

MANATEE PROTECTION PLAN



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**Phase II
Manatee Protection Plan
for Volusia County**

Boat Facility Siting Plan and Implementation

Approved

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Phase II

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EXECUTIVE SUMMARY

Florida's freshwater, brackish and marine habitats are home to large mammals known as Florida manatees (*Trichechus manatus latirostris*.) For thousands of years, manatees and humans have shared these waterways. However, as the human population increased in Florida, threats to manatees grew, leading to federal, state, and local protections. In 1972, the Marine Mammal Protection Act prohibited any harassment or harm of manatees. The Endangered Species Act of 1973 increased federal protection of manatees and made it a violation to harass, harm, pursue, hunt, shoot, wound, kill, capture, or collect an endangered species. The Florida Manatee Sanctuary Act of 1978 declared the entire state as a refuge for manatees. In 1989, the State listed Volusia County as one of 13 counties key to manatee survival.

As a result of continuing threats to manatees, Volusia County established a manatee protection program to reduce manatee injury and mortality, while taking into consideration natural resources, recreational demands, and economic factors. The County's manatee program, staffed by a full time employee and supported by the County's natural resources program, is designed to meet the State's objectives for the creation of manatee protection plans. Therefore, the County's program intends to: reduce the number of boat-related manatee mortalities; achieve an optimal sustainable manatee population; protect manatee habitat; promote boating safety; and increase public awareness of the need to protect manatees and their environment. See *Schedule K, Manatee Protection Plan Guidelines of the Governor and Cabinet's October 1989 Policy Directive*.

These objectives have been incorporated into the area-specific manatee protection plan, which has been divided into phases. Phase I (approved by the Florida Fish and Wildlife Conservation Commission (FWC) in February 2001) deals with manatee/human interaction, habitat inventory, habitat protection, education, research, and governmental coordination. This phase was designed to address current impacts to manatees and promote manatee conservation in the future. Data and information in Phase I have been updated during the development of Phase II.

Under Phase I, Volusia County has implemented several programs designed to protect manatees including: a monofilament recycling program, a manatee conservation newsletter, a boater education program, a bilge sock program (designed to reduce petroleum pollution from entering waterways,) a sediments study, among others. Volusia County has also demonstrated its dedication to habitat protection through programs within its Environmental Management, Public Works, and Land Acquisition and Management divisions. Further, participation in programs such as the Indian River Lagoon National Estuary Program, the Surface Water Improvement and Management Program, and the Northern Coastal Basin Program provides additional protection to manatees through habitat restoration and public education about aquatic environments.

Phase II, including the Boat Facility Siting Plan, strives to minimize watercraft related injuries to manatees. In setting policies to safeguard manatees and their habitats, Phase II will also have the effects of increasing boater safety, facilitating recreation planning, and protecting estuarine habitat critical to many species.

This plan provides critical protection for important manatee areas and other environmentally sensitive areas while creating a funding source for additional law enforcement and education initiatives. This approach will integrate protective strategies for manatees with effective boat facility siting. As a result, there will be greater predictability in the permitting process for the development community and the regulatory agencies, while appropriating increased law enforcement presence into areas of greatest manatee/human overlap. This approach is supported by the Florida Manatee Recovery Plan, which states, “priority actions in manatee conservation and protection include boater education, enforcement, maintenance of signs and buoys, compliance assessment, and periodic re-evaluation of the effectiveness of the rules.” *U.S. Fish and Wildlife Service. 2001. Florida Manatee Recovery Plan, (Trichechus manatus latirostris), Third Revision, U.S. Fish and Wildlife Service. Atlanta, Georgia. p.34.*

Further, appropriate dock density should be achieved by incorporating a number of factors and approaches into boat facility siting plans. Therefore, Phase II of the Manatee Protection Plan for Volusia County bases boat facility siting on: funding for enforcement through the Manatee Conservation Fund, area-specific slip to shoreline ratios based on an evaluation of the manatee data, and specific siting criteria (including depth conditions, water quality specifications, dredging standards, seagrass/native submerged aquatic vegetation restrictions, best management practices, zoning/land use policies, among others).

Finally, Volusia County has demonstrated its commitment to the protection of manatees by allocating resources from its general fund towards the implementation of Phase I, as well as aggressively securing grants for manatee conservation and education. Once approved by the state, Phase II will establish a fund for increased on-the-water law enforcement and manatee conservation and education, while providing specific guidance for the siting and construction of new or expanded boat facilities.

III. B. BOAT FACILITY SITING PLAN

Purpose Statement

Phase II of the Manatee Protection Plan for Volusia County is designed to minimize watercraft-related manatee mortalities by establishing requirements for siting, developing, revitalizing, or expanding boat facilities. The combination of these required elements will enhance manatee protection and boater safety. The required elements are designed to be additive to permit requirements such that subsequent boating activity will be less likely to affect manatees or their habitat in the affected areas. The approach is to fairly balance manatee protection, habitat conservation, and boating safety with commercial and recreational marine interests.

B. 1. BACKGROUND

In 1972, the Marine Mammal Protection Act prohibited any harassment or harm of manatees. The Endangered Species Act of 1973 increased federal protection of manatees and made it a violation to harass, harm, pursue, hunt, shoot, wound, kill, capture, or collect an endangered species. The Florida Manatee Sanctuary Act of 1978 declared the entire state as a refuge for manatees.

Because endangered manatees are slow moving aquatic mammals that must surface to breathe, they are vulnerable to watercraft mortalities and injuries. Often found resting near the surface or on the bottom of waterways, manatees also suffer from human impacts such as entrapment in outfall pipes, gates and locks, entanglement in ropes and nets, and ingestion of fishing line or debris. Chemical, trash and waste pollution are also threats to manatees. Loss of warm water refuges due to the possible closure of power plants and reduced flows in natural warm water springs due to human usage are other potential threats. In addition to human related injuries, manatees face a host of other environmental threats such as infectious diseases, perinatal mortality, cold stress, and natural catastrophes (such as red tide poisoning).

Manatees have been known to populate certain regions of Florida and as the threats to their survival mounted, federal, state, and local protections increased. In 1989, the State listed Volusia County as one of the 13 counties key to manatee survival. Therefore, the County developed a plan to address boat speed limits and set speed zones.

During the 1990's, the County was awarded a grant to conduct a boating activity study. The study inventoried all marine facilities including boat ramps, marinas, dry storage, and private docks. In addition, the study analyzed boater access, destinations, habits, and vessels. The study has been used as supporting documentation for the Manatee Protection Plan for Volusia County (MPP) and portions of the study were updated in 2001. (See Attachment N.)

Between 1996 and 1999, Volusia County drafted a comprehensive Manatee Protection Plan. However, in order to accommodate lengthy comments from the State, stakeholder groups, and the public, staff divided the MPP into phases. Phase I deals with manatee/human interaction, habitat inventory, habitat protection, education, research and governmental coordination. It was designed to address current impacts to manatees, increase manatee conservation through discrete projects, public awareness initiatives and agency coordination, with the goal of achieving an optimal sustainable manatee population. In September 2000, County Council approved Phase I of the Volusia County MPP. It was subsequently approved by the Florida Fish and Wildlife Conservation Commission (FWC) in February of 2001.

Phase II, the Boat Facility Siting Plan, aims to minimize future watercraft-related injuries to manatees. Phase II sets out to influence boat facility siting and boating behavior such that appropriate dock density, speed zone management, and increased manatee protection will be achieved. It is designed to be compatible with local policies and ordinances while addressing manatee concerns.

In setting policies to safeguard manatees and their habitats, Phase II will also have the effects of increasing boater safety, facilitating recreation planning, and protecting estuarine habitat critical to many species. This plan is aimed at reducing manatee mortality. However, equally important is the protection of habitat to ensure the long-term viability of the species in balance with the economic and recreational needs of Volusia County residents.

Boat facilities have a significant economic, cultural, and ecological impact on Volusia County's waterways. To manage this impact, requirements for the placement, or siting of these facilities is crucial. Volusia County and affected cities already have criteria in place that must be met for new or expanding marine facilities. These criteria include land development codes, comprehensive plans, and zoning regulations. Additional criteria are found in: Manatee Sanctuary Regulations, Aquatic Preserve Management Plans, and State and Federal Land Management Plans.

Under the Boat Facility Siting Plan, marine facilities within the jurisdiction of this document are required to adhere to the above authorities, any other federal, state, and local management plans and rules, as well as the requirements listed below. All state and federally owned land will be subject to their respective agency's policies.

B. 2. INTRODUCTION

Phase II of the Manatee Protection Plan for Volusia County (MPP) is the Boat Facility Siting Plan. This plan is designed to decrease the potential for watercraft to collide with manatees and minimize indirect impacts of marine facilities on

manatee populations. The plan will provide direction to those wishing to expand or construct new marine facilities, result in additional enforcement of existing manatee speed zones, promote human safety, and decrease threats to manatees.

In this document, a boat facility is a public or private structure or operation where boats are moored and/or launched, including commercial, recreational, industrial and residential marinas, dry storage, boat ramps, trailer parking, and private docks. For the purposes of this plan, "boat facility" shall be synonymous with "marine facility." The term "new or expanding boat facility" shall include operations that are revitalizing, refurbishing, or otherwise renovating an existing facility. All legal and properly permitted existing boating facilities shall be allowed to continue with the existing use but may not increase in the number of wet or dry slips (or the number of trailer parking spaces for boat ramps), unless the facility meets all the provisions of the Manatee Protection Plan for Volusia County.

According to *Schedule K*, Manatee Protection Plan Guidelines of the Governor and Cabinet's October 1989 Policy Directive, one of the objectives of a boat facility siting plan is to, "determine appropriate dock densities for particular areas." (See also Chapter 370.12(2)(t)(1) Florida Statutes.) Appropriate dock density should be achieved by incorporating a number of factors and approaches into boat facility siting plans. Phase II of the Manatee Protection Plan does this by incorporating funding for increased on-the-water law enforcement of manatee speed zones, area-specific slip to shoreline ratios established by a criteria-based evaluation of the manatee data and manatee habitat by the state and federal agencies, and specific siting criteria (including depth conditions, water quality specifications, best management practices, zoning/land use policies, among others). These factors, utilized together will result in dock density and boater operation that is appropriate to Volusia County.

