well-planned and well-executed mooring field can be beneficial to residents, boaters, and the county by creating revenue, encouraging tourism and improving water quality. Presently, there are several ad hoc anchoring fields in Pinellas County in the areas of Bay Pines Lagoon, Crystal Beach, Gulfport, and Tierra Verde. Future mooring fields may be considered to gain control over these presently uncontrolled mooring situations. New fields may attract legitimate boaters away from these areas to protect seagrass beds and improve aesthetics. Mooring fields also provide for additional boat storage during a time of dwindling public access to the water. Mooring fields can serve as the “parking lots” for a broader marine based transportation network and link to waterfront shopping districts.

FIGURE 14
PINELLAS COUNTY BOATYARDS AND MARINE REPAIR FACILITIES

For licensees with rental agreements, mooring fields provide safe mooring, a harbormaster, sewage pump-out facility, potable water, fuel, ship store, dingy dock, shower, laundry, trash disposal, and clear navigational fairways. Mooring fields provide the environment with improved water quality and ecosystem health of the water body by eliminating waste discharge from moored vessels, protection of the bay bottom from prop dredging by marking the ingress and egress channels, protection of the bay bottom from anchor damage by providing sufficient mooring at the designated buoys and prohibiting all other mooring within the mooring field, minimization of the potential for storm damage to property by the use of engineered moorings, and aesthetic improvement. No wake zones and no anchoring zones (for non-licensed vessels) are typically established within mooring fields.

The positioning of moorings may be determined by the size of the vessels and by the need to protect seagrass beds. Moorings rely on anchor systems that are embedded into the bottom substrate. They do not have heavy ground tackle dragging on the sea bed; thus, moorings are particularly suited for use in or around seagrass beds. Each mooring typically consists of the following components: 1) an anchor unit or anchor pin, 2) a heavy duty mooring line, with a float attached a meter or so from the anchor point to keep the line off the sea bed, 3) a surface buoy on a looped bridle, to make it easy to maintain, and 4) a floating pick-up line to which boats tie up.

Communities in Florida that have established mooring fields include Vero Beach and Fort Myers (municipal mooring fields), Fort Myers Beach and Sarasota Island Park (concession mooring fields), and Sarasota City Island (not-for-profit mooring field). The City of Gulfport, in Pinellas County, is currently in the planning phase for establishing a mooring field.

If a proposed mooring field is to be constructed on state submerged land, Pinellas County will be required to draft a Mooring Field Management Plan in order to obtain a submerged lands lease from the Board of Trustees of the Internal Improvement Trust Fund. The term of this submerged land lease will be ten (10) years from the management plan's effective date. The management plan will establish the rules of use within the mooring field. The rules should include, but not be limited to, 1) prohibition of illegal and commercial activities, and 2) requirement of safe operation, proper boat maintenance, vessel inspections, and use of pump-out facilities. Pinellas County should also enter into mooring field license agreements with each user.

A good information source for mooring fields is the Waterfronts Florida Partnership of the Florida Department of Community Affairs, viewable online at : www.dca.state.fl.us/fdcp/dcp/waterfronts.

Port Facilities

The City of St. Petersburg operates the only port facility in the County. No new port facilities are anticipated in the near future.

BOATER CHARACTERISTICS AND BOATING PATTERNS IN PINELLAS COUNTY

Recreational boating is extremely popular in Pinellas County. As discussed throughout this Element, Pinellas County is perennially ranked (along with Miami-Dade County) as being one of the top two counties in Florida in terms of the number of registered pleasure boats according to statistics from the Florida Department of Highway Safety and Motor Vehicles (see **Table 22** on page 4-18 for pleasure boat registration numbers and trends in Pinellas County and statewide). This leads to waterway congestion at certain locations during peak times. Boat traffic from neighboring counties also impacts local waters.

While Pinellas County is a state leader in the number of registered pleasure boats, it is also one of the state's smallest counties geographically. The coastline is highly developed with little room for new marinas or boat ramps. Multi-family and individual docks are numerous. For these reasons, boat traffic can feasibly originate from almost any corner of the County. Nevertheless, certain locations generate more traffic than others. A recent publication from the Florida Sea Grant Program and the Florida Fish and Wildlife Conservation Commission (FFWCC) entitled, "*A Recreational Boating Characterization for Tampa and Sarasota Bays*" documents the most popular points of boating origin and destination, as well as highly used travel routes. The study also details information based on boater group, activity, boat type, and vessel draft. Information was collected via mailed survey questionnaires, and results spatially displayed using Geographic Information Systems (GIS).

Popular Boater Origin and Destination Points

The Sea Grant study surveyed boaters and asked them about their boat trip origin and destination points. As would be expected, trip origin concentrations reflect prominent boat ramp and marina locations. For Pinellas County, popular origin points appear to be downtown St. Petersburg, the Gulfport Marina, Fort DeSoto Park, the Bay Pines area, the Belleair Causeway, the Seminole Boat Ramp in Clearwater, the Home Port Marina area of Palm Harbor, and the Anclote River in Tarpon Springs (please see **Figure 15**). Popular destination points include Anclote Key, Three Rooker Bar, Caladesi Island, the Clearwater Pass area, the Johns Pass area, Weedon Island, downtown St. Petersburg, Shell Key, the Sunshine Skyway, and Egmont Key in Hillsborough County (please see **Figure 16**). Artificial reefs also tend to be popular destination points.



Egmont Key State Park, a popular destination for Pinellas County boaters

Boat Travel Corridors

High density travel routes naturally coincide with the locations of the most popular origin and destination points. **Figure 17** highlights the most heavily traveled routes as

FIGURE 15
POPULAR BOATER ORIGIN POINTS IN PINELLAS COUNTY

FIGURE 16
POPULAR BOATER DESTINATION POINTS IN PINELLAS COUNTY

FIGURE 17
HEAVILY TRAVELED BOATING ROUTES IN PINELLAS COUNTY

determined by the Sea Grant study. The most densely traveled areas appear to be: 1) from downtown St. Petersburg south along the coastline to the main Tampa Bay channel, then around Fort DeSoto to Egmont Key; 2) the Gulfport–Tierra Verde–Pinellas Point area south along the Sunshine Skyway Bridge; 3) the Johns Pass area; 4) the Clearwater Pass area; 5) the Dunedin Causeway area; and 6) from the mouth of the Anclote River toward Anclote Key. Boca Ciega Bay, areas around Shell Key, and areas north of downtown St. Petersburg to Weedon Island are also popular travel routes. Clearwater Harbor, the waters Gulf side of Indian Rocks Beach, and the west side of St. Joseph Sound are popular as well, but to a lesser extent. It is also important to reiterate that while the most heavily traveled routes are clearly defined, almost all areas of Pinellas County waters are somewhat impacted by boat traffic. The exception is those areas specifically cordoned off for manatee protection or some other regulatory purpose.

Areas of Congestion

According to the Sea Grant study, several areas in Pinellas County waters have been documented by boaters as being congested. These areas generally correspond to favorite destination spots, such as Shell Key, and passes which must be navigated to reach the open Gulf of Mexico waters, the most notable being Clearwater Pass and Johns Pass. Lesser areas of congestion include Fort DeSoto Park, the Sunshine Skyway area, downtown St. Petersburg, Weedon Island, Honeymoon Island, Three Rooker Bar, and the mouth of the Anclote River. For a graphical depiction of congested areas, please see **Figure 18**.



Crowded conditions at Shell Key

Boating Patterns by Type of Departure Site

An interesting aspect of the Sea Grant study is how it analyzed use patterns based on specific aggregate characteristics. One such characteristic, termed ‘boater-group’, differentiates patterns based on type of departure site – those being wet slips, dry storage, private docks, and public ramps. The study found observable differences in destination points and travel corridors based on the boater group. Wet slip users “tend to follow primary travel channels and cluster at the fewest destinations” (p.23). In Pinellas County, those destinations are the Caladesi State Park – Honeymoon Island area and the St. Petersburg Pier. Dry storage users, on the other hand, have more dispersed travel patterns and destinations. Ramp users are also more dispersed when it comes to travel patterns, but prefer near-shore areas as destination points. Private dock users are more concentrated in the southern portion of the County.

