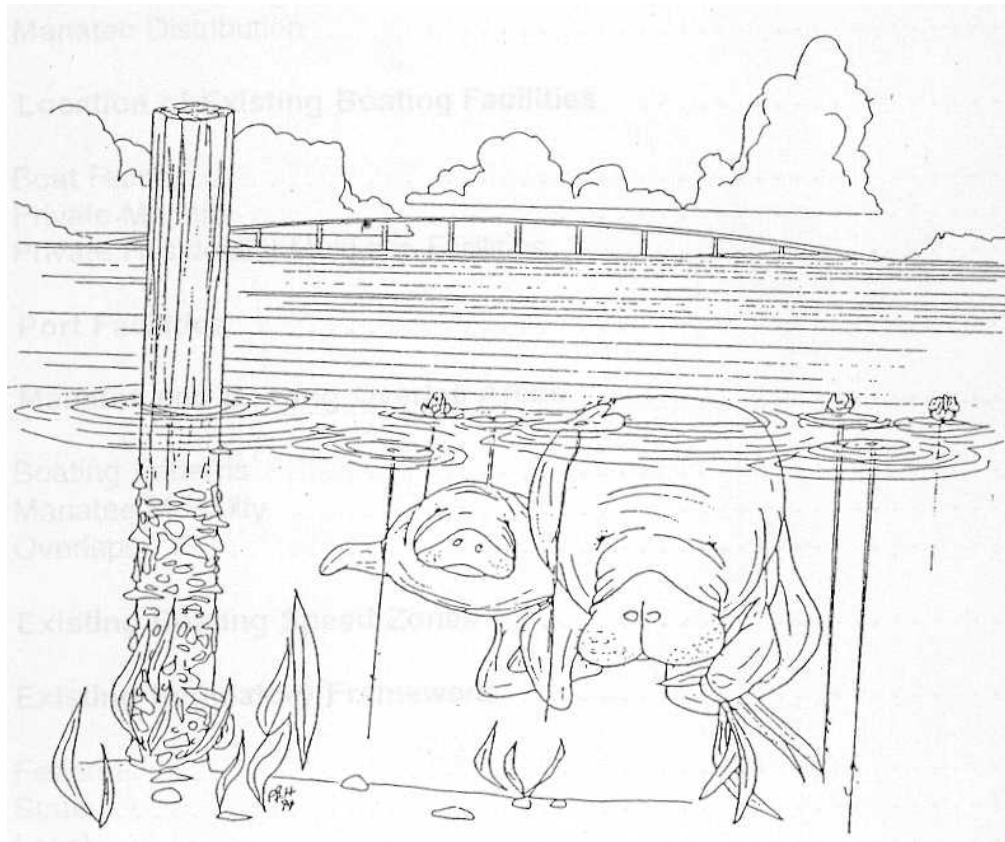


**CLAY COUNTY  
MANATEE PROTECTION PLAN  
January 2006**



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## **1. Executive Summary**

Clay County is located on the west bank of the Lower St. Johns River (LSJR) in northeast Florida. Duval County borders to the north, Putnam County is to the south and St. Johns County is directly opposite on the east bank of the river (Figure 1). The length of shoreline in Clay County extends about 30 miles from Buckman Bridge south to the Clay/Putnam County line. River width exceeds three miles in some areas of Clay County.

The Florida manatee (*Trichechus manatus latirostris*), a sub-species of the West Indian manatee, is commonly observed in Clay County waters during the warmer months of the year. Club Continental and Doctor's Lake in northern Clay County are important areas where manatees are frequently observed. Currently, there are no more warm water outfalls in Duval, Clay or St. Johns Counties. Manatees used to frequent Jacksonville Electric Authority's Southside Generating Station (Duval County) that closed in October 2001 but little use was observed in 2003/2004. Clay County does not have any power plants or other types of warm water sources that would attract manatees in colder months. Three fresh water springs exist but are too small to function as attractants to manatees. As a result, small numbers of manatees remain in northeast Florida during the winter months.

The United States Fish and Wildlife Service (USFWS/Service) is authorized to protect manatees under the Endangered Species Act. The Florida Manatee Recovery Plan (FMRP) was developed in 1980 by the Service and revised in 2001 to assure the long-term viability of the Florida Manatee in the wild. The Recovery Plan addresses recovery goals and measurable criteria to achieve these goals, actions needed, time scale and cost estimates (US Fish and Wildlife Service, October 2001). The development of manatee protection plans (MPPs) is listed in the FMRP as one of the recovery actions to address threats to manatees.