In addition, Volusia County Environmental Management (VCEM) will actively pursue grant funding from various sources for the purpose of manatee awareness and education initiatives. In recent years, VCEM has received funding through the Volusia County General Fund, Florida Fish and Wildlife Conservation Commission's Advisory Council on Environmental Education, the Ponce de Leon Inlet and Port District, and the Florida Department of Environmental Protection's Bureau of Emergency Response, for such educational projects. Currently, grant requests have been submitted to various entities for both educational initiatives and for enhancement of law enforcement.

Both phases of the Manatee Protection Plan will require regular updating. Updates to the information in both MPP phases and any necessary minor revisions shall be made every 5 years and conducted in coordination with comprehensive plan revisions, if possible. Periodic changes will be made to attachments as new local, state, or federal policy is created. Annual Reports will also be generated, and will include an update for new or expanding marinas and

the number of slips approved. Other updates will involve the inclusion of new data regarding manatee mortality and abundance.

B. 3. BOAT FACILITY SITING

Under the Volusia County Comprehensive Plan (VCCP) the County in coordination with the Florida Fish and Wildlife Conservation Commission (FWC) shall protect manatees and reduce the number of boat-related manatee mortalities by: enforcing boat speeds and water sport activities; utilizing the most current boat facilities permitting standards relating to manatee protection; monitoring manatee signs; protecting manatee habitat; and disseminating educational materials about manatees and boating safety at boat launch and marina facilities. (Chapter 12, Section 12.2.4. VCCP) (See Attachment C for data used to generate boat facility siting requirements.)

Following the specific requirements for marinas and ramps, the state and federal agencies will evaluate the project based on the provisions set forth in Section B.4. This evaluation will determine appropriate dock densities by geographic location based on an evaluation of manatee data and important manatee habitat features.

B. 3. A. Jurisdiction

Phase II of the Manatee Protection Plan applies to unincorporated Volusia County. Cities and municipalities within the County have three options that relate to boat facility siting. Cities may adopt Phase II provisions as written, referred to as the “as is” option, adopt a city specific refinement to Phase II’s provisions referred to as the “slip aggregation” option, or take no action.

If a city takes no action, the State may choose not to issue permits for new or expanding marine facilities within that jurisdiction. (See Cabinet Meeting Transcript, July 25, 2000.) If a city wishes to adopt its own plan or adopt city-specific provisions for the implementation of the MPP, the city should submit the plan to state and federal authorities for approval. Once approved, the city’s plan or city-specific provisions would be included into the Manatee Protection Plan for Volusia County as part of Attachment S, the Urban Supplement.

Those cities and municipalities that decide to adopt the Manatee Protection Plan and those cities that decide to create their own plan or that have city-specific provisions will, upon state and federal approval, be requested to sign a memorandum of understanding that outlines the City’s and County’s duties and responsibilities. This agreement would then be incorporated into the Manatee Protection Plan, along with their city’s plan or city-specific provisions under Attachment S.

B. 3. B. Speed Zones and Enforcement

The FWC and the United States Fish and Wildlife Service (USFWS) have adopted manatee protection speed zones in Volusia County. Because watercraft-related mortality is the number one cause of human-related manatee deaths, and in accordance with USFWS guidance, Phase II of the MPP for Volusia County integrates the idea that manatee mortality due to watercraft collisions can be reduced through increased manatee speed zone enforcement. (See Final Interim Strategy on Section 7 Consultations under the Endangered Species Act for Watercraft Access Projects in Florida that may Indirectly Affect the Florida Manatee, U.S. Fish and Wildlife Service, August 13, 2001, p. 1.)

Studies have shown that law enforcement presence increases boater compliance within manatee speed zones (Gorzalany, J. 1996, 1998, 2001 and Shapiro, S, 2001). The enforcement study component of Shapiro's 2001, *Assessing Boater Compliance with Manatee Speed Zones in Florida*, concludes:

...the presence of law enforcement negated any dependence of compliance on any variables. When law enforcement was present, compliance significantly increased, and both forms of non-compliance [blatant and technical] significantly decreased. We recorded up to 89% compliance [New Smyrna] in the presence of law enforcement. Studies of roadway vehicle traffic have also found significant increases in compliance (and decreases in traffic speed) in the presence of law enforcement. They determined that stationary, marked patrol vehicles had the greatest effect.

Therefore, Volusia County believes that an increased presence of on-the-water speed zone enforcement is one of the most effective means to improve overall adult manatee survival rates. However, all protective strategies including habitat protection, proper marine facility placement, pollution control, and education programs should be utilized. In fact, the Florida Manatee Recovery Plan states that, "priority actions in manatee conservation and protection include boater education, enforcement, maintenance of signs and buoys, compliance assessment, and periodic re-evaluation of the effectiveness of the rules." (U.S. Fish and Wildlife Service. 2001. *Florida Manatee Recovery Plan*, (*Trichechus manatus latirostris*), Third Revision, U.S. Fish and Wildlife Service. Atlanta, Georgia. p. 34.)

The Volusia County Sheriff's Marine Unit has an exemplary record for enforcement of manatee speed zones and other manatee related laws. They have 4 dedicated on-the-water officers and 1 supervisor. The Sheriff's Marine Unit also has 8 boats, 5 of which are actively used for patrols. In 2004, they logged over 1,856 hours underway; issued 478 boating citations, 819 traffic citations, and gave out 829 warnings. They also recorded 105 misdemeanor arrests and 3 felony arrests. The marine unit also conducted 338 directed patrols.

The U.S. Fish and Wildlife Service also gave them special recognition in 2002, awarding both the Unit and an individual officer the “Manatee Protection Award of Appreciation.” The Marine Unit has consistently endeavored to provide manatee education to boaters on Volusia County waterways.

Additionally, some cities have pooled their resources and formed a marine patrol unit that includes approximately 20 police officers from New Smyrna Beach, Port Orange and Ponce Inlet. They will be utilizing a 21 foot boat for their on-water enforcement of speed zones and can respond to distress calls on the entire length of the river. Additionally, the City of Edgewater has one personal watercraft and a 16 foot, radar mounted patrol boat that may be used for on-the-water enforcement.

During the period of May 2004-March 2005, the FWC’s Division of Law Enforcement recorded that 1444 of 4637 vessels observed in Volusia County were in non-compliance. They issued 411 citations. Two FWC marine units, composed of up to 5 officers each, operate within Volusia County and surrounding areas. These officers dedicate at least 50% of their time to conducting on-water patrols.

Clearly, law enforcement presence is a critical factor in increasing boater compliance with manatee speed zones and subsequently decreasing boat related manatee mortality.

In order to further the protection of manatees within Volusia County, the USFWS established part of the eastern coastline of Volusia County as a Manatee Protection Area. These areas contain manatee speed zones intended to regulate boat speeds at appropriate levels in order to reduce the likelihood of manatee mortality from boat strikes.

Also, under this designation, four previously identified recreation (water sports) areas were eliminated. A section of the Tomoka River east of the I-95 bridge that had been used for skiing was re-designated as a seasonal slow speed zone. The northernmost water sports area in the Halifax River, formerly located along the southeast side of the Seabreeze Bridge in Daytona Beach, was eliminated totally, as was the recreation area located along the northwest side of the Dunlawton Bridge in Port Orange. A designated ski area located along the eastern shoreline of the Halifax River between the Ponce de Leon Inlet and the north causeway in New Smyrna Beach was also eliminated.

B. 3. C. Project Inconsistency with MPP Provisions

Applications for new or expanding facilities in areas that are limited in powerboat density by the boat facility siting plan can request review for additional powerboat slips on an individual basis. However, full consultation with both Federal and

State wildlife agencies will be required, including section 7 consultations by the USFWS. A determination of whether an application should be approved will depend on a case-by-case review of the manatee data, existing manatee protections and the adequacy of manatee protections in relation to current and future development. The location and the activity must be approved by the FWC, the USFWS, the County, and municipality (if applicable) based on a finding that the facility will not have an adverse effect on manatees and that any offsetting measures must represent the same level of protection as what was required under the MPP recommendation.

B. 4. BOAT FACILITY SITING SPECIFIC REQUIREMENTS

New or expanding marine facilities shall meet all of the following requirements. Further, all new or expanding boat facilities must provide documentation to Volusia County Environmental Management (VCEM) describing how each site will satisfy these criteria. (See Attachment R.) Once it has been established that a prospective site meets the requirements in this section and in B.4.A through B.4.G, the site will be evaluated using the state and federal evaluation process specified in B.4.H. to determine appropriate dock density for the site. In addition:

1. The provisions of this plan shall not preempt or nullify any other more restrictive federal, state, or local regulations that apply.
2. For the purpose of the Manatee Protection Plan for Volusia County, existing boat facilities shall be defined as those facilities which have received all active and required permits and are legally authorized, constructed and in operation as of the effective date of this plan. All legally existing boat facilities shall be allowed to continue with the existing use, and may renovate according to permitting guidelines, provided there is no change in facility size, including no increase in the number of wet or dry slips, unless the facility meets the expansion criteria as provided in the Manatee Protection Plan for Volusia County.
3. The marine facility applicant must provide copies of the site plan, building permit (from either Volusia County or a city within the county) and the mitigation fees as required under section B.4.A., to VCEM's Manatee Protection Program, and must provide all required documents, including a letter of compliance from VCEM to the relevant permitting agencies.

Current elements of the Volusia County Comprehensive Plan (VCCP), relating to boat facility siting and manatees are included in this plan by reference, although some specific comprehensive plan policies are identified in this section to provide clear guidance for the appropriate siting of new marinas or the expansion of existing marinas. Any changes to the VCCP will be reflected in future attachments and the MPP shall be amended accordingly.