FIGURE 18
CONGESTED BOATING AREAS IN PINELLAS COUNTY

Boating Patterns by Type of Activity

Boater activity concentrations naturally occur in areas most suited to the respective activity. For instance, those who like to picnic are attracted to places like Shell Key and Three Rooker Bar. Those who like to camp on the beach also prefer Shell Key, as well as Anclote Key. Downtown St. Petersburg is popular for overnight anchoring and visiting restaurants. Fishing activities cluster around the Sunshine Skyway area and certain artificial reefs. Nature viewers and sightseers tend to enjoy the natural areas, such as Caladesi State Park and Shell Key. As might be expected, sailing and cruising activities are more dispersed.

Boating Patterns by Type of Vessel and Draft Category

As would be expected, travel patterns are affected by specific types of vessels, especially in terms of travel corridors. Sailboat owners have the fewest destinations and are more associated with open waters. Small speedboats and power cabin cruisers are more inclined to travel the Intracoastal Waterway, harbors and bays. Fishing vessel activity is largely confined to the best fishing grounds and the travel routes necessary to get there.

Vessel draft category also has a significant impact on travel patterns. The average vessel draft of respondents to the Sea Grant study was 2.2 feet. Larger draft vessels are more constrained to marked navigation channels and clustered at specific destination points where deep drafts are accessible. Average draft vessels, with more navigation options and available destination points, display the most diffuse patterns. Shallow draft vessels are generally confined to near-shore areas.

Boater Characteristics

To better understand boating activities and patterns in Pinellas County, it is important to know who the boaters are and what experiences they are looking for in their recreational boating pursuits. Once again, the Sea Grant study provides us with this valuable information. The typical survey respondent was a male year-round Florida resident with an average age of 54. Respondents had an average of 18 years of boating experience and most have taken boat safety courses. Boat ramps and marinas close to home were preferred, as were boating destinations that are close to home or within easy access of the departure site. The typical boating trip begins at 8:00 AM and lasts seven hours. Wet slip users by far take the longest trips in terms of time spent on the water. Three to four boating trips are taken per month, with generally more taken in late spring and early summer and fewer in winter.

As far as destinations, locations with fishing opportunities, scenic beauty and/or calm protected waters are preferred. Primary activities are fishing, cruising, nature viewing, sight-seeing and visiting restaurants. The major detractors toward the enjoyment of boating trips were lack of seamanship/boating knowledge by others and the lack of common courtesy. Many respondents believed that improved education, mandatory licensing, better channel marking, and more ramps with better facilities are needed.

MANATEES IN PINELLAS COUNTY

The coastal waters of west central Florida provides an important year-round home to *Trichechus manatus latirostris*, the West Indian (Florida) Manatee. There are several dozen manatees within Tampa Bay waters during the summer, but well over 300 during the winter months, evidencing the fact that manatees can travel long distances to reach warmer waters in the winter.

The number of manatees statewide appears to be holding steady or increasing slightly. In fact, record numbers of manatees were counted in Tampa Bay, Blue Spring and Brevard County during the 2007 annual synoptic survey conducted January 30 through February 1. Even so, manatees currently remain a protected species under the Federal Endangered Species Act. Unfortunately, manatee mortality throughout Florida remains a concern, with loss of habitat and injury by motorized watercraft being common threats. Therefore, managing the human-manatee interaction so that this docile inhabitant of Pinellas waters can remain a part of the local culture and environment is important.



Location and Movement of Manatees in Pinellas County Waters

Habitat Preferences and Requirements

The West Indian (Florida) Manatee lives in freshwater, brackish water and the marine environment, moving easily between salinity regimes. Along the coast, manatees are generally found feeding in water depths of three to seven feet, but they remain close to deeper waters. They generally travel along the coastline in waters ranging from 10 to 16 feet in depth.

Manatees cannot endure temperatures below 66°F (19°C) for extended periods of time and will seek refuge in warmer waters. In the winter months, manatees congregate in larger groups near warm water canals, natural springs and outfalls, the latter often associated with local power plants. During the summer months, manatees may be found in small groups dispersed throughout near shore waters, inlets and bays.

Manatees generally feed among seagrass beds, although they also enjoy marsh grasses, mangrove leaves, algae, hydrilla and water hyacinths. Pinellas County has significant seagrass beds, as depicted in **Figure 19**. Access to fresh drinking water is critical, and includes natural springs as well as stormwater outfalls. When calving, manatees seek out quiet, protected locations.

Sites of Preferred Use and Aggregation in Pinellas County Waters

In 1992, the Pinellas County Manatee Watch Line telephone line was first activated to collect information from the public on manatee sightings in Pinellas County waters. This data helps to track and document how manatees are using County waters. During winter months, November through March, manatees tend to congregate in warm water refuges, and in summer months

FIGURE 19
PINELLAS COUNTY SIGNIFICANT SEAGRASS BEDS

manatees are more generally distributed along the coastline. **Figure 20** depicts areas of manatee concentration in Pinellas County waters.



Seagrass beds provide important manatee habitat

A variety of data is available from the Florida Fish and Wildlife Conservation Commission's (FWWCC) Fish and Wildlife Research Institute (FWRI) aerial survey program on most of the Pinellas County shoreline, the exception being the Gulf coast north of The Narrows at Indian Shores. These data confirm that manatees congregate frequently in the seagrass beds in Pinellas County waters. FWRI also monitors manatee use patterns through radiotelemetry, where manatees are tagged with a tracking device that can map the movement of each tagged animal.

Known freshwater outfalls, and other frequent sites of aggregation by manatees, are described further in the discussion of manatee habitat.

Manatee Travel and Seasonal Movement in Pinellas County

Manatee travel corridors are difficult to track, as they are based on radiotelemetry data associated with individual manatees. However, known travel patterns include the seasonal pattern of manatee migration in Tampa Bay and Pinellas County, reflective of seasonal temperature changes as previously described. Not all travel is associated with temperature changes, and manatees are also known to travel great distances to feed, get a drink of freshwater or to escape human harassment. It can be concluded from manatee sighting data and radiotelemetry records, however, that the Intracoastal Waterway represents an active travel corridor. In addition, it is obvious that the manatee aggregation sites represent destinations, and the entire coastline provides the corridor to travel from site to site.

Manatee Habitat in Pinellas County

The Pinellas County Department of Environmental Management has identified several important manatee habitat locations, following the initiation of its detailed data collection and analysis effort in 1992. Much of the data regarding these habitats has been collected through the Manatee Watch Line, and is therefore limited by the fact that it only reflects sightings reported by the public. What appears clear, though, is that most of the areas with heavy use by manatees are in areas where the potential for human interaction is high. Important manatee habitats in Pinellas County are depicted in **Figure 20-A through Figure 20-D** and are described below.

- **Spring Bayou/Whitcomb Bayou** – Located in Tarpon Springs, these bayous (see **Figure 20-A** for a more detailed depiction) have freshwater springs that provide drinking water and warm water refuge during the winter.

FIGURE 20
AREAS OF MANATEE CONCENTRATION IN PINELLAS COUNTY

- **McKay Creek** – Located in west Largo and depicted in detail on **Figure 20-B**, this freshwater creek discharge provides drinking water. There are also seagrass beds located in the vicinity.
- **Coffee Pot Bayou** – Located in east St. Petersburg, this location is typified by freshwater springs, which manatees primarily use for drinking water. Please see **Figure 20-C** for a detailed depiction.
- **Fort DeSoto Park/Tierra Verde** – The expansive seagrass beds provide prime feeding areas. Please see **Figure 20-D** for a detailed map.
- **Boca Ciega Bay** – Portions of the bay have seagrass beds for feeding.

Several of these locations that have been identified as heavy manatee use areas also have boating restrictions in place. The City of St. Petersburg has designated Coffee Pot Bayou as an “Idle Speed, No Wake” zone. The City of Tarpon Springs has designated Spring and Whitcomb Bayous as “Idle Speed, No Wake” from November 15th through March 31st. Pinellas County also has various boating restrictions discussed later in the ‘Regulations and Enforcement Activities Supporting Manatee Protection’ section.