On October 24, 1989, Florida's Governor and Cabinet approved recommendations for protecting manatees, their habitat and increasing boating safety in 13 "key" counties that were experiencing excessive watercraft-related manatee mortality. Recommendations were outlined in Attachment K of a report entitled "Recommendations to Improve Boating Safety and Manatee Protection for Florida's Waterways." Clay County is not one of the thirteen "key" counties required to develop a manatee protection plan at this time but is proactively pursuing the completion of such a plan to further manatee protection efforts in the County.

In 1992, Clay County adopted the "Clay County 2001 Comprehensive Plan" pursuant to the state-mandated 1985 "Growth Management Act." Policy 5.11 of the Conservation Element of the Comprehensive Plan requires the County to develop and implement a manatee protection plan. The Clay County Board of County Commissioners held two workshops in October 1994 and August 1995 to discuss proposed manatee protection planning including recommendations for boating speed zones in Doctors Lake and portions of St. Johns River. Funding for this study was provided by a grant awarded to Clay County from the National Oceanic and Atmospheric Administration (NOAA), under the Coastal Impact Assistance Program (CIAP). In September 2002, Jacksonville University was contracted to update and complete the 1994 draft of the Clay County Manatee Protection Plan.

Aerial counts of manatees were highest in the LSJR adjacent to Clay County from spring to late fall. The single highest day count of 190 animals was a record on 06/25/2003 (both river banks). It is important to note that Clay County borders the west bank of the LSJR and that sightings on the east bank are primarily in St. Johns County. More animals occur on the west bank 58% versus 42% east bank. More animals were observed in the north part of Clay County and less in the central areas of the county with numbers reduced towards the south. On the west bank of the LSJR, highest numbers of manatees were seen from the Buckman Bridge to Red Bay Point and including Doctor's Lake. Behavior means indicated that manatees spent most of their time traveling (18%), resting (27%) and feeding (25%) and the least time cavorting (11%).

A total of 49 manatee deaths, including 13 watercraft-related deaths, has been reported between 1975 and 2004 in Clay County waters. Over the last decade, Clay County has averaged 0.5 watercraft-related deaths per year. Six of the 13 watercraft-related deaths occurred near the mouth of Doctor's Lake. The other watercraft-related deaths were documented near Club Continental (2), Fleming Island (1), Hibernia Point (1), mouth of Black Creek (1) Magnolia Point (1) and Green Cove Springs (1). Other documented deaths were classified as natural (1), cold stress (9), perinatal (11), 1 other human (ingestion of monofilament line), and undetermined (14). Total mortality rates in Clay County averaged 1.6 total deaths/yr. (range 1-5) since 1975. Total deaths were higher in 1992 (4), 1998 (5), 2000 (4), 2001 (4), and 2003 (4).

Registered vessels in Florida increased by 7% (65,028 vessels) from 2000 to 2003. Commercial vessels represented about 3% of all vessels, decreased by 448 during this period represent. In Clay County, there was a 12% increase (1,319 vessels). Commercial vessels represented 1% of all vessels, decreased by 6. In Duval County, there was a 1% increase (333 vessels). Commercial vessels represented 2% of all vessels, decreased by 44. In Putnam County, there was a 7% increase (544 vessels). Commercial vessels represented 3% of all vessels, decreased by 16. In St. Johns County, there was an 8% increase (840 vessels). Commercial vessels represented 3% of all vessels, increased by 25. In general, this represents an increase of some 3,036 vessels and a decrease of 489 commercial vessels in the region over this time period.

Aquatic vegetation such as tape grass, *Vallisneria americana*, occurs most extensively south of the Buckman Bridge on both banks of St. Johns River. This serves as a primary food source for manatees in Clay County waters. Submerged aquatic vegetation regenerated significantly after a period of drought. The percent of grass bed that was bare decreased to 20% (2003) and 16% (2004) from 42-58% (1998/2002). The percent of grass beds comprised specifically of *Vallisneria americana* tape grass increased to 72% (2003/2004) from 35% (2000) and 52% (2001/2002). Bed length increased to 103m (2003) and 109m (2004) from 38m (2002). Total percent coverage including all observed species increased from 55% in 1998 to 121% in 2004

Since the FWC adopted extensive speed zones for manatee protection in 2000 and the USFWS adopted additional zones in 2003, no new regulatory zones are recommended at this time. In addition to the state and federal zones, county-established boating safety zones also exist and provide additional protection to manatees.