1. A priority shall be placed on the development of boat slip capacity at or south of Ponce DeLeon Inlet. (VCCP, Coastal Management Element, Policy 11.6.4.1; Recreation and Open Space Element, Policy 13.1.3.8)
2. Marinas shall be encouraged to include both wet slip and dry slip capacity. (VCCP, Coastal Management Element, Policy 11.6.4.2; Recreation and Open Space Element, Policy 13.1.3.9)
3. New or expanded marina facilities shall utilize dry storage to the fullest extent possible in addition to wet slips. (VCCP, Coastal Management Element, Policy 11.2.3.5)
4. Marinas shall be located in areas where the least amount of dredging and maintenance are required and where aquatic resources (seagrass, oyster bar, freshwater submerged vegetation, etc.) shall not be adversely affected. (VCCP, Coastal Management Element, Policy 11.2.3.3 (A))
5. Designated natural resource areas, significant environmental or ecological features, critical wildlife habitat, environmental system corridors or conservation areas shall be protected through a variety of mechanisms including buffer zones, restoration, limiting density and intensity, conservation easements, acquisition, density transfers, transfer of development rights (TDRs), purchase of development rights or land exchanges. (VCCP, Coastal Management Element, Policy 11.2.1.3)

Boat launching facilities greatly contribute to the number of boats entering Volusia County waters. These ramps shall meet the Specific Requirements, as well as other requirements specific to boat ramps as follows:

1. When feasible and when consistent with other manatee protection considerations, boat ramps should be sited to minimize the travel time to popular locations in order to reduce the impact to manatees from boating travel.
2. The expansion of existing publicly owned boat ramps should be considered before the development of new publicly owned boat ramps. (VCCP, Coastal Management Element, Policy 11.6.3.6)
3. The proposed boat ramp sites shall be compatible with existing land use and zoning regulations.

4. In conjunction with the Coastal Cities and the Ponce DeLeon Port Authority, provide for 1 ramp lane for every 7,500 residents of the County. (VCCP, Coastal Management Element, Objective 11.6.3)
5. Construction of future boat ramps shall include parking spaces of sufficient size and number to accommodate both trailer and towing vehicles. (VCCP, Coastal Management Element, Policy 11.6.3.1)
6. Future boat ramps shall, to the extent possible, be equitably distributed across the coastal area. (VCCP, Coastal Management Element, Policy 11.8.8.1)
7. Priority for new boat launching facilities should be in the area of Ponce Inlet. (VCCP, Coastal Management Element, Policy 11.6.3.4)
8. The Ponce DeLeon Port Authority (in coordination with the coastal cities or the County, as appropriate) shall provide new boat ramp facilities, where needed (VCCP, Coastal Management Element, Policy 11.6.3.5)

B. 4. A. Manatee Conservation Fund

In order to achieve an optimal sustainable manatee population in the context of a growing county, additional enforcement must be provided. Therefore, Phase II of the Manatee Protection Plan will provide additional funding for increased on-the-water enforcement through the collection of mitigation fees.

All applicants with new or expanding boat facilities must pay a one-time mitigation fee for each new or expanded: boat slip, ramp parking space, and/or dry storage space. The fee(s) shall be due and payable in full to the County of Volusia at the time of application. These fees shall be paid into a dedicated, interest bearing account named the Manatee Conservation Fund. This fund will be administered by the County of Volusia Manatee Protection Program. The Manatee Conservation Fund will provide funding for increased enforcement of manatee speed zones by marine law enforcement units, additional equipment for on-the-water law enforcement efforts, and manatee conservation and education programs. The County may also award grants to participating cities for the same types of program expenditures.

This funding also can provide high tech resources for marine units such as, but not limited to laser speed guns and hand held computers, enabling officers to track date, time, and location of citations and better document speed zone violations.

In addition to mitigation fees, other sources of revenue such as fines, penalties, donations, grants, or other contributions may be accepted for use in the Manatee

Conservation Fund. The first \$500,000 collected by the fund may be used in its entirety for enforcement, manatee conservation, and/or educational purposes. Thereafter, the County of Volusia will only utilize/disburse the interest accrued on the fund account.

In the event that manatees are delisted by the state and federal governments as protected species, the principle may be utilized by the County of Volusia for aquatic habitat conservation efforts, if the state and federal governments determine that law enforcement and education are adequate for the protection of the species.

All boat facilities (with the exception of docks for single family residences) will pay a one-time mitigation fee of \$1000 per wet slip, ramp parking space, or dry storage space. Single family boat docks (see definition) will pay a one-time mitigation fee of \$250. The Volusia County Council reserves the right to raise any future mitigation fee amounts as it sees fit. Various factors including watercraft-related manatee mortality may necessitate changes in mitigation fees. However, for the first five years of the plan, the mitigation fees and planning zone descriptions shall remain fixed.

All new or expanding boat facilities must submit the appropriate mitigation fee and documentation of compliance with the provisions of B.4. Boat Facility Siting Specific Requirements (See also Attachment R) to the County of Volusia. Upon successful remittance of the fee, the County of Volusia will issue a letter of compliance to the applicant, who may then submit this letter to any state or federal permitting agency as proof of compliance with this portion of the Manatee Protection Plan for Volusia County. A letter of compliance from the County of Volusia does not obligate permitting agencies to issue a permit.

Manatee Conservation Fund grants shall be awarded by the County of Volusia's Manatee Protection Program on an annual basis, according to criteria developed in cooperation with the Volusia County Sheriff and cities. These entities may be eligible to receive funding under this grant program.

B. 4. B. Water Depth

1. Water depth at the proposed mooring area of the site shall be at least four (4) feet mean low water (FDEP 62-312-430 (5), FAC, Permitting requirements for Marinas.)
2. Marina basins shall be located where there is an existing basin and access channel and adequate depths to accommodate the proposed use. A minimum of four feet below mean low water shall be required. (VCCP, Coastal Management Element, Policy 11.2.3.3(E))

3. The applicant shall affirmatively demonstrate that adequate depths exist for ingress and egress of boats to the mooring site, and in no case shall the depth of the access area be less than the minimum depths necessary to avoid damage to a seagrass bed community. (FDEP 62-312 -430 (6) FAC, Permitting requirements for Marinas.) The access area of the facility shall include all docks, access walkways, finger piers, mooring areas, turning basins, and ingress and egress pathways.

4. Existing water depth at the site must be adequate for the proposed vessel use such that there will be a minimum of one foot clearance between the deepest draft of the vessel (including engine) and the bottom of the waterbody at mean low water. (Chapter 18-20.004(5)(d)(1), Florida Aquatic Preserves, FAC.)

B. 4. C. Water Quality

1. All new and expanded marinas must provide treatment of stormwater runoff from upland areas to the extent necessary to ensure that State Water Quality Standards are met at the point of discharge to Waters of the State. In addition, all requirements for the Water Management Districts and the Florida Department of Environmental Protection shall be met. An environmental resource permit may be required from the above agencies for new stormwater systems or modified systems. (Title XXVIII, Part IV, Chapter 373, Florida Statutes.)

2. Boat maintenance activities in new or expanded marina sites shall be located as far as possible from open water bodies in order to reduce contamination of water bodies by toxic substances common to boat maintenance. Runoff from boat maintenance activities must be collected and treated prior to discharge.

3. National Pollution Discharge Elimination System industrial stormwater permits are required for marinas and boatyards that conduct boatyard activities over land that ultimately discharge to surface waters. These permits must be obtained from the United States Environmental Protection Agency and require that the facility use Best Management Practices and prepare a pollution prevention plan. (Title 40 Code of Federal Regulations Part 122.26)

4. No overboard discharges of trash, human or animal waste, or fuel shall occur from any structures. (FDEP 62-312.080 (7) (b) FAC, Standards for Issuance or Denial of a Permit.)

5. Facilities shall be designed to maximize or improve water circulation patterns and shall not adversely affect existing circulation patterns. (VCCP, Coastal Management Element, Policy 11.2.3.3 (F))

6. Any buffer zones established by Dept. of Agriculture's Shellfish Environmental Assessment Section shall be maintained and where necessary, enhanced or expanded (VCCP, Coastal Management Element, Policy 11.2.3.3 (G))

7. Marinas shall not be permitted in areas where approved or conditionally approved shellfish harvesting would be severely impacted and/or sections closed to shellfish harvesting. (VCCP, Coastal Management Element, Policy 11.2.3.3 (H))

8. Prior to the operation of any new marina fueling facility or expansion of an existing facility, fuel management/spill contingency issues shall be coordinated with the State. (VCCP, Coastal Management Element, Policy 11.2.3.3 (J))

9. Sewer pump-out service and facilities shall be available and accessible to all new boat slips constructed or renovated, inside marinas. (VCCP, Coastal Management Element, Policy 11.2.3.3 (K))

B. 4. D. Dredging

1. All dredged material shall be contained on an upland site.

2. Dredging shall not be permitted in or connected to Class II waters, OFW's, Aquatic Preserves, areas that contain ten percent (10%) seagrass or more, and conditionally approved shellfish harvesting waters unless the activity is a federal navigation project, in the best public interest, or is approved maintenance dredging of existing public or private navigational channels, or where dredging may improve water quality by removing accumulated silt or improving circulation, or for maintenance of existing structures and utility crossings.

3. The creation of new navigation canals or expansion (widening and/or deepening) of existing ditches, drainage right-of-ways, drainage easements and stormwater facilities connected to the Halifax River or Mosquito Lagoon to accommodate boat traffic shall be prohibited unless it is in the public's best interest and does not adversely impact water quality or natural habitat, or unless the activity is an approved maintenance dredging on existing public navigational channels and public canals, or an existing marina's maintenance dredging.

4. New and maintenance dredging projects on the Halifax and Indian Rivers, and their tributaries, should be performed during the period of November 15 through March 15, when feasible, to minimize potential impacts to manatees. Other dredging windows may be deemed appropriate on a project-by-project basis using the best available manatee data. Specific dredging windows will be recommended for inclusion at the state and federal permitting levels.

5. Aquatic resources such as seagrass, oyster bar, freshwater submerged vegetation, etc shall not be adversely affected. (See Volusia County Comprehensive Plan 11.2.3.3. A.)

6. The marina areas and navigation access channels shall not be dredged to depths greater than necessary to prevent prop dredging. (VCCP, Coastal Management Element, Policy 11.2.3.3 (D))

7. All dredging activities must be done with effective turbidity controls. Where turbidity screens or similar devices are used, they should be secured and regularly monitored to avoid manatee entrapment.