Coffee Pot Bayou

Manatee Mortality in Pinellas County

Table 25 summarizes manatee mortality in Pinellas County from 1998 through 2006. In addition, the Table indicates how Pinellas County’s mortality rate compares to the State as a whole. The cause and location of death is included when known and is a critical part of assessing appropriate protection and recovery needs. The Marine Mammal Pathobiology Laboratory at FWRI conducts necropsies on manatee carcasses brought in from all over the State. Their findings indicate that perinatal and other natural factors, in combination, are the leading cause of manatee deaths in Tampa Bay waters. Watercraft collision is the second leading known cause of death in Pinellas County waters. While propeller strikes used to account for the majority of boat-related deaths, recent data indicates that hull impacts actually occur more often. Between the years of 1998 and 2006, boats accounted for an average of 2.3 deaths annually in Pinellas County waters. **Table 26** summarizes the incidents of manatee mortalities in Pinellas County associated with watercraft from 2002 through 2006, and **Figure 21** depicts their geographic locations. In addition to the obvious impacts of watercraft, manatees also suffer from habitat loss, including hardening of shorelines, water quality degradation and impacts on feeding areas, as well as from physical impacts such as entanglement/involvement in crab traps, fishing line, and water control structures (Manatee Protection Strategies Task Force, 1998).

FIGURE 20-A
TARPON SPRINGS BAYOUS

FIGURE 20-B
MCKAY CREEK

FIGURE 20-C
COFFEE POT BAYOU

FIGURE 20-D
FORT DESOTO PARK/TIERRA VERDE

TABLE 25**Statewide Manatee Mortality
January 1998 to December 2006**

Cause of Death	Numbers in RED indicate mortality in Pinellas County									
	1998	1999	2000	2001	2002	2003	2004	2005	2006	TOTALS
Watercraft Collision	66/2	82/2	78	81/1	95/2	73/4	69/4	79/5	86/1	709/21
Flood Gate/ Canal Lock	9	15	8	1	5	3	3	6	5	55
Other Human Related	6	8	8	8	9	7/1	4	8	4	62/1
Perinatal	53/1	53	59/2	62/1	53/3	71	72	90/1	70/3	583/11
Cold Stress	9	5/1	14/1	31/2	17/1	47/1	50	31	21	225/6
Other Natural	12	37/1	37	34/5	59/2	102/3	24/1	88/5	76/2	469/19
Undetermined	76/4	69/3	69/1	108	65	67	51	90/3	130/3	725/14
TOTALS	231/7	269/7	273/4	325/9	303/8	370/9	273/5	392/14	392/9	2828/72

Source: Florida Fish and Wildlife Research Institute, 2007

TABLE 26**Watercraft-Related Manatee Mortality in Pinellas County
2002 – 2006**

Date	Sex	Size (cm)	Location
04/29/2002	M	301	Intracoastal Waterway
09/02/2002	M	287	The Narrows
03/29/2003	M	326	Boca Ciega Bay
07/16/2003	F	280	Clearwater Harbor
10/09/2003	F	305	Pass-a-Grille Channel
12/24/2003	F	335	Tampa Bay
07/07/2004	F	289	Riviera Bay
08/18/2004	F	223	Boca Ciega Bay
09/10/2004	F	278	Tampa Bay
11/27/2004	M	305	Boca Ciega Bay
07/03/2005	M	292	Tampa Bay
07/26/2005	F	270	Maximo Channel
07/28/2005	F	336	Boca Ciega Bay
11/21/2005	F	152	Boca Ciega Bay
12/15/2005	M	229	Tarpon Bayou
04/14/2006	F	238	Tampa Bay

Source: Florida Fish and Wildlife Conservation Commission Website, 2007

FIGURE 21
WATERCRAFT-RELATED MANATEE MORTALITY
IN PINELLAS COUNTY, 2002 – 2006

PROGRAMS AND ACTIONS FOR MANATEE HABITAT PROTECTION

The Florida Manatee Recovery Team, an interagency group of manatee experts, developed a Florida Manatee Recovery Plan that was approved by the U. S. Fish and Wildlife Service (FWS) in 1989. In October 1989, the Florida Governor and Cabinet directed 13 “key” counties to develop Manatee Protection Plans based on mortality levels. Pinellas County, however, was not among the counties required to adopt a Manatee Protection Plan.

In March of 2002, the Florida Legislature amended Florida Statute 370.12 (2), the Florida Manatee Sanctuary Act, to require certain counties to develop Manatee Protection Plans. Once again, Pinellas County was not required to adopt a Plan.

Although the Board of County Commissioners has not been required to adopt a formal Manatee Protection Plan, the County has a long record of taking actions, and adopting policies and regulations, that serve to protect the County’s coastal resources and dependent species, including manatees. When these actions, policies, regulations and programs are considered in their totality, they complement and help to achieve the purpose of State-mandated Manatee Protection Plans.

Due to the pace of development in Pinellas County, the Board of County Commissioners and residents began as early as the 1960s to recognize that unless the protection of the County’s living resources was seriously addressed, much of what made the County a desirable place for residents and visitors could be forever lost. The following discussion provides an overview of the measures implemented since then, including those specifically directed at manatee protection, by Pinellas County, since the 1970s. Also addressed are activities that the County participated in, or enabled, which resulted in the protection of marine and aquatic habitat.

Establishment of the Pinellas County Aquatic Preserve and Designation as an Outstanding Florida Water

Boca Ciega Bay was established as the State’s first Aquatic Preserve in 1969, and the rest of Pinellas County’s coastal and estuarine waters soon followed in 1972. Aquatic preserves are waters designated by the State for special protection status. Chapter 18-20, Florida Administrative Code, calls for all aquatic preserves to be managed for the maintenance of essentially natural conditions. In addition to being an aquatic preserve, Pinellas County’s waters are also designated as Outstanding Florida Waters. These designations result in additional development review criteria and permitting requirements for those coastal projects that might negatively impact the marine environment and its dependent resources.

Surface Water Monitoring Program

In 1990, Pinellas County began its surface water monitoring program as a result of the policies adopted in the 1989 Comprehensive Plan. The program was established to characterize water quality in the County’s 52 drainage basins and receiving waters, to identify areas contributing the greatest pollutant loads and to subsequently prioritize and develop management plans to reduce pollutant loading to the County’s bayous, inlets, open bays, lakes and major tributaries. The baseline data are used to illustrate current conditions and assess the effects of projects

that are aimed at reducing pollutant loads to the receiving waters. The goal of the monitoring program, consistent with the Comprehensive Plan, is to achieve a measurable trend of water quality improvement in the County's water in order to protect natural resources, enhance and restore plant and wildlife diversity and to enhance estuarine productivity.

Seagrass Monitoring Program

In 1998, the Water Resources Monitoring Section (WRMS) of the Pinellas County Department of Environmental Management began monitoring seagrasses. WRMS staff monitor 11 permanent seagrass transects in Boca Ciega Bay and 14 permanent transects in waters on the western side of Pinellas County from Madeira Beach north to Tarpon Springs. Data collected include observations of water depth, percent of seagrass cover, short shoot density, relative epiphytic loading, as well as water quality samples for chlorophyll A, turbidity, and other water clarity indicators.

The seagrass program is designed to provide a cost-effective and technically defensible measurement of aerial seagrass extent in the estuaries and their subregions, seagrass zonation in relation to depth, and changes in seagrass growth, zonation and distribution over time. The program was also designed to characterize the general health and condition of seagrass meadows in the Bay. In addition to Pinellas County, program participants include the City of Tampa Bay Study Group, the Environmental Protection Commission of Hillsborough County, Manatee County, and the Fish and Wildlife Research Institute of the Florida Fish and Wildlife Conservation Commission. Please refer back to **Figure 19** for a map of significant Pinellas County seagrass beds. Additional information on seagrasses is provided in the *Natural Resource Conservation and Management Element* of this Comprehensive Plan.

Potential Overlap between Manatee Use Areas and Boat Use Areas

Manatees feed in the numerous seagrass beds throughout the County, which also represent prime fishing spots for anglers. Manatees also travel throughout the County's waters between feeding areas, breeding locations, freshwater outfalls, etc. Therefore, manatees and boaters are constantly sharing the County's waterways. Where the overlap becomes critical is often in shallow waters where seagrass beds are located, and manatees have more trouble avoiding boats. The County's seagrass protection zones help to protect manatees in these prime-feeding areas.

With marinas, boat ramps, docks and boat use located throughout the entire peninsular County, and with the County's waters being a desirable destination for out-of-county boaters, the potential for overlap among boats and manatees exists throughout the County's coastal waters. The protection measures (speed restrictions, manatee-related signage, etc.) in place for the Intracoastal Waterway, for example, are one way that helps address concerns about manatee safety raised by the volume of boats in one of the County's primary waterways.