As part of this MPP, a boat ramp study was conducted in Clay County from May 14, 2003 to August 3, 2003 to examine boater traffic, destinations, and to calculate a boater's sphere of influence. The highest use boat ramps were Knights (St. Johns River) and Lake Shore (Doctors Lake). The mean distance traveled from boat ramps was 7.16 miles ( $SD \pm 2.17$ ) and the mode was 5.30 miles ( $SD \pm 4.79$ ) miles. Weekend use was expectedly higher with a mean of 6.35 ( $SD \pm 5.05$ ) users/weekend day. Weekday use had a mean of 1.82 ( $SD \pm 1.17$ ) users/weekday. Peak usage times were evident from people generally departing in the morning and returning in the afternoon (departing about 9 AM and returning about 4 PM). Weekends and holidays represented peak usage days versus regular weekdays as well as the summer season versus other seasons. Types and classes of vessels using boat ramps in Clay County were determined to be predominantly power vessels less than 20 ft. in length (591) including personal watercraft (36). Other types of vessels recorded were sailboats (3) and canoes (7). Most common activities included cruising (42%), recreational fishing (32%) and water skiing (10%). Most other activities consisted of jet skiing and a few maintenance runs for larger recreational vessels (8%). Swimming activities associated with the boating experience made up 5% of trips followed by land based activities (2%), commercial fishing (1%) and diving (0.4%).

Future boat facility demand is most likely to occur in north/central Clay County waters and may require limits on the number of new powerboat slips to minimize impacts to manatees and manatee habitat. Criteria for the siting of new facilities, the expansion of existing facilities, or rearrangements are outlined in the MPP. Recommendations for future boat facility development are based on manatee use and manatee watercraft-related deaths in Clay County and are discussed according to the three geographically distinct boat facility siting areas. Impacts to submerged aquatic vegetation and other habitat-related provisions will also be considered.

Additional conservation areas and park lands such as Green Cove Springs Nature Preserve, Spring Park, Black Creek Ravines, and the Bayard Conservation Area may also affect areas available for future boat facility development.

PLEASE NOTE THAT THIS DOCUMENT CONTAINS SOME COLOR GRAPHICS THAT MAY NOT REPRODUCE AS EFFECTIVELY IN BLACK AND WHITE.

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### MANATEE PROTECTION PLAN GUIDELINES

Area-specific manatee protection plans need to be developed by all counties in which manatees regularly occur to ensure the long-range protection of the species and its habitat. The objective of manatee protection plans are: to reduce the number of boat-related manatee mortalities; to achieve an optimal sustainable manatee population (the goal of the Marine Mammal Protection Act); to protect manatee habitat; to promote boating safety; and to increase public awareness of the need to protect manatees and their environment. These plans will address manatee-human interactions, land use (including boat facility siting), and the protection of suitable habitat (including water quality, thermal refugia, freshwater sources, and grass beds). The information needed to prepare manatee protection plans will include manatee studies, habitat assessments, and, if available, boating studies to evaluate boater use patterns and activities. Boat facility siting elements are necessary components of area-specific manatee protection plans. Boat facility siting must address marinas with wet slips and dry storage, and boat ramps. The objectives of boat facility siting plans are: to determine appropriate dock densities for particular areas; and to develop criteria for designating special use areas (i.e.; for water skiing, jet skiing, and commercial fishing).

Necessary components of a manatee protection plan are:

- |  |       |
|--|-------|
| a. An Information Base   | 1-67  |
| b. location and capacity of all marina facilities (including dry storage) in the county (proposed and existing); | 28-43 |
| c. location of all boat ramps in the county (proposed and existing);   | 28-43 |
| d. boating activity patterns, including travel routes and major destination areas;                               | 44-52 |
| e. manatee sighting information for the county;  | 9-23  |
| f. manatee mortality for the county;   | 24-27 |
| g. any aquatic preserves; Outstanding Florida Waters or other refuge/reserve information;                        | n/a   |
| h. port facility information;  | 28-34 |
| i. location of significant habitat resources, such as grass beds, warm water discharges and fresh water sources; | 4-6   |

- j. location of manatee protection and boating safety speed zones in the county (proposed and existing); 53-64
- k. location of manatee information displays; and 78
- l. other relevant data as determined by the Department of Natural Resources. n/a

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

- a. boating expansion criteria; 67-75
- b. identification of recommended areas for water-related activities requiring high boat speeds, such as water skiing, boat races and certain types of commercial fishing; n/a
- c. a plan for marking navigation channels in currently unmarked waterways used by manatees. n/a
- d. new or expanded speed zones, refuges or sanctuaries for the regulation of boat speeds in critical manatee areas; n/a
- e. installation of manatee educational displays at all boating facilities; 78
- f. development and dissemination of a pamphlet to county boaters describing manatee protection and boating safety speed zones in the area, and recommendations for boaters on how to avoid hitting manatees; n/a
- g. inclusion of manatee and marine habitat educational material in the county school board’s elementary, middle school and high school curricula; 76-83
- h. development of appropriate aquatic plant control methods in manatee areas; n/a
- i. identification of land acquisition projects to increase refuges, reserves and preserves for manatee protection; and 36-37
- j. other actions as specified by the Department of Natural Resources. n/a