8. Dredging in areas of abundant seagrasses will be prohibited. (See Section B.4.E.)

B. 4. E. Seagrass or Native Submerged Aquatic Vegetation (NSAV)

According to fixed transect studies of seagrasses in the Indian River Lagoon, the major species occupying the northern portion of the lagoon, and that portion that lies within Volusia County, are: shoal grass (*Halodule wrightii*), manatee grass (*Syringodium filiforme*), widgeon grass (*Ruppia maritima*), and star grass (*Halophila engelmanni*.) (Seagrasses: Monitoring, Ecology, Physiology, and Management, Stephen A. Bortone ed., CRC Press 1999).

However, this does not imply that other seagrasses may not be present, and efforts should be made to protect all native submerged aquatic vegetation, including freshwater species, critical to manatee survival. If a proposed new facility or expansion of an existing facility will impact NSAV then the following provisions apply.

1. Any boat facility development or expansion plans must demonstrate no negative impacts to Native Submerged Aquatic Vegetation. NSAV species shall include, but not be limited to the following: shoal grass (*Halodule wrightii*), paddle grass (*Halophila decipiens*), star grass (*Halophila engelmanni*), sago pondweed (*Potamogeton pectinatus*), clasping-leaved pondweed (*Potamogeton perfoliatus*), widgeon grass (*Ruppia maritima*), manatee grass (*Syringodium filiforme*), turtle grass (*Thalassia testinudum*), tapegrass (*Vallisneria americana*), and horned pondweed (*Zannichellia palustris*.) (See Attachment L for seagrass coverage on the Halifax and Indian Rivers.)

2. Covered boat slips, covered walkways, covered terminal platforms or the boat mooring location shall not be located over submerged aquatic grass beds. However, the access walkway portion of the pier may traverse these resources provided it is elevated a minimum of five feet above mean high water or ordinary high water, contains handrails that are maintained in such a manner as to prevent use of the access walkways for boat mooring or access, and does not exceed a width of six feet, or a width of four feet in Aquatic Preserves. (FDEP 62-341.427 (2) (a) FAC General Permit for Piers and Associated Structures.)

3. Any wood planking used to construct the walkway surface of a facility shall be no more than eight inches wide and spaced no less than one-half inch apart after shrinkage. An alternative to wood planking would be the use of grating. Walkway surfaces constructed of material other than wood shall be designed to provide light penetration, which meets or exceeds the light penetration provided by wood construction. (Chapter 18-20.004 (5) (a) (4) Florida Aquatic Preserves, FAC.)

B. 4. F. Best Management Practices for Marinas

Below is a list of best management practices for marinas, some of which may be required as part of the State and/or Federal permit review processes:

1. In reviewing applications for new or expanded docking facilities, ways to improve, mitigate or restore adverse environmental impacts caused by previous activities shall be explored. This may include, *but not be limited to*, shallowing dredged areas, restoring wetland or submerged vegetation, or marking navigation channels. Such mitigation or restoration may be required as a condition of approval for new, renewed, or expanded facilities. (FDEP 62-312.330 FAC.)

2. Implement and maintain a manatee public awareness program which will include the posting of signs to advise boat users that manatees are an endangered species which frequent the waters of the region's estuaries and lagoons and which would also show the number to report an injured manatee (1-888-404-FWCC). In any areas with known manatee concentrations, manatee awareness signs or informational displays shall be specified as part of a wetland resource or environmental resource permit for the facility. (Chapter 18-20.004 (5)(d)(8) Florida Aquatic Preserves, FAC.)

3. Dock designs should not entrap manatees or otherwise prevent them from accessing forage areas.

4. Marine facilities should locate in previously disturbed areas and in areas that have historically been used for marine related activities.

5. Use of upland dry storage shall take precedence over the creation of new wet slips. (Chapter 18-20.004 (5)(d)(6), Florida Aquatic Preserves, FAC.)

6. Marinas shall not be sited within state designated manatee sanctuaries. (Chapter 18-20.004 (5)(d)(7), Florida Aquatic Preserves, FAC.)

7. Existing and new marinas are encouraged to obtain the Clean Marina designation. (Contact FDEP for more information.)

8. All construction activities shall adhere to FWC's Standard Manatee

Construction Conditions (Dated 2005).

9. To reduce the risk of entrapment and drowning of manatees, grates or bars shall be installed over pipes or culverts on site that are accessible to manatees and 8-inches or greater, but smaller than eight feet in diameter. Bars no more than 8-inches apart shall be placed on the accessible end(s) to restrict manatee access. Pipes or culverts accessible to manatees that are longer than 200 feet and are connected to water bodies may also require grating.

B. 4. G. Zoning and Land Use Policies

The Department of Community Affairs has designated two areas in Volusia County as Waterfronts Florida, Oak Hill and Daytona Beach. Since 1997, only 13 such communities have been awarded this designation and received the technical and financial assistance associated with this program. The Waterfronts Florida Partnership Program helps communities revitalize and renew interest in their waterfront district.

The program promotes environmental resource protection, public access, retention of viable traditional economies, and hazard mitigation. Oak Hill has had a tradition of being a fishing community, which was economically tied to a working waterfront. The City of Daytona Beach's downtown waterfront district has primarily been oriented towards a water-based recreational activity economy, with related commercial interests.

The following specific zoning and land use policies are also applicable to the MPP for Volusia County.

1. Proposed development sites shall be compatible with existing land use and zoning regulations. Marine facilities shall only be located in those areas that are zoned for their respective use.
2. Residential marinas will not be allowed to have boat slips that exceed the number of multi-family units that are approved and/or constructed.
3. Any alteration of native shoreline vegetation must comply with existing regulations as stated in the Volusia County Land Development Code, Article XI. (Wetland Alteration Permits.)

B. 4. H. State and Federal Permitting Evaluation for projects in Volusia County

The provisions of this plan shall not preempt or nullify any other more restrictive federal, state, or local rules, regulations, or requirements that apply. The boat facility siting guidance below applies to the unincorporated county (and within

cities that have adopted resolutions in support of the MPP) and shall not supersede more restrictive federal, state, local or municipal regulations. Any entity intending to develop or renovate a marina or boat ramp within a municipality's boundaries must consult that municipality's comprehensive plan and land development regulations. It is the applicant's responsibility to obtain all the necessary permits prior to construction, and compliance with the provisions of this plan does not imply approval of other permitting requirements.

Once it has been determined that the project satisfies all of the above-mentioned requirements and regulations found in the earlier sub-sections of B.4, the state and federal regulatory agencies will review new boat facility projects in Coastal Volusia County and determine appropriate dock densities as follows:

B. 4. H. 1. Halifax River/Indian River (Coastal) Portion

The boat facility siting approach for the Coastal portion of Volusia County is described below. In Coastal Volusia County, there are two boat facility siting options available for determining the allocation of future wet/dry slips or boat ramp trailer parking spaces. The first option is to accept the boat facility siting plan for Coastal Volusia County, referred to as the "as is" option. The second option is to create a "slip pool" to allow for powerboat slips to be aggregated at specific parcels within a local government's jurisdiction rather than evenly distributed, referred to as the "slip aggregation" option. For both options, riparian rights for single family residential uses would be maintained.

"As Is" Option

For those locations within unincorporated areas and city jurisdictions that have chosen the "as is" option of the plan, the following applies.

Section 1:

Description: Protected Areas. Generally prohibited for boat facility development that includes powerboats at facilities.

Allows for: Canoe/kayak launches (and facilities catering to non-motorized vessels). Exceptions may be considered on a case-by-case basis. In no case shall these exceptions allow powerboat-to-shoreline densities exceeding 1 powerboat or boat trailer parking space per 100 feet of shoreline.

Locations: Tomoka River and Basin including the areas within the Tomoka State Park and all tributaries of the Tomoka River (Strickland, Dodson, and Thompson Creeks), Spruce Creek and Turnbull Bay (all waters west of the US1 Bridge), Smyrna Dunes Park, Canaveral National Seashore (CNS), and Merritt

Island National Wildlife Refuge(MINWR). Please refer to the accompanying set of maps (See Map Series 1, Attachment H) for geographic locations.

Section 2:

Description: One powerboat slip per 100 feet of shoreline.

Allows for: Recommendations for powerboats in these areas would be at a density of 1 powerboat or boat trailer parking space per 100 feet of shoreline.

Locations: Southern section of Bulow Creek, Halifax Creek and the Northern Halifax River (Flagler County line south to just north of the Granada Bridge in Ormond Beach), Mosquito Lagoon generally from the northern boundary of the Mosquito Lagoon Aquatic Preserve south to the Volusia/Brevard County line (unless within the boundaries of CNS and MINWR already covered under Section 1 description). Please refer to the accompanying set of maps (See Map Series 1, Attachment H) for geographic locations.

Section 3:

Description: All other areas not in Sections 1, 2, or 4 are subject to the criteria-based evaluation. Limiting Habitat Feature points are added together, and Offsetting Feature points are subtracted to determine a project’s final score.

Limiting Habitat Features		Criteria	Points
Manatee Abundance	July 2002-June 2004 aerial survey dataset	5 or more manatees observed within 5 mile radius	2 points
Manatee Mortality: 1 st level	January 1974-December 2004 (Data to be updated when next full year is available)	Number of watercraft mortalities within a 5 mile radius divided by the total number of watercraft-related deaths in Coastal Volusia County (≥ 0.125 is significant)	1 point
Manatee Mortality: 2 nd level	January 1974-December 2004 (Data to be updated when next full year is available)	Number of watercraft-related deaths within a 5 mile radius in the last 10 full years divided by the total number of watercraft-related deaths in Coastal Volusia County in the last 10 full years (≥ 0.125 is significant)	1 point
Submerged Aquatic Vegetation		5% or more SAV on the project site is significant	1 point
Class II, OFW, or Aquatic Preserves		Projects located in Class II, OFW, or within an Aquatic Preserve	1 point
Offsetting Features		Criteria	Points
Speed Zones		Site is located within a year-round “Slow Speed” or “Idle Speed” Zone	1 point
Within 3 miles of Ponce Inlet		The site is located within a 3-mile radius of Ponce Inlet	1 point

Allows For: The total score (Limiting Features minus the Offsetting Features) is then utilized in the following table to determine a final powerboat slip (or boat trailer parking space) to shoreline ratio for the proposed project.

Manatee Habitat Feature Score	Existing	New
-1	5:100	4:100
0	5:100	4:100
1	5:100	4:100
2	3:100	2:100
3	2:100	1:100
4	1:100	1:100
5	1:100	1:100
6	1:100	1:100

Locations: Please refer to the accompanying set of maps (See Map Series 1, Attachment H) for geographic locations.