Regulations and Enforcement Activities Supporting Manatee Protection

Following adoption of the 1989 Comprehensive Plan, each objective and policy was reviewed by staff to determine how best to implement its purpose and intent. As a result of this review,

several new regulations were adopted as part of the Pinellas County Code. A listing of those changes that contributed to the County's manatee protection efforts include:

Water and Navigation Control Authority Regulations
(*Pinellas County Code Sections 166-241 through 166-364*)

Pinellas County is unique in having a countywide regulation set in place by the Laws of Florida Ch. 31182(1955) governing certain construction and siting activities that affect the Waters of the County. The Pinellas County Water and Navigation Control Authority is directed to "protect, through sound management and the judicious issuance of permits, the natural resources of the County." Through this process, the Authority reviews the location of all new and expanding marinas, docks, boat ramps and dredge and fill activities to ensure that the marine environment, habitat and dependent species are protected. Consequently, each wet slip marina, marina expansion, dock or dock modification, in the County receives a site-specific and detailed environmental review. In the unincorporated County, high and dry marinas also receive detailed review for environmental and navigational impacts from the Water and Navigation Control Authority. The Authority Regulations rely upon the criteria for permitting marinas and other water dependent uses outlined in this Comprehensive Plan, and codified into the County's land development regulations. See further discussion under the 'Marinas, Dock and Boat Ramp Siting Requirements' section.

Site Development and Platting System Regulations
(*Pinellas County Code Sections 154-1 through 154-115*)



These regulations contain construction standards and best management practices for site construction, including requirements for retention and treatment of surface water runoff to Outstanding Florida Waters, and erosion control. Erosion control regulations are important in the reduction or elimination of sediment loading to surface waters from construction sites. Retention of surface water runoff improves the quality of surface water discharges to surrounding receiving waters. The cumulative result of enforcement of the County's site development regulations helps

protect the quality of manatee habitat in Pinellas County waters. In addition, the municipalities in the County meet the same surface water treatment standards required for discharges to Outstanding Florida Waters and also enforce erosion control regulations in their own communities.

Future Land Use Map and Zoning Regulations
(*Pinellas County Comprehensive Plan and Pinellas County Code Chapter 138*)

In unincorporated Pinellas County, marina locations are regulated initially by the Future Land Use Map of the Comprehensive Plan. For example, commercial marinas are only allowed in commercial and industrial land use designations. This generally holds true for the municipalities as well. Specific marina siting criteria were incorporated into the Pinellas County

Zoning Regulations in 1990, following their initial identification in the Coastal Management Element of the Comprehensive Plan. In 2001, the Board of County Commissioners further restricted the siting of marinas by making them a conditional (versus permitted) use in the C2, CR and CP zoning districts. They are still a permitted use in the C3, M1 and M2 districts, which are generally used in more intense industrialized locations. The conditional use criteria for marina siting are included in the Zoning Regulations. Controls over the location of marinas are important in the evaluation of the impacts of boat traffic on high-use manatee areas.

Mangrove Trimming and Protection Act

Pinellas County has been managing mangrove resources in the unincorporated County since the 1970s. In 1995, the State enacted the Mangrove Trimming and Protection Act, which invalidated all local regulation of mangrove trimming but provided for delegation of the State Act to qualified local governments. As part of its overall management of coastal resources, Pinellas County took delegation of the mangrove trimming program in 1996 and now manages mangroves on a Countywide basis. Mangroves contribute to improved water quality, and provide coastal habitat for marine resources.

Pollutant Discharge Regulations (Pinellas County Code Section 58-236)

The storm sewer systems of Pinellas County, and all of the municipalities in the County (with the exception of Indian Shores and Belleair Shore), are regulated by National Pollutant Discharge Elimination System (NPDES) regulations (40CFR) intended to protect and restore the Nation's surface waters. Pinellas County and all regulated municipalities, with the exception of St. Petersburg, are under one Federal permit – FL000005. The City of St. Petersburg operates under their own separate permit. The NPDES program is comprehensive and includes public education as well as specific restrictions on what can be discharged into a storm sewer. Each of the permittees under FL000005 have agreed, through ordinance and interlocal agreement, to enforce and control illicit pollutant discharges into their storm sewers and to track down and enforce violations of the ordinance that contribute to pollutant violations in an adjacent jurisdiction. The benefit of joint participation in the NPDES program and mutual agreement to enforce violations to the illicit discharge regulations is a comprehensive commitment to surface water quality, which has a positive impact on manatee habitat.

Marinas, Dock and Boat Ramp Siting Requirements

The Pinellas County Water and Navigation Control Authority regulations state as their intent “to protect, through sound management and the judicious issuance of permits, the natural resources of the County.” It is further stated that it is the intent of the Authority “to regulate all dredge and fill activity to minimize the adverse impacts of these activities on the natural resources of the County.” It is also the intent of the Authority to “protect those species listed as endangered, threatened, or as species of special concern by Federal and State agencies.” The review criteria included in the Water and Navigation Control Authority Regulations have their foundation in the Pinellas County Comprehensive Plan, and include specific directives to protect habitats of ecological value, including feeding areas for marine life, manatee sanctuaries, and etcetera.

New applications for traditional wet slip marinas and space for wet slip expansions have become rare due to the scarcity of vacant waterfront land. The marina industry may turn increasingly to upland dry storage locations at either new or existing sites.

Ensuring that the review of marina locations adequately addressed both upland and marine impacts comprehensively was part of the impetus for the Board's direction to review the County's marina siting process and criteria in 2000. Soon thereafter, the County amended its land development regulations to ensure that upland concerns were addressed comprehensively with marine concerns, and to further regulate marinas in certain zoning districts through the conditional use process (see earlier discussion).

The land development regulation changes, coupled with the existing review process of the Water and Navigation Control Authority, provide extensive control over the siting of marinas. The Water and Navigation Control Authority process also regulates all other docks and boat ramps. Please see the 'Marina Siting Criteria' section of this Element for more information.

Boating Regulations and Law Enforcement

Boating regulations that contribute to natural resource protection include such things as speed limits (idle speed no wake, and slow speed minimum wake), as well as combustion motor exclusion zones, no entry zones, and shallow water caution zones. Speed limits are used in the County's seagrass protection areas as well as in the Intracoastal Waterway (ICW). Establishment of the ICW slow speed zones, where high numbers of manatees have been reported through the Manatee Watch Line, is an important part of the County's manatee protection program.

Enforcement of speed restrictions and combustion motor exclusion zones (seagrass protection zones) is generally carried out by the Pinellas County Sheriff's Office, the Florida Fish and Wildlife Conservation Commission (FWC) Marine Patrol, or a municipal marine police officer.

Thanks to a cooperative relationship with the Pinellas County Sheriff's Marine Unit, the boating safety zones are well marked for enforcement. The Sheriff's Marine Unit monitors the status of the countywide regulatory markers and reports maintenance needs to the county as soon as a discrepancy (damaged marker, faded sign, etc.) is observed. Maintenance of discrepant boating regulatory markers is an ongoing activity at an annual cost of roughly \$75,000. In addition, the Sheriff's Marine Unit and the county regularly discuss the effectiveness and enforceability of the existing boating regulatory zones. Modifications to the zones are made when changes occur in boating use or natural resources.

Signage related to idle speed zones, no wakes zones, etc., is required to be permitted by the Florida Fish and Wildlife Conservation Commission (FWC), pursuant to 370.12, F.S. While many speed zones were originally established to promote boater safety, they are now being established in many cases specifically to protect manatees, seagrasses or other marine resources. For example, the Coffee Pot Bayou idle speed zone was enacted specifically to protect manatees in that area. Combustion motor exclusion zones are now located around the Gulf Islands GEOPark (Caladesi Island, Honeymoon Island, Three Rooker Bar and Anclote Key), Shell Key Preserve, including the Fort DeSoto area, and Weedon Island Preserve. Specific signage is used to designate these important seagrass protection zones as combustion motor exclusion zones, and enforcement in the exclusion zone is most often provided by the Marine and Environmental Land Units of the Pinellas County Sheriff's Office. The Units are specifically trained to deal not only with boating safety, but also with natural resource management and protection. The Marine and Environmental Lands Unit has 15 full time Marine Deputies with four supervisors and 15 patrol vessels stationed throughout the

County. Several municipalities also have specially trained officers for marine enforcement, and the FWC Marine Patrol also has enforcement abilities.