Section 4:

Description: Preferred (No slip to shoreline ratios applied)

Allows for: No powerboat or boat trailer parking space per 100 feet of shoreline ratios will be applied to proposed boat facility development in this preferred area.

Locations: The area of New Smyrna Beach between the North Causeway and the A1A Causeway and the two creek/canal systems on the west side of the Intracoastal Waterway that are immediately north of the North Causeway. Please refer to the accompanying set of maps (See Map Series 1, Attachment H) for geographic locations.

“Slip Aggregation” Option

In the coastal portion of the county for those locations within city jurisdictions that have chosen the “slip aggregation” option of the plan, the following refinement of the boat facility siting criteria applies. This option essentially creates a level of service for the number of powerboat slips in the municipality.

In order to establish this level of service, each city has counted the shoreline within their jurisdiction, with the exception of mosquito ditching, non-navigable waters and small single-family-type canal systems. Based on the “as is” siting plan described above, the number of slips that would be allowed within the city

limits was calculated. If the city's jurisdiction fell within more than one category, the allowable shoreline ratio for the applicable length of shoreline was counted. The existing number of slips (including single-family docks, single-family lots that could have a dock, marinas, and boat ramp trailer parking spaces) were then calculated as the number of slips "existing", and deducted from the total. The remaining number of slips is referred to as the "slip pool", or the number of available powerboat slips that may be considered for a specific project above what the "as is" option provides.

Each city pursuing the slip aggregation option shall adopt a resolution of support for the MPP and, within 1 year, execute a memorandum of understanding (MOU) with Volusia County specifying the city's and county's specific responsibilities under the city's plan. Additional city-specific information regarding future powerboat allocations and other pertinent information should also be submitted to VCEM and FWC when amending their local comprehensive plan. Each city's resolution to support the MPP, MOU, and amended comprehensive plan language will be incorporated in Attachment S of this document.

The state and federal agencies will review permits for Ormond Beach, Daytona Beach Shores, the Town of Ponce Inlet, Oak Hill, and the unincorporated county using the "as is" option (See Attachment S).

Permits for boat facilities in the cities of Holly Hill, Daytona Beach, South Daytona, Port Orange, and Edgewater will be reviewed using the "slip aggregation" option, because at the time of this writing, these were the only cities to formally request the "slip aggregation" option (See Attachment S). Local governments choosing the "as is" option may subsequently elect the aggregation option if they comply with all the provisions of that option and obtain approval for such election by the FWC.

In order to track the allocation of powerboat slips within a given slip pool, any facility requesting use of these powerboat slips must obtain a letter from the applicable city manager stating the project name, location, and the number of powerboat slips requested. A copy of this letter must be provided to the FWC, the Service, and the County when an application is submitted for review. In the annual report, the County will provide a summary of the various slip allocations, and a running total of the remaining, available slips per city.

In the event a parcel of land is further subdivided, (such as single-family replatted to a higher density, etc.), all additional available single-family lots (or docks, if not counted in original determination) shall be deducted from the available slip pool.

B. 4. H. 2. St. Johns River Portion

Due to the complexity of the lower St. Johns River, the following boat facility siting recommendations shall apply to all of Volusia County along the St. Johns River and affected portions of Putnam, Marion, Lake, and Seminole Counties. These recommendations were formulated in this manner after an investigation of manatee use, manatee watercraft-related deaths, existing boat facilities, boater destinations, conservation land boundaries, and conversations with some conservation land managers. The boat facility siting approach for the St. Johns River portion of Volusia County is described below. In all instances, riparian rights for single family residential uses would be maintained.

Section A:

Description: Protected Areas. Generally prohibited for future boat facility development that includes powerboats at facilities.

Allows for: Canoe/kayak launches (and facilities catering to non-motorized vessels). Exceptions may be considered on a case-by-case basis. In no case shall these exceptions allow powerboat-to-shoreline densities exceeding 1 powerboat or trailer parking space per 100 feet of shoreline.

Locations: The general area from the northern boundary of Lake Dexter south to Coxetter's Bend including, but not limited to, the waters of the St. Johns River immediately adjacent to the Blue Spring Run, the Lake Woodruff National Wildlife Refuge, the DeLeon Springs State Recreation Area, the Hontoon Dead River, Hontoon Island State Park, Blue Spring State Park, and the rest of the waterbodies south of Blue Spring to Coxetter's Bend (including the portion of the Lower Wekiva River State Park). Please refer to the accompanying set of maps (See Map Series 2, Attachment I) for geographic locations.

Section B:

Description: Intermediate Areas

Allows for: Recommendations for powerboats for publicly owned lands (which encompass large extents of shoreline) in these areas would be at a density of 1 powerboat or trailer parking space per 100 feet of shoreline. For any privately-owned parcels located in this designation, powerboat-to-shoreline or trailer parking space to shoreline densities shall not exceed 3:100.

Locations: All waters and adjacent waterfront of the Ocala National Forest, the western shore of Lake George, the Lake George Conservation Area and the Nine Mile Point Conservation Area (and all shoreline between these conservation areas), Lake George State Forest, Holiday Haven parcel, the area from the junction of the SJR with Lake George (known as Zinder Point) south to Lake Dexter, the area from Coxetter's Bend south to just north of the US 17/92 Bridge, Gemini Springs County Park, and the Lake Monroe Conservation Area, unless

the project is not already covered in Sections A or C. Please refer to the accompanying set of maps (See Map Series 2, Attachment I) for geographic locations.

Section C:

Description: Case-by-Case Review

Allows for: Proposed projects will be subjected to a coordinated case-by-case review of the manatee death data, manatee telemetry data, boating traffic patterns, primary boater destinations in the vicinity of the project, and potential impacts to manatee habitat or other environmentally sensitive lands. This review will involve Volusia County staff, the FWC, and the USFWS.

Locations: The area south and east of the SR 415 Bridge extending to the Brevard County line. Please refer to the accompanying set of maps (See Map Series 2, Attachment I) for geographic locations.

Section D:

Description: Maximum of five powerboat slips or boat ramp trailer parking spaces per 100 feet of shoreline

Allows for: Powerboat (or boat ramp trailer parking spaces)-to-shoreline ratios up to 5:100 may be applied to proposed boat facility development in the preferred areas.

Locations: All boat facilities in areas that are not in Section A, B, or C are eligible (See Map Series 2). Please refer to the accompanying set of maps (See Map Series 2, Attachment I) for geographic locations.

B. 4. I. Existing Florida Department of Environmental Protection and Federal Regulatory Requirements for Marinas. (See Attachment B.)

B. 5 PLANNING ZONE DESCRIPTIONS

The following area specific descriptions provide general natural resource, waterfront development, and boating traffic-related information for each zone. They also provide specific information on existing marinas and boat ramps, boating trends, manatee mortality, relative manatee abundance, and any unique characteristics that may be present in that zone.

For planning purposes, the county has been divided into 15 planning zones. There are seven zones on the Halifax and Indian Rivers, inclusive of all

tributaries. There are eight zones on the St. Johns River, which also include lakes and tributaries. Increased law enforcement, siting restrictions, and development conditions will work together, in an attempt to reduce risks to manatees in Volusia County.

B. 5. A. Halifax, Indian Rivers and Tributaries (H/IR)

(See Attachment D for Maps)

ZONE 1 – Tomoka River to just north of the confluence of Strickland Creek and Tributaries

The waters in this zone are described as freshwater at the source of the river (west of I-95), becoming brackish as the river winds eastward, and eventually becoming a saltwater system as it approaches the Tomoka Basin and the Halifax River.

The Tomoka River is an important water body within the zone and has been designated as an Outstanding Florida Waterway (OFW) along with all of its tributaries. From its natural headwaters to the west, it flows generally north and easterly until its confluence with the Halifax River estuary at the Tomoka Basin. Upstream are four natural tributaries, Priest Branch, the Little Tomoka River, Groover Branch and Misner's Branch. To the east are three other tributaries, Thompson Creek, Dodson and Strickland Creeks, which along with the Tomoka River have been designated the Tomoka River Manatee Sanctuary.

This zone also falls within the boundaries of the Tomoka Marsh Aquatic Preserve and it encompasses the Tomoka River from the headwaters of the Tomoka Basin to US Highway 1. The water depth of the Tomoka River is 3 to 4 feet, Dodson and Thompson Creeks are shallower, at 1 to 3 feet. Strickland Creek, a manmade waterway, is 20 feet deep. This zone also contains part of the Tomoka State Park. The length of river from the park to the I-95 bridge is approximately 5 miles.

Tomoka State Park consists of over 1773.35 acres. All waters within the park have been designated as Outstanding Florida Waters (OFW) and surface waters within the park are also classified as Class III waters (See Attachment A Definitions) by DEP. The OFW protection of the estuarine reaches of the lower Tomoka River and tidewater tributaries in Tomoka State Park (Strickland Creek and Thompson Creek) was expanded to include all of the upper Tomoka River and major freshwater tributaries, from US1 in Ormond Beach to I-4 in Daytona Beach, by designation as *Special Waters OFW* (See Attachment A Definitions) in 1991, F.A.C 17-302.700(9)(i). In 1989 the state legislature amended Chapter 370 F.S. to include the Tomoka River (upstream to State Road 40) under the Florida Manatee Sanctuary Act. The tributaries including Strickland Creek, Thompson Creek, and Dodson Creek are now also within Tomoka State Park.

Habitats within the park include several types of flatwoods and hammocks, mixed forests, depression marshes and estuarine tidal swamp as well as ruderal areas that were dredged and filled at one time. The extensive waterways and tidal wetlands of Tomoka State Park provide habitat for a variety of state-listed species of wading birds, as well as the wood stork, bald eagle and peregrine falcon. Other listed species include the gopher tortoise, Eastern indigo snake, American alligator, Atlantic salt marsh snake as well as the Florida manatee.

Manatees inhabit the Tomoka River during the spring and summer months; generally from late March through October; although individuals have been observed by the park biologist in December and February. U.S. Fish and Wildlife Service aerial surveys (12/3/85-1/13/87), Florida Department of Natural Resources aerial surveys (3/11/91 to 11/30/93), Florida Fish and Wildlife Conservation Commission surveys (7/10/02 to 6/24/04), and park shoreline surveys have documented manatees feeding, resting, and mating in the Tomoka River. The sanctuary is particularly recognized, however, as calving and nursing habitat. Both manatee biologists and local shoreline residents commonly observe female-calf pairs in the main river and tributary canals.