In 2000, the Pinellas County Board of County Commissioners adopted Ordinance 00-93, significantly amending Chapter 130 of the Pinellas County Code. The amendments were intended to revise and clarify the County's boating regulations and restrictions. The revised Code consolidated certain portions of the Code and established specific regulatory zones to restrict access and/or speeds in certain waters of the County. The intent of the revisions was to both protect the public and to protect the natural resources of the County. The Code provides the criteria for the establishment of the restricted zones, identifies the location of certain zones, and allows for penalties for violating provisions of the Code. The provisions of the Code can be enforced by any law enforcement officer, as well as any authorized County employee. These revisions to the Pinellas Code are significant as they enable a more comprehensive approach to marine regulation enforcement. Chapter 130 was updated again in 2004 to expand certain regulatory zones. The following section discusses each established zone.



Aquatic Regulatory Zones

Ft. DeSoto Wetlands and Aquatic Habitat Management Regulations

Beginning in the mid-to-late 1980's, Pinellas County became increasingly concerned about seagrass scarring from boating activities and the cumulative impact of boat propeller scarring. In 1990, Pinellas County assembled a coalition of regulatory and citizen representatives, including the commercial and recreational fishing interests, to begin to bring focus to the issue. Several meetings were held to discuss the issues and to build a consensus on a solid and supportable action plan that would provide the needed resource protection. The group had reached a consensus on a plan by the end of 1991, and a seagrass protection ordinance was subsequently drafted and adopted in the beginning of 1992. The ordinance provided specific protection for the seagrass habitat associated with the Ft. DeSoto area (**see Figure 22-A**).

In order to protect the habitat value of the Ft. DeSoto seagrass beds, the area including land from Indian Key on the north to Ft. DeSoto Park on the south, has now been marked by buoys, pilings and signs informing boaters of the various protection zones. These zones are either 'combustion motor exclusion' zones, 'slow speed' zones or 'caution shallow water' zones. The intent of establishing and posting these zones is mostly to provide protection for the manatees while they are feeding in the seagrass beds. The Pinellas County Sheriff's Office provides enforcement. Large informational signs (4' x 8') have been placed at area boat ramps, and information maps depicting the zones and explaining the value of seagrass beds were distributed as follows: two at the Ft. DeSoto Park boat ramp; one at the Maximo Park boat ramp; one at Tierra Verde Marina and one at O'Neil's Marina. There are also ten smaller (2' x 4') signs located at various locations throughout Ft. DeSoto Park, Maximo Park and Gulfport Marina.

Ongoing monitoring of the seagrass beds helps gauge the effectiveness of the signage, brochures and enforcement. Results of the monitoring so far indicate that scarring rates are similar in the caution zones and exclusion zones. It has also been determined that when marked properly, buoys and pilings are effective in protecting seagrasses.

Weedon Island Wetlands and Aquatic Habitat Management Regulations

In 2000, the Ft. DeSoto Wetlands and Aquatic Habitat Management regulations were amended to include the protection of seagrass beds off of the Weedon Island Preserve. This area now has several 'combustion motor exclusion' areas as well as 'slow speed, minimum wake' and 'idle speed, no wake' areas which are designated to protect the seagrass beds as well as manatees. In the area of the warm water discharge at the Bartow Electric Generating Station in Tampa Bay, boating is restricted on a seasonal basis. From November 15th through March 31st, this area is 'combustion motor exclusion'. From April 1st through November 14th, the area is 'idle speed, no wake'. The Pinellas County Sheriff's Office provides enforcement.

In October 2002, the United States Fish and Wildlife Service (USFWS) designated a portion of the warm water Bartow Electric Generating Station a Manatee Sanctuary (see **Figure 22-B**). The Sanctuary prohibits any waterborne activities (including use of water vehicles, fishing, snorkeling, etc.) from November through March.

Shell Key Preserve Regulations

In accordance with the Shell Key Preserve Management Plan approved in December 2000 by the State of Florida, Aquatic Area Use Zones were designated within Shell Key Preserve. Two designations, 'shallow water caution' and 'combustion motor exclusion', were delineated to protect the existing seagrass beds and associated wildlife, including manatees. Remaining zones include 'idle speed' and 'no wake'. Posting of the Aquatic Area Use Zones was completed in 2002 and restrictions are in place throughout the year (see **Figure 22-A**). The Pinellas County Sheriff's Department currently patrols the Shell Key Preserve.

Safety Harbor Shoreline Regulations

In 2004, the Board of County Commissioners designated a seasonal (April 1st to November 15th) 'slow speed, minimum wake' zone encompassing the shoreline of Safety Harbor, beginning at the northwest abutment of the Courtney Campbell Causeway and extending north and east along the shoreline of Safety Harbor to the northwest corner of the Progress Energy property that once contained the recently dismantled Higgins power plant (see **Figure 22-C**). All marked channels and the Safety Harbor boat basin were excluded. Data has shown that the area is frequented by manatees. The intent of the zone is to protect manatees from boat collisions and harassment, and to protect manatee habitat.

Bay Pines Channel Regulations

In August of 2006, the Board of County Commissioners designated a 'slow speed, minimum wake' zone in the Bay Pines area, "extending approximately 2,700 feet south of the Bay Pines Boulevard bridge south abutment, along Bay Pines Channel to the green Daybeacon #27". It also extends "from the boat ramp at War Veterans Memorial Park, approximately 1,200 feet east to Bay Pines Channel". Please see **Figure 22-D** for a graphical depiction.

Gulf Islands GEOPark

The GEOPark includes State-owned Caladesi Island, Honeymoon Island, Anclote Key and Three Rooker Bar. The State established 'combustion motor exclusion' zones to protect the area's natural resources, including its seagrass beds, and the County assisted the State in the installation of signage and markers. State Park personnel provide enforcement. See **Figure 22-E** for a depiction of protected areas.

FIGURES 22-A
FORT DESOTO PARK/SHELL KEY PRESERVE
AQUATIC REGULATORY ZONES

FIGURE 22-B
WEEDON ISLAND AREA AQUATIC REGULATORY ZONES

FIGURE 22-C
SAFETY HARBOR/OLD TAMPA BAY AQUATIC REGULATORY ZONES

FIGURE 22-D
BAY PINES CHANNEL AQUATIC REGULATORY ZONES

FIGURE 22-E
GULF ISLANDS GEOPARK AQUATIC REGULATORY ZONES

Land Acquisition and Management

The acquisition of coastal land to manage for environmental value is an effective tool for manatee habitat protection. Pinellas County currently owns and/or manages over 6,500 acres of coastal park and environmental lands and manages them for their public appreciation and natural resource value. Included in this list are Fort DeSoto Park, Boca Ciega Millennium Park, Wall Springs Park, Mariner's Point, Weedon Island Preserve, Shell Key Preserve and War Veterans' Park. Several municipalities have participated, or partnered, in coastal land acquisition projects such as the City of Oldsmar with the Mobbly Bay Preserve acquisitions, the City of Clearwater with Cooper's Point, and the City of St. Petersburg with Clam Bayou. In addition, the State of Florida and the Southwest Florida Water Management District have been frequent partners with the County and cities in habitat protection. Some significant recent Pinellas County coastal acquisition and management projects include:

Weedon Island Preserve: In 1993, the State of Florida effectively turned over the management of Weedon Island to the County. Since that time, the County has worked to acquire and/or manage adjacent uplands and submerged lands in order to protect the natural resources, including its desirable manatee habitat.

Shell Key Preserve: In 1999, Pinellas County began purchasing land on the Shell Key Barrier Island in order to establish the Shell Key Preserve. The majority of Shell Key Preserve is now either owned by the State of Florida and leased to the County, or owned by the County. A small portion remains in private ownership. In March of 2000, the Board of County Commissioners approved a



Management Plan for Shell Key which included seagrass protection strategies. This plan was accepted by the State of Florida in December of 2000. The Management Plan is currently being implemented and also includes designated combustion motor exclusion zones and shallow water caution zones which were posted in 2002. These measures in particular provide protection for the manatees while feeding in the surrounding seagrass beds.

Boca Ciega Millennium Park: Dedicated April 7, 2001, Boca Ciega Millennium Park protects important natural habitat along the shores of Boca Ciega Bay.

Wall Springs Park: In the past several years, over 120 acres of intact environmental land have been purchased by Pinellas County. These coastal tracts are adjacent to some of the most extensive seagrass beds in Pinellas County and represent a prime coastal feeding area for manatees.



Intergovernmental and Interagency Cooperation in Manatee Protection

Pinellas County is involved with a number of area agencies and groups for the purposes of manatee research, protection, and education. Several of those activities are summarized in the following paragraphs.

Manatee Protection Strategies Task Force

In 1997, the Tampa Bay Regional Planning Council's Agency on Bay Management (ABM) established the Manatee Protection Strategies Task Force, a workgroup tasked to explore recommendations for manatee protection in Tampa Bay. The Task Force members included representatives from the Florida Fish and Wildlife Research Institute (FWRI), Florida Department of Environmental Protection (FDEP) regulatory staff, the Florida Fish and Wildlife Conservation Commission (FFWCC) Bureau of Protected Species, Save the Manatee Club, Florida Power, Tampa Electric Company, Manatee and Hillsborough Counties, anglers, and citizens with local knowledge and experience. Pinellas County staff served as the co-chair. In July 1998 the final recommendations were presented to the ABM Natural Resources committee for approval.

Some of the implemented Manatee Protection Strategies Task Force recommendations include the speed zones and other boating regulations directed at the Weedon Island area from the Progress Energy Bartow Plant warm water discharge down along the Weedon Island Preserve. Regulatory signs have also been installed identifying the new boating regulations, and informational kiosks have been placed at heavily used boat ramps to identify the caution areas. The Pinellas County Sheriff Department's Marine Unit has been patrolling these waters since the signs were installed in March 2002.

Manatee Awareness Coalition

Once the Task Force completed their recommendations, it was apparent that someone needed to oversee the implementation of these recommendations. The Manatee Awareness Coalition (MAC) was subsequently established as a sub-group of the Task Force to oversee implementation of the speed zones, water education for boaters, education of homeowners, and to provide the *Minute for Manatees* at the Coast Guard Safe Boater courses.

Tampa Bay Regional Planning Council/Agency on Bay Management

The Agency on Bay Management serves as a broad-based forum for open discussion on the myriad of issues involving the Tampa Bay Estuary, and serves as a regional voice for the protection, restoration and wise use of Tampa Bay. Pinellas County staff has served as the co-chair of the Manatee Protection Strategies Task Force, a group responsible for developing manatee protection recommendations for Tampa Bay. Through the Agency on Bay Management, the Task Force was able to include representatives from recreational boating and fishing interests, commercial fisheries, industry, regulators, the academic and scientific sectors, as well as local, regional, state and federal governments.

Tampa Bay Estuary Program

The Tampa Bay Estuary Program is a partnership among Hillsborough County, the City of Tampa, the City of Clearwater, the City of St. Petersburg, the City of Tampa, Manatee County, the Florida Department of Environmental Protection, the Southwest Florida Water Management



District, the U.S. Environmental Protection Agency and Pinellas County, directed at the protection and restoration of Tampa Bay. The culmination of this partnership was the development of a *Comprehensive Conservation and Management Plan (CCMP) for Tampa Bay* and formal commitments to its implementation by all of the partners. As a part of the planning process, goals and priorities were identified for Tampa Bay. Individual Action Plans were subsequently put together for Water and Sediment Quality, Bay Habitats, Fish and Wildlife, Dredging and Dredged Materials Management, Spill Prevention and Response and Public Education and Involvement. In particular, the Action Plans for Bay Habitats and for Fish and Wildlife directly support and affect local manatee and manatee habitat protection efforts. In association with its participation in the development of the CCMP, Pinellas County began the seagrass monitoring program throughout Tampa Bay and Clearwater Harbor in 1998. The County also helped to develop the Boaters Guide to Tampa Bay, a brochure containing a map of the Tampa Bay seagrasses and helpful boating information.

Each partner agency and government was also required to develop their own Action Plan, identifying their locally relevant strategies for achieving the CCMP goals. Pinellas County's Action Plan included such things as establishing speed zones to protect manatees and seagrass and implementing projects in County Watershed Management Plans to remove nitrogen from surface waters into Tampa Bay. Both the CCMP and the resultant Action Plan priorities complemented many of the goals, objectives and policies already contained in the Pinellas County Comprehensive Plan, evidencing the County's history of commitment to coastal resource protection.

The Florida Fish and Wildlife Conservation Commission (FFWCC) and the Fish and Wildlife Research Institute (FWRI)

The Commission's Bureau of Protected Species Management is responsible for manatee protection efforts in Florida, and specifically provides guidance on manatee protection efforts in Pinellas County and Tampa Bay. The FWRI, a division of the FFWCC, is responsible for conducting scientific research on manatees. Their research focus includes population monitoring, photo-identification, aerial surveys, radiotelemetry and tracking, carcass salvage, and rescue of injured animals.



These data were used by the Manatee Protection Strategies Task Force in identifying areas needing protection throughout Tampa Bay. FWRI, the County and other members of the Manatee Awareness Coalition work cooperatively on various boater education efforts directed at manatee protection.

The Southwest Florida Water Management District's (SWFWMD) Surface Water Improvement Program (SWIM)

The County has partnered with the SWFWMD on several occasions, through a shared funding process, to undertake coastal habitat restoration projects. Protecting and improving coastal habitats contributes to the protection of manatee habitat. Some examples include projects along Joe's Creek, Allen's Creek and Mobbly Bayou.

Army Corps of Engineers

In 2007, Pinellas County and the United States Army Corps of Engineers signed an operating agreement under which the County's Water and Navigation staff will handle the review of

projects that meet the criteria of the Corp's general permit SAJ-96. SAJ-96 was drafted cooperatively between the Corps and the County to specifically address dock construction and dredge/fill activities in Pinellas County. It covers approximately 85 percent of the projects processed in the County, thereby freeing limited Corps staff time to focus on those projects that have more significant concerns with manatee protection.

Coordination with Surrounding Local Governments

Since the Manatee Watch Line was first activated in 1992, the manatee sighting data has been requested by several surrounding local governments. This information has been used to help cities acquire grants for purchasing environmentally sensitive lands, and to determine impacts of new construction projects where manatees could potentially be harmed. There is potential for additional coordination with neighboring governments in the protection of Pinellas County's coastal habitats and resources, including coordination and cooperation in manatee protection activities.

Commitments to Education

Pinellas County Manatee Watch Line

In 1992, the Pinellas County Manatee Watch Line was first activated. This program tracks information regarding manatee sightings in Pinellas County waters reported by the public. The Watch Line logs an average of 450 reported sightings per year. Calls have been received from Pinellas County residents as well as tourists visiting from other states and countries, and it appears that the program is helping to raise awareness that manatees are in Pinellas County waters. Information from the Watch Line is also being used to identify locations in the County that are frequented by manatees. To help get the word out to the public about the Watch Line, public service announcements are broadcast on local television stations, brochures and magnets are distributed at environmental expositions, and the Watch Line is highlighted at numerous public speaking engagements on manatees.

Good Mate Marina Program

In partnership with the Center for Marine Conservation, Pinellas County is participating in the Good Mate Marina Program. The target audience is boaters and marina owners and operators. The goal of the program is to educate this audience on how their actions can impact the waters and wildlife around them, and to provide information and guidelines on how they can help protect the County's waters and marine life. Specifically included as a part of the Program is education on manatee protection and awareness for marina owners, employees and boaters.

In-School Presentations and Speaker's Bureau

Pinellas County staff averages over 40 presentations on manatee protection during each year to boater groups, civic organizations, local schools and other community organizations.

Cooperation with Other Agencies

The County participates with several agencies, including the Agency on Bay Management, FWRI, the Tampa Bay Estuary Program, etc., in developing educational information directed at creating awareness of manatee in our local waters and how boater actions affect their survival.