The primary boating activities in this zone are recreational fishing, cruising, skiing, and canoeing. The City of Ormond Beach has banned personal watercraft and airboats in this area, except for those people who live on the river.

The reader is directed to the Tomoka Marsh Aquatic Preserve Management Plan, the Tomoka State Park Management Plan, and the City of Ormond Beach's Development Code for complete regulations regarding boat facilities within this zone.

Marinas

There is only one marina in this zone; the Tomoka Boat Club. This is a small boat marina catering to Class A and Class 1 boats (See Attachment A Definitions.) All boats in this facility are powerboats. There are no residential marinas in this zone.

Boat Ramps

In this zone, there are three (3) public boat ramps with four (4) lanes and one (1) private homeowners' association ramp with one (1) lane.

Based upon the boat study and local knowledge, the only ramp with any type of activity (limited) is the Sanchez Park ramp located on Strickland Creek.

Please refer to the corresponding Zone 1 map and the Boating Activity Study update for marina and ramp names and details. (See Attachments D and N)

ZONE 2 – Halifax River and Tomoka Basin from the Volusia/Flagler County line to Red ICW Marker 22 (just north of the Holly Hill/City of Daytona Beach city limits line.)

This zone contains part of the Tomoka Marsh Aquatic Preserve. The waterway in this zone consists of the Halifax River, which is a long, wide, shallow estuarine water body; the Tomoka Basin, which is 376 acres of shallow estuarine bay; and several small creeks, the most significant one being Bulow Creek. The Halifax River narrows toward the northern county boundary and becomes Halifax Creek with the ICW following this course. The headwaters of Bulow Creek are to the west and it meanders, for the most part parallel and to the west of the Intracoastal Waterway (ICW), with its confluence with the Halifax River being just south of the Flagler/Volusia county line.

The maximum water depth in Bulow Creek is 8 feet although the average depth is much shallower. Water depths throughout most of the basin are 3 feet or less. Depending upon the tide, there are however several deep holes, particularly at the point of the Tomoka State Park. Water depths in the ICW, which is part of the Halifax River, are maintained at ten feet, although the portion of the ICW through the Aquatic Preserve is approximately 3.7 feet. The waters outside the ICW are relatively shallow.

The waterfront land in the cities of Ormond Beach and Holly Hill is built out with single-family residences and multi-family facilities. North of Ormond Beach, the land to the west of the Halifax River is undeveloped public and undeveloped private. To the east of the Halifax River, the land is undeveloped public, a small portion of undeveloped private and medium density residential.

The Tomoka Marsh Aquatic Preserve is a valuable nursery area for fish, shrimp and crabs, which are important commercially but also important as part of the biological food chain for many species. Habitats include high and low marshes, salt marshes, tidal flats, beds of NSAV, algal beds, black mangrove and some deeper water areas. The preserve is utilized by over 50 species of fish, marine turtles, bottlenose dolphin, wading birds, wood storks, bald eagles and many other species of wildlife.

This area has been identified as primarily a manatee travel corridor through the Halifax River and Smith Creek. Aerial data indicates moderate use of the Halifax River/ICW and limited use of the Tomoka Basin. Sightings occur during the warmer months; no sightings were recorded from October to February probably due to cold water temperatures.

Boating activity in this area is characterized by recreational fishing, especially in the Tomoka Basin, and traveling along the ICW. The reader is directed to the Tomoka Marsh Aquatic Preserve Management Plan, the Tomoka State Park

Management Plan, and the City of Ormond Beach's Development Code for additional regulations regarding boat facilities.

Marinas

At this time, there are no marinas in this zone. There does not appear to be any additional land available, outside of the Tomoka Marsh Aquatic Preserve, for marina development. All parcels are built out as single-family residences.

Boat Ramps

There are currently three (3) boat ramps that service this area: Highbridge Park (one ramp, two lanes), Granada Riverfront Park (two ramps, four lanes), and the Tomoka Geo Park (one ramp, two lanes.) The Tomoka State Park ramp, although having adequate parking, is not used extensively. The ramp at the park has been renovated but apparently the primary drawback with this ramp is that there is a fee to access the park where it is located.

Future boat ramp expansion at the Granada Bridge should be evaluated carefully, based upon the scope of the project.

Please refer to the corresponding Zone 2 Map and the Boating Activity Study update for marina and ramp names and details. (See Attachments D and N)

ZONE 3 – Red ICW Marker 22 (just north of the Holly Hill/Daytona Beach city limits line) to Red ICW Marker 2 (Town of Ponce Inlet.)

This zone does not contain any significant levels of vegetation. The waterway is characterized by the deep ICW, with shallow depths immediately outside the channel. This zone is heavily developed and any future activity in this area will most likely be the expansion of existing marinas, with both wet and dry storage.

Zone 3 has been characterized as both a manatee travel corridor and an area for a limited amount of mating, cavorting and birthing. Satellite telemetry data show manatee use throughout the Halifax River, with a concentration in the downtown Daytona Beach marinas area.

Boating activity in this zone is characterized by large vessels both in marinas and those traveling the ICW from origins north and south of Volusia County. The major boating activity involves accessing the ocean through Ponce de Leon Inlet and traversing the ICW either north or south.

Smaller craft utilize the regional boat ramp at the Port Orange Causeway to access the ocean for recreational fishing, traveling to Disappearing Island at the Inlet, or recreational fishing and shrimping along the ICW. Boating activity in this zone can be characterized as heavy.

The reader is also directed to the City of Holly Hill, Daytona Beach, South Daytona, Daytona Beach Shores and Port Orange Comprehensive Plans for complete regulations regarding boat facilities.

Marinas

There are 18 marinas located within Zone 3 with either cities or private developments desiring to either expand or create new facilities. The Port Orange Marina currently is used exclusively for sailboats.

This zone is heavily developed and any future activity in this area will most likely be the expansion of existing marinas, with both wet and dry storage. Expansion of existing marinas and dry storage would be recommended over new marina construction.

Boat Ramps

There are currently eight (8) public access ramps in this zone, and 17 lanes. Halifax Harbor Marina also has eight (8) lanes, with two other marinas having one (1) lane each, for a total of 10 lanes. Counting both ramps and marinas there are 27 lanes within this zone. These figures include the opening of the new ramp at the Port Orange Causeway which helped to relieve some of the congestion at this highly active ramp. The inclusion of a Slow Speed zone around the Dunlawton Bridge may also help to reduce manatee mortality in this area. This ramp is used primarily by boaters accessing the Ponce de Leon Inlet area.

Please refer to the corresponding Zone 3 Map and the Boating Activity Study update for marina and ramp names and details. (See Attachments D and N)

ZONE 4 – West Side of the ICW (west of Ponce Cut) through Strickland Creek, Rose Bay, and Turnbull Bay; Spruce Creek.

This zone consists of three shallow bays and Spruce Creek. Spruce Creek runs from Ponce de Leon Cut, where it is a saltwater waterway, through Strickland Bay, to its headwaters west of I-95, where it is a freshwater creek. Spruce Creek is a relatively shallow creek with occasional deep pockets. The entrance to Spruce Creek is restricted by a very narrow channel which becomes very shallow and difficult to traverse during low tides. This zone contains dense shoreline vegetation. Spruce Creek, Rose Bay, Turnbull Bay and all tributaries are considered Outstanding Florida Waters.

Land use in this zone consists of limited commercial, single family residential, private undeveloped, public limited development, and public undeveloped. In addition, the County has several parcels in this area that they are trying to acquire to add to acreage already owned, known as the Spruce Creek Preserve.

Manatee use of this area is not well understood. Aerial data documented one sighting of two animals in Strickland Bay during the 1991-1993 dataset, and 9 total manatee sightings in Spruce Creek during the 2002-2004 dataset. The narrow channel and overall shallowness of the bay and mouth of Spruce Creek may make it difficult for manatees to travel into the creek. However, observations of manatees have been made at Gamble Place, west of I- 95 approximately 7 miles up Spruce Creek. It is believed that manatees may travel up Spruce Creek to access the fresh water, although this has not been formally documented. There is also emergent vegetation available along the shorelines for foraging.

Boating activity in this zone is characterized by recreational fishing, commercial crabbing, and canoeing, primarily in Class A boats (See Attachment A, Definitions), due to the shallow waters. Personal watercraft use of Spruce Creek has also been identified through people with local knowledge of the area.

The reader is also directed to the City of Port Orange for complete regulations regarding boat facilities.

Marinas

There was one (1) marina in this zone, Brigadoon Fish Camp, but this facility was sold and then finally closed due to construction activities on the Rose Bay Bridge. Recently, a restaurant at this location has reopened. Any future commercial development in this area is projected to be extremely limited.

Currently there are no slips at Spruce Creek Park primarily due to the shallowness of waterbody, but there is an accessible canoe launch. There is also a kayak rental business located in the “three bridges” area. There are tentative land management plans for the public lands to possibly build some more canoe launches. There may also be plans for the distant future for courtesy slips at the proposed Spruce Creek Preserve visitor center.

Boat Ramps

The only public boat ramp located on Spruce Creek has been closed. This ramp was in extremely poor condition being an unimproved single lane dirt ramp with three parking spaces. There are two (2) private ramps located in housing developments with access limited to the residents. There is also an extremely narrow ramp which is currently unused, due to construction, located on the northwest side of the Rose Bay Bridge. Just south of the three bridges crossing Strickland Bay and Turnbull Bay there is a heavily used unimproved area, primarily serving small boats. Please refer to the corresponding Zone 4 Map and the Boating Activity Study update for marina and ramp names and details. (See Attachments D and N)

ZONE 5 – Red ICW Marker 2 to the North Causeway in New Smyrna Beach, including Ponce DeLeon Cut, Cook Creek, Hunter Creek, Inlet Creek, and Smyrna Creek.