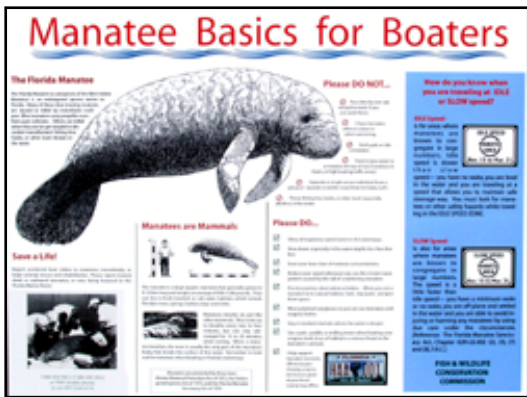
Through a cooperative agreement with Tampa Bay Watch, educational signage will be installed at County boat ramps and various other waterside public/private locations. The

signage educates boaters about nearby boating regulatory zones as they relate to various marine environmental conservation topics, such as shoreline erosion caused by boat wakes and seagrass and manatee protection.

Effectiveness of Existing Manatee Protection Programs and Measures

Pinellas County has an extensive and multi-faceted regulatory program that addresses a wide range of impacts to manatees and manatee habitat. Unique and fundamental to Pinellas County's coastal resource protection commitment is the countywide control over water-dependent development activities provided by the Water and Navigation Control Authority. In addition, specific to development in the unincorporated county, Pinellas County has zoning and land use restrictions over the location of water-dependent uses, and in particular, restrictive criteria related to the location of marinas aimed at natural resource protection. Most, if not all, of the local governments in the County also strictly control the location of marinas through their zoning codes and future land use maps. Effective development controls for marinas and related uses have been in place for a number of years in Pinellas County.

More problematic is the number of boats using County waters, all of which do not originate in this County. For this reason, increasing emphasis has been placed on participation in the regional forums for developing boater education, placing educational information at marinas, docks, and ramps, monitoring the effects of education, monitoring high manatee use areas, refining certain boating related ordinances to address habitat protection, restricting boat activity and boat speeds in known habitats, and working on enforcement. Enforcement of existing boating restrictions, and boater education are the likely keys to effective management of manatee-human interactions.



MARINA SITING CRITERIA

Marinas in Pinellas County help service the large fleet of recreational and commercial boats in the Tampa Bay area. As a result, they foster the growth of an important component of the County's economy by providing a market for boats and accessories. As the population of the Tampa Bay area continues to grow, the need for additional rental boat slips likewise increases.



*St. Petersburg Municipal Marina,
the largest in Pinellas County*

The Regulatory Framework

Marinas with wet slips require access to and construction upon submerged lands. In Florida, unless the particular site has been previously sold or alienated by the State, all submerged lands fall under State ownership. Thus, any person proposing a marina project on State owned land must be sold, leased or granted the authority to use that land by the State. Since 1967, there has been a moratorium on the sale of submerged lands to private interests. Thus, marina operators must now obtain a lease if any State-owned submerged lands are to be used. In addition, the State has retained the right to regulate the use of all submerged lands in the public interest. The Board of Trustees of the Internal Improvement Fund has final authority in such regulation.

In Pinellas County, additional restrictions are applied to the use of submerged lands because all County coastal waters have aquatic preserve status. Aquatic preserves are special coastal waters that the State has selected for preservation, protection and/or restoration. An aquatic preserve was first established in Boca Ciega Bay in 1969, with the remaining Pinellas County coastal waters so designated in 1972. Chapter 18-21, Florida Administrative Code (F.A.C.) calls for all sovereignty lands within an aquatic preserve to be managed for the maintenance of essentially natural conditions. Thus, marina siting within Pinellas County waters is regulated by special siting policies adopted by the Governor's Blue Ribbon Marina Committee. Some of these policies include: a) marinas shall only be located in or near existing well-flushed, deep water areas; b) no dredge or fill activities; c) the marina shall not be located in important habitat areas; d) boat access to the marina should avoid seagrass beds; and e) location of marinas in an undisturbed portion of the preserve shall be discouraged.

The Florida Department of Environmental Protection (DEP) is the agency charged with responsibility for State sovereign lands and thus acts as staff for the Board of Trustees. When a new marina site is proposed, DEP staff conduct a study of the environmental, economic, legal and navigational effects of the project. In particular, DEP, through the Division of Marine Resources, looks at the possible effect of the project on manatees and estuarine resources. In addition, DEP looks to see if the proposed project is located within an aquatic preserve or other area where special rules must be applied. As noted above, all County coastal waters are part of the Pinellas County Aquatic Preserve or the Boca Ciega Bay Aquatic Preserve. Once the basic study is completed, DEP staff meet with the applicant(s) in an attempt to resolve any problems before a final decision on an applicant's proposal is made. A final recommendation is forwarded to the Board of Trustees, which makes a final decision on the applicant's proposal.

The Department of Environmental Protection issues all State dredge and fill permits and is charged with monitoring water quality.

Other State agencies can play a role in marina siting and expansions. The Florida Fish and Wildlife Conservation Commission (FFWCC) comments on all State DEP permits to ensure consideration of fish and wildlife interests. Most comments are used by DEP in their decision on the permit. In addition, the Department of State provides expertise and recommendations when a marina project affects archaeological resources. Importantly, the 2006 passage of House Bill 683 and Senate Bill 1020 exempted marinas from the Development of Regional Impact (DRI) review process. Until that time, the Florida Department of Community Affairs (DCA) had the authority to intervene when a DRI included marina facilities.



Clearwater Municipal Marina

The Federal government also plays a major role in many marina siting decisions. The U.S. Army Corps of Engineers, under the authority of Section 10 of the Rivers and Harbors Act of 1899, requires both a dredging permit and construction approval for marinas located on navigable waters. The Corps acts primarily as a clearinghouse for objections; it regularly submits permit applications to the U.S. Environmental Protection Agency (EPA) and the U.S. Fish and Wildlife Service (USFWS) for their comment. The Corps also considers pertinent local permit decisions; Corps regulations require that no permit be granted if local and state permits have been denied; conversely, the Corps will be reluctant to deny a permit desired by local and state governments.

The EPA regulates marinas through the issuance of a discharge permit if the project includes a sewage treatment plant or a storm sewer outfall into navigable waters. The EPA also works through the U.S. Coast Guard to regulate marine sanitation devices (MSDs) on recreational boats. The Coast Guard has developed regulations based on EPA guidelines to certify all MSDs. The USFWS reviews all Corps applications for their effect on manatees and other endangered species. The Corps has never overridden a USFWS recommendation because problems are generally amenable to compromise with the developer. The National Oceanic and Atmospheric Administration (NOAA) likewise reviews and approves all projects affecting estuarine resources.

Although State and Federal agencies can play an important role in marina siting and regulation, much of that regulation occurs at the local level. Local communities can choose to carefully limit, encourage, or guide the location of marinas through their zoning codes. In Pinellas County, municipal zoning codes generally limit marina activity to commercial or industrial areas, although the City of Dunedin provides for a special zone and certain barrier island communities effectively ban their existence. In the unincorporated County, marinas can be sited in any "commercial" zone such as General Commercial or Industrial. In general, zoning codes can help protect residential neighborhoods from negative marina side effects, but they can also effectively make marina siting very difficult by limiting potential locations for

marina development. Multi-family docks are likewise limited to sites with the appropriate land use and zoning.

Pinellas County also directly regulates marina siting and expansions. In the 1950s, a special act of the Florida Legislature created the Pinellas County Water and Navigation Control Authority. The Water and Navigation Control Authority, which is comprised of the Board of County Commissioners, monitors the detrimental effects of waters in Pinellas County. Acting as staff for the Authority, the Pinellas County Department of Environmental Management conducts studies of any proposal and analyzes the planned facility's impact on neighboring property rights, the environment, traffic, the economy and navigation. If the Department finds any problems that the State (DEP) had missed, County staff meet with the applicant and, when appropriate, with State agency personnel to develop a consensus on the problem. The County and State work together at all stages of the permitting process to resolve any issues related to the proposed marina. Finally, the Board of County Commissioners, sitting as the Pinellas County Water and Navigation Control Authority, issues or refuses to issue a permit to the applicant. It should be noted that the Board has authority over the entire County, including incorporated areas, in this matter.