This zone is characterized by several unique characteristics: Ponce de Leon Inlet with access to the Atlantic Ocean, the ICW through the “backside” of the inlet, which is maintained to a depth of 12 feet, a large flats area between the spoil islands that separate the cut from the inlet, two large tidally-influenced sandbars on either side of Rockhouse Creek (one is locally known as Disappearing Island), and several creeks leading off the cut into tidal marsh land. In addition, there are two parks on either side of the inlet; Lighthouse Park to the north and Smyrna Dunes Park to the south. This is also the northern-most boundary for seagrasses, with seagrasses sparsely found along the flats. No significant NSAV have been documented in the Ponce de Leon cut. Because of the inlet, this area experiences significant tidal fluctuation and currents.

Manatee use of this zone is characterized as a travel corridor, with aerial data documenting numerous sightings.

Boating activity in this zone is considered heavy, with boats of all class sizes traveling the ICW between the town of Ponce Inlet and the city of New Smyrna Beach. Boats accessing the ocean through the inlet include large watercraft traveling from origins north and south of Volusia County, large craft originating within the county, and recreational boats either heading out to the ocean or accessing Disappearing Island, Lighthouse Park ramp or Smyrna Dunes Park for land activities.

The reader is also directed to the City of New Smyrna Beach and the City of Ponce Inlet Comprehensive Plans for complete regulations regarding boat facilities.

Marinas

There are a total of 14 marinas in this zone, with one large 140 slip condominium facility.

This zone has been identified as the most conditionally suitable for future development of marine facilities. The features of this area that make it a viable candidate for development are the following:

1. Nearby ocean access that excludes viable designated manatee habitats.
2. Access to a deep water channel (the ICW).
3. The area currently has marinas.
4. The area is a boater destination zone and because of the inlet, experiences excellent flushing.

For the area to the east of Ponce Cut, the most likely marina development activity will be the expansion of the existing facilities on the north side of the inlet. The land to the south of the inlet is built up with single- and multi-family residences, is public park land, or government-owned (US Coast Guard station). The most likely area for new residential, commercial, or industrial marina development is the Ponce DeLeon Cut area; particularly the Swoope Power Plant property.

Boat Ramps

There is currently one (1) boat ramp located in this zone, Lighthouse Park. This ramp, which was renovated in September, 1996, is a single ramp, with a single lane.

Please refer to the corresponding Zone 5 Map and the Boating Activity Study update for marina and ramp names and details. (See Attachments D and N)

ZONE 6 - North Causeway New Smyrna Beach to Marker 65, including the backwaters of Mosquito Lagoon.

The northern end of Zone 6 encompasses the North Indian River through the City of New Smyrna Beach and the backwaters of the city east of the ICW, including the relatively shallow Callalisa Creek. The waters are characterized as shallow on either side of the ICW, which is maintained to a depth of 12 feet. Seagrass begins to be abundant in this area, primarily in the backwaters to the west of the ICW (See Attachments D and L.); the waters of the North Indian River between the two causeways are relatively non-translucent, thus inhibiting abundant seagrass growth. This zone is close enough to Ponce de Leon Inlet to be tidally influenced.

Manatee use of this area is characterized as a travel corridor, and aerial data indicates use of this zone.

Boating activity in this area consists primarily of boats traveling both north to access Ponce Inlet and south to access Mosquito Lagoon, including the backwaters. There is a limited amount of recreational fishing that takes place in this zone.

The southern end of this zone is relatively constricted in areas with the ICW running down the middle of the North Indian River, with shallow bars on either side of the channel. The western shore is the mainland, while the eastern side of the ICW consists of natural and man-made spoil islands. East of the spoil islands are numerous shallow creeks and bays, with depths less than three feet. Seagrass beds abound on either side of the ICW and the islands contain some mangroves. The Mosquito Lagoon Aquatic Preserve encompasses most of the waters within this zone.

The lagoon itself is relatively shallow, with extensive seagrass coverage, particularly in the southern half. Due to limited freshwater input and a large shallow surface area, high evaporation rates are experienced, producing high salinities, particularly in the summer. There is very little change in water levels and also very little current, so the lagoon is poorly flushed. Low marsh and high marsh habitats are extensive within the preserve, occurring mostly on the tidal islands. There are also 60 species of red, brown and green algae, some of which may form large drifting mats, providing forage and refuge for many species. This zone also falls within the boundaries of the Merritt Island National Wildlife Refuge and Canaveral National Seashore.

Canaveral National Seashore habitats include a barrier island, ocean, beach, dune, hammock, lagoon, salt marsh and pine flatlands. It is also home to a diverse number of species, 1,045 species of plants and 310 species of birds can be found within the park. Endangered and threatened species include loggerhead, green and leatherback turtles, southern bald eagle, wood stork, peregrine falcon, eastern indigo snake, Florida scrub jay as well as the Florida manatee.

Aerial data shows significant manatee use of this area as a travel zone, with fewer sightings in the backwaters. Observations indicate that the animals generally travel north and south along the edge of the ICW.

Boating activity in this area consists of all sizes of boats using the ICW as a travel corridor, with many larger vessels traversing south through the zone in the fall, and returning to the north in the spring. Recreational fishing and commercial crabbing in Class A and Class 1 powerboats (See Attachment A, Definitions) are popular activities in the backwaters.

The reader is also directed to the City of New Smyrna Beach Comprehensive Plan, City of Edgewater Comprehensive Plan, the Mosquito Lagoon Aquatic Preserve Management Plan, the Canaveral National Seashore Management Plan, and the Merritt Island National Wildlife Refuge Management Plan for other regulations regarding boat facilities.

Marinas

There are 12 marinas within the northern portion of this zone, two of which are private yacht clubs. There is one commercial fish facility.

There is very little, if any, land available for any new development in the northern section of this zone; therefore, future development will most likely involve the expansion of existing facilities.

There are two (2) marinas within the southern portion of this area, one of which is a commercial/recreational facility. According to interviews with the manager, their

clients are primarily recreational fishermen accessing Mosquito Lagoon to the south. Although there is land available for new marina development, the majority of the current zoning in this area is single-family residential. There is no suitable land along the barrier island for any development.

Boat Ramps

The northern portion of this zone has two (2) regional boat launching facilities. These are the North Causeway Boat Ramp Park facility, which consists of two (2) ramps with eight (8) lanes, and a city park at the southeast side of the North Causeway, which has one (1) ramp with one (1) lane. Boating activity at both these facilities is characterized as heavy, especially on summer weekends.

There are two (2) boat ramps in the southern end of this zone that allow public access, Kennedy Memorial Park with six (6) lanes, and Menard May Park with one (1) lane. Cameron's Marina also allows public access and has one (1) lane. The Menard May ramp is a beach ramp that receives very little activity. Kennedy Memorial Park receives the most activity. Combined, these facilities have four (4) ramps and nine (9) lanes.

Please refer to the corresponding Zone 6 Map and the Boating Activity Study update for marina and ramp names and details. (See Attachments D and N)

ZONE 7 – Marker 65, Mosquito Lagoon (includes Canaveral National Seashore, Oak Hill, Mosquito Lagoon Aquatic Preserve) to the Volusia/Brevard County Line.

This zone consists of the constricted North Indian River through the Oak Hill area, with shallow waters on either side of the channel, the wide shallow expanse of Mosquito Lagoon through Canaveral National Seashore (CNS), and the deep ICW (dredged to 12 feet). To the west of the ICW are spoil islands that the Army Corps of Engineers (ACOE) use when maintaining the ICW. To the west of these spoil islands is shallow water with abundant seagrass. The waters to the east of the ICW are also relatively shallow with abundant seagrass. Just to the south of the city of Oak Hill, the old ICW channel runs to the east and north through "shotgun pass," Eldora, Turtle Mound, Government Cut, and eventually meeting up with the present ICW in Edgewater. This channel averages 4 feet in depth. This zone experiences very little tidal influence. There is abundant seagrass throughout most of this zone. (See Attachments D and L.)

This zone also falls within the boundaries of the Merritt Island National Wildlife Refuge. Approximately half of the refuge's 140,000 acres consist of brackish estuaries and marshes. The remaining lands consist of coastal dunes, pine forests and flatwoods, and palm and oak hammocks. It is also an important wintering area for migratory birds. Over 500 species of wildlife inhabit the refuge with 15 being listed as federally threatened or endangered, including the Florida

manatee. There are several wading bird rookeries and active osprey and bald eagle nests. There are also Florida scrub jays.

Land development regulations placed upon this area from Canaveral National Seashore, Merritt Island National Wildlife Refuge, and the Mosquito Lagoon Aquatic Preserve may limit new development in these areas.

Manatee use is characterized as frequented by animals traveling through this zone, depending upon the seasons. Aerial survey data shows extensive use of the ICW with additional use of the old channel along the barrier island. Manatee use of the open waters of the lagoon below Oak Hill is limited, most likely due to the shallow waters.

Boating activity consists of all sizes of boats using the ICW as a travel corridor, with many larger vessels traversing south through the zone in the fall, and returning to the north in the spring. Recreational fishing and commercial crabbing in Class A and Class 1 powerboats (See Attachment A, Definitions) are very popular activities in the backwaters, with several hundred boats plying the backwaters of the lagoon on a summer weekend.

The reader is also directed to the City of Oak Hill Comprehensive Plan, Mosquito Lagoon Aquatic Preserve Management Plan, Canaveral National Seashore Management Plan, and the Merritt Island National Wildlife Refuge Management Plan for other regulations regarding boat facilities.

Marinas

There are various commercial/recreational marinas or fish camps in this zone. These are all small boat facilities serving Class A and Class 1 boats. (See Attachment A, Definitions.) Two of the facilities, Indian Mound Fish Camp and Bissitt Bay Fish Camp, are seasonal, closing in the summer months. Goodrich, a commercial fish house whose clients were commercial netters and clambers, has closed its operations, as has Lefil's Fish Camp, although the ramp at this facility is still in use. There are no existing facilities south of Oak Hill. In addition, there is a Boston Whaler Boat Works plant in this zone.

Boat Ramps

Currently, there are eight (8) boat ramps in this zone, two (2) of the ramps are associated with marinas. There are a total of 12 lanes. In addition, there are two Brevard County boat ramps, Haulover Canal and Shiloh Camp (Beacon 43) Ramp, that also serve this area. These two facilities have two ramps, and two lanes. Both of these ramps see heavy usage year round with recreational fishermen accessing the lower part of Mosquito Lagoon.