Issues Related to Marina Activity

Because marina expansion or development in Pinellas County would normally occur along a heavily developed shoreline where remaining vacant land is often environmentally sensitive, there are several issues that must be addressed by any siting policy. First, marinas can have several environmentally undesirable effects on coastal and estuarine resources. Marinas can alter natural water circulation patterns, leading to stagnation and accumulation of contaminants. Initial dredging and ongoing boat propeller turbulence increases turbidity, by the suspension of material in the water. This can lead to clogged fish and shellfish gills, smothering of benthic organisms as the sediment settles, reduction of light penetration needed by marine vegetation, and increased biological oxygen demand and even anoxia due to nutrient loading. Marinas also release sewage and sewage treatment chemicals from marine sanitation devices. Although urban land runoff contributes more human pathogens than most marinas, poorly flushed water bodies can experience serious contamination due to boat and shore facility evacuation. Marinas also suffer from the cumulative effects of innumerable small oil and fuel spills. Because of their individually small, accidental nature, these spills are difficult to control except through boater education. Finally, marinas can lead to the contamination of coastal waters and sediments by dangerous copper-based anti-fouling paints. In reaction to this, some states such as Virginia have banned the use of TBT, a common anti-fouling agent. Less severe solutions might include limiting their use to only the crafts themselves, thus permitting natural fouling organisms to establish themselves on pilings and buoys. All of these reasons are why present-day marina site criteria include adequate depth to where dredging is not required and where good access is available. New marinas must now be located in water areas of adequate depth with good access that flush well.

Compatibility with surrounding land uses is another important issue. Marinas can result in increased traffic, noise and dirt that conflicts with surrounding land uses. Nearby homeowners, concerned about the environmental and visual effects of the marina upon their property values, often pressure local governments to pass restrictive ordinances against marinas. Even where

such restrictions are not imposed, sufficient upland area must be available for supporting activities, and in some instances as a buffer between surrounding areas and marina activities.

Navigation is another concern. Marinas should be located with good access to navigable waterways. It is also important that marinas not obstruct existing paths of travel and that waters be of sufficient depth to allow passage to and from the marina. Without adequate water depth, destruction of marine vegetation may occur, or the developer may request a dredging operation, which is strongly discouraged by the State.

Wetland and habitat protection is also important. Before the mid to late 1960's, many marinas were constructed in wetlands because of the low cost of wetlands property and the widely held belief that such lands were of little value. In more recent years, however, the role of wetlands in providing habitat for endangered species and important commercial and recreational fish has been recognized. In addition, wetlands provide important protection for water quality through the entrapment and reduction of urban and agricultural runoff. Marina construction fundamentally alters the vegetation, topography, drainage and ecology of the wetland. Restoration of lost wetland areas is difficult, if not impossible.

An additional issue involves the economic viability of marinas. Marinas are an important element in the water-oriented lifestyle and economy of Pinellas County, and it is important that adequate public marina facilities be available. Unfortunately, marinas are typically situated on waterfront property that is prime for redevelopment. A combination of high land values, low operating profits, and strict regulations encourage marina owners to either sell their land or participate in the development of their upland property with condominiums or resorts. These same factors discourage property owners or potential developers from developing new marinas open to the public.



The Vinoy Basin

Finally, because marinas inevitably cause some destruction of the environment, mitigation measures are an important consideration. Mitigation involves the substitution, repair, or replacement of environmentally-sensitive areas damaged by construction. For example, a developer whose marina has destroyed a wetland might purchase an additional nearby wetland. The undisturbed wetland could then be placed under easement, to the locality, thus preserving an important ecological feature that might have been lost to other development. In addition, a developer might modify his site plan to protect the greater portion of the threatened environmental feature. Although preservation of the natural environment in its entirety is preferred when possible, mitigation methods allow some of the environmental benefits arising from wetlands and other natural features to be replaced or retained.

Performance Standards for Marina Siting

Marinas, as described above, can have significant impacts on coastal resources and nearby land uses. Consequently, the proper siting of marinas is a prime consideration in the expansion of these facilities. Pinellas County uses many of the following performance standards for evaluating the siting of new and/or the expansion of existing marinas:

Existing and Planned Land Use

Preference should be given to sites where a marina would be compatible with existing and planned land uses. For example, Location and availability of necessary support services is important. Potential marina sites should have sufficient upland area to accommodate all needed utilities and support facilities, such as parking spaces, rest rooms, dry storage, etc. The capacity of the surrounding roadways should be adequate to handle boating traffic to and from the marina. And any future marina location should be able to connect to a wastewater treatment plant.

Environmental Considerations

Marina development in the following sensitive areas should be clearly in the public interest before approval to build is granted:

- Aquatic Preserves
- Outstanding Florida Waters
- Class II waters
- Critical manatee habitats
- Areas approved or conditionally approved by the Florida Department of Environmental Protection (DEP) for shellfish harvesting, and
- Other highly productive and/or unique habitats as determined by DEP, by the Florida Fish and Wildlife Conservation Commission, as identified in the Comprehensive Conservation and Management Plan (CCMP), or by Pinellas County, based on vegetation and/or wildlife species.



Safety Harbor Municipal Marina

Potential marina locations require an adequate water depth to accommodate the proposed boat use. Sites that require no dredging or filling to provide access by canal, channel or road are preferred. Optimum marina sites are located adjacent to naturally maintained channels. To prevent water quality problems, new or expanded marina facilities should also be located in areas where there is adequate flushing of the basin to prevent stagnation and water quality deterioration. Preference should be given to those facilities which demonstrate no adverse impact on archeological or historic sites as defined by State and local comprehensive plans.

Economic Considerations

Preference should be given to sites that have reasonable access to a large navigable water body and to facilities that will be open to the general public.

The criteria listed above are extensive, but reflect the varied impacts of marinas and the need to make people aware at the outset of what areas will be most suitable for marina development. In many cases, expansion of existing marinas will probably create the least disturbance to natural resources and land use patterns.

THE CLEAN MARINA PROGRAM

Pinellas County is known throughout the world as a premier tourist attraction. The constant sunshine, moderate temperatures, beautiful beaches, warm water, and year-round swimming, diving, boating and recreational fishing provide tourists and residents with abundant and diverse recreational opportunities. In an effort to protect and promote local shoreline resources, Pinellas County has combined its local marina program

(the Good Mate Program) with the State of Florida's marina program to create the Clean Marina Program of Pinellas County.



*Caladesi Island State Park Marina,
a Certified Clean Marina*

Research has shown that most marinas and the boating public are concerned about the quality of their marine environment, and stand by ready to help. But good and comprehensive information on how to protect and care for it has not always been easily available.

Therefore, Pinellas County, the State of Florida and the Marine Industry have entered into a partnership to raise awareness and promote more environmentally responsible boating and marina operations with the goal of making it easier for all good boaters to leave a clean wake.

This program will help participating marina communities become more environmentally responsible in the management of litter and debris, oil and fuel, sewage, chemicals, and stormwater runoff.

Benefits to Boaters

The Clean Marina Program will offer public education through published materials, seminars, and activities to provide real guidelines and real solutions for protecting our waterways and marine life from pollution.

Boaters and marina staff will learn valuable techniques from the program, such as:

- How to prevent water pollution
- How to comply with environmental rules and regulations
- How to identify environmentally-friendly marinas
- How to respond to pollution violations and emergency situations

Benefits for Marinas

Participating marinas will receive technical assistance to help them protect their local environment, improve public services, and meet the standards that will provide them with a "Clean Marina" designation.

Specialized training and materials will help marinas establish and improve:

- Sewage pump out stations
- Fueling centers
- Solid waste collection systems
- Maintenance and facility operations



Marina staff will receive information and training on:

- Recycling signage directing boaters to marine facilities
- Preventing oil, fuel and sewage discharges
- Safe boating products

Each Pinellas County marina accepted into the Clean Marina program will receive local and state recognition, assistance with negotiating with regulating and funding agencies, help in acquiring educational resources, and a discount on their submerged land lease. There are currently 14 certified Clean Marinas in Pinellas County, as listed in **Table 27** For more information on the Pinellas County Clean Marina Program, please visit:

www.pinellascounty.org/Environment/pagesHTML/pollutionPrevent/pp1000.html

TABLE 27
Clean Marinas in Pinellas County

CERTIFIED PINELLAS COUNTY CLEAN MARINAS	
Caladesi Island State Park Marina	Largo Intercoastal Marina
Tierra Verde Marina	Marino's Marina
Clearwater Municipal Marina	St. Petersburg Yacht Club
Homeport Marina	Isla Del Sol Yacht and County Club
Gulfport Municipal Marina	The Harborage at Bayboro
St. Petersburg Municipal Marina	Mar Marina
Safety Harbor Municipal Marina	Maximo Marina