Please refer to the corresponding Zone 8 Map and the Boating Activity Study update for marina and ramp names and details. (See Attachments D and N)

B. 5. B. St. Johns River and Tributaries (SJR)

(See Attachment E for Maps)

ZONE 1 – Lake George from the Volusia/Putnam County line to the mouth of the St. Johns River

This zone encompasses all of Lake George within Volusia County, Lake County, and a portion of Marion County. Lake George is a large, open body of water, with three distinct creeks on its western shore: Salt Springs Creek, Silver Glen Spring Creek, and Juniper Creek. The land on the west shore of the lake is public land in the form of the Ocala National Forest, while the land on the east shore consists of a large area of undeveloped land, a small area of residential homes, one commercial development, and public land in the form of the Lake George Wildlife Management Area. Submergent, emergent, and floating vegetation is abundant in this zone.

No manatee sighting aerial data is available, however, VHF telemetry data from Bengston, 1979-1980, and also Sjotel 1981-1983 (unpublished data), shows use of Lake George by manatees. (See John Bengston, University of Minnesota, "Ecology of Manatees (*Trichechus manatus*) in the St. Johns River, Florida," July 1981.) It is believed that manatees use the lake as part of a travel corridor from Blue Spring north through Putnam County.

Boating activity in this area is characterized by heavy boat traffic traveling from the Astor area to Silver Glen Springs. On summer weekends, there can be over 100 boats in the spring run. During the winter months, there is also recreational fishing in Class A and Class 1 boats (See Attachment A, Definitions) taking place on the eastern shore.

Marinas

There is one (1) commercial marina within this zone. It is a small boat marina. Due to the vast amount of land in public ownership, future marina development in this zone appears to be limited, with the most likely development coming from the expansion of existing facilities. In addition, there are two fish camps in the city of Georgetown, Putnam County, that have gone out of business, and the property is for sale.

Silver Glen Springs has been documented as a major boater destination and a facility closer to that area would reduce the likelihood of striking a manatee while traversing the southern portions of the river.

Boat Ramps

There are three (3) public boat ramps within the Volusia county portion of this zone. Pine Island Marina also has one (1) ramp, for a total of four (4) ramps and five (5) lanes in Volusia County. There are another three (3) on the east side of Lake George outside of Volusia County. There are also three (3) ramps on the west side of Lake George. During the boating activity study, all of these ramps experienced minimal use. For this reason, and the public lands issue above, future boat ramp demand can be satisfied with existing facilities.

During the boating activity study, all of these ramps experienced minimal use.

Please refer to the corresponding Zone 1 Map and the Boating Activity Study update for marina and ramp names and details. (See Attachments E and N)

ZONE 2 – Lake George at the mouth of the St. Johns River (Zinder Point) to Channel Marker 13, just above Lake Dexter.

This zone of the SJR is characterized by the sparsely developed area around the mouth of Lake George, the well-developed area of the city of Astor, and an undeveloped area south to Lake Dexter. The Lake County side of the river below Astor is primarily undeveloped land, residential, and small commercial land. The Volusia County side of the river is single-family residential in the northern section of the zone, single and multi-family residential in the Astor area, and undeveloped land south of Astor to Lake Dexter. There are many man-made canals in Astor. Submergent, emergent, and floating vegetation is abundant in this zone.

Manatee use in this area has been documented through VHF telemetry studies in 1979-1980. (Bengston)

Boating activity in this zone is characterized as a heavy travel corridor, especially in the Astor area. Many boaters use this area as their starting point to access Silver Glen Spring.

Marinas

There are currently seven (7) active commercial/recreational marinas in this zone. In addition, there are two (2) fish camps on the Lake County side of the SJR, Dexter Palms and Holmar that were closed when the boating activity study was conducted.

Boat Ramps

There are four (4) public access boat ramp facilities in this zone, with five (5) lanes. There are also ramps at six (6) of the marinas with six (6) lanes. This makes a total of 10 ramps and 11 lanes in this zone. In addition, as mentioned above, the two closed facilities, Dexter Palms and Holmar Fish Camp, each have one (1) ramp, one (1) lane. There is a large discrepancy in the usage of the ramps in this zone, due to the condition and maintenance of the facilities, with some ramps constantly busy and others experiencing no boating activity at all. By far, the most active boat ramp is the Astor at Butler Street ramp. On a summer weekend day, there is a queue for launching and retrieving boats. This ramp is a favorite launching facility for boaters accessing Silver Glen Spring. This is also a county ramp with no launch fee associated with it. There does not appear to be any land available for new boat ramp construction in the Astor area. The majority of the other ramps in the Astor vicinity are privately owned.

There is congestion at the Astor at Butler Street ramp, but any consideration of construction of a new facility south of SR 40 should be analyzed very carefully.

Please refer to the corresponding Zone 2 Map and the Boating Activity Study update for marina and ramp names and details. (See Attachments E and N)

ZONE 3 – SJR from Channel Marker 13 at Lake Dexter to the confluence of the SJR and Highland Park Canal, including all lakes, creeks and dead rivers to the west of the SJR channel.

This zone encompasses the SJR channel from Lake Dexter to just north of the Whitehair Bridge (SR 44) in DeLand. Although the channel is deep, many of the creeks and lakes off the river are relatively shallow, and some are clogged with invasive vegetation. Submergent, emergent, and floating vegetation is abundant in this zone. The lands surrounding the river in this zone are all in public ownership, with the Ocala National Forest on the west of the river, and the Lake Woodruff National Wildlife Refuge to the east.

Manatee use is similar to Zone 1 (SJR); telemetry data from 1979-1980 indicate frequent use of the river and lakes.

Boating activity in this zone is characterized by significant traveling, with recreational fishing along the shores of the SJR and in the lakes, creeks and dead rivers. Boats using the waterway in this zone constitute all classes and types. However, there are no marine facilities in this zone.

Marinas

There are no marinas within this zone.

Boat Ramps

There are no boat ramps within this zone.

Please refer to the corresponding Zone 3 Map and the Boating Activity Study update for details. (See Attachments E and N)

ZONE 4 – Lake Dexter, Lake Woodruff, Norris Dead River, Ziegler Dead River, all waters east of these two rivers, and all waterways west to the SJR proper.

This zone is characterized by the large, relatively shallow water bodies of Lakes Dexter and Woodruff; the narrow and winding Norris Dead and Ziegler Dead rivers; and the narrow Spring Garden Creek, leading to DeLeon Springs, a warmwater natural spring. The surrounding uplands are primarily public lands in the form of Lake Woodruff National Wildlife Refuge and DeLeon Spring State Park, single-family residential, and small commercial lots. Submergent, emergent, and floating vegetation is abundant throughout the dead rivers and along the perimeters of Lakes Dexter and Woodruff. Several of the creeks and lakes in this area are clogged with invasive vegetation, severely restricting passage.

The Lake Woodruff National Wildlife Refuge contains more than 21,500 acres and is comprised of 12,100 acres of freshwater marsh, 5,800 acres of hardwood swamp, 2,400 acres of upland, and more than 1,000 acres of lakes, streams and canals. The St. Johns River forms the western boundary of the refuge. It also surrounds the 2,200 acre Lake Woodruff. Lake Dexter covers over 2,000 acres and ties directly into the St. Johns River. The refuge also functions as a wildlife corridor along the St. Johns River extending from the Wekiva River to Lake George.

The refuge provides habitat for concentrations of ducks, wading birds, raptors and deer along with many other species of wildlife. Protected species include the snail kite, wood stork, bald eagle, limpkin, Eastern indigo snake, gopher tortoise, American alligator, Florida scrub jay and the Florida manatee.

Manatee use is similar to Zone 1 (SJR); telemetry data from 1979-1980 indicate frequent use of the Norris Dead and Ziegler Dead rivers and along the perimeter of Lakes Dexter and Woodruff.

Boating activity in this zone is characterized by recreational fishing year-round, with an increase during the winter and spring months, in Class A and Class 1 boats (See Attachment A, Definitions). No boats larger than Class 1, and no sailboats were observed in this zone. Recreational fishing in the winter and spring on Lakes Dexter and Woodruff is significant, with over 100 boats counted during weekend aerial flights.

The reader is directed to the Lake Woodruff National Wildlife Refuge

Management Plan and the DeLeon Spring State Park Management Plan for other regulations regarding boat facilities.

Marinas

There are three (3) small-boat commercial/recreational marinas in this zone. The largest of the three facilities is Highland Park Fish Camp. The two areas with land available for new marina development are Spring Garden Lake, where Tedder's Fish Camp is located, and the Daisy Lake area off the Ziegler Dead River, where the North Shell Fish Camp is located.

Boat Ramps

There are six (6) public access boat launch facilities in this zone, with six (6) ramps, and seven (7) lanes. This area is fairly remote.

Please refer to the corresponding Zone 4 Map and the Boating Activity Study update for marina and ramp names and details. (See Attachments E and N)

ZONE 5 – The confluence of the SJR and Highland Park Canal to Channel Marker 81, including all of Lake Beresford and the Hontoon Dead River.

The northern portion of this zone flows through areas of urban and commercial development (the SR 44 area and Beresford Peninsular), through patches of undeveloped land, and into areas of single-family residential. The uplands to the west of the SJR are public land in the form of the Hontoon Island State Park, as well as other undeveloped lands. Submergent, emergent, and floating vegetation is abundant in this zone. The northernmost boundary of the Wekiva River Aquatic Preserve lies within this zone. Approximately 15 miles of the middle St. Johns River basin, from Interstate 4, just north of Lake Monroe to State Road 44 in Volusia County are included in the aquatic preserve.

Habitats within the preserve include mixed hardwood swamp, cypress swamp, hardwood hammock, pine flatwoods scrub, scrubby flatwoods, freshwater marsh and bayheads. The river and its tributaries provide food, shelter and breeding sites for many species of wildlife. Protected species include Florida black bear, Sherman's fox squirrel, Florida scrub jay, Florida sandhill crane, red-cockaded woodpecker, limpkin, southeastern kestrel, bald eagle, wood stork, osprey, gopher tortoise, Florida pine snake, American alligator and the Florida manatee. There are also numerous protected species of plants, wading birds, amphibians, reptiles and invertebrates.

Manatee use is similar to Zone 1 (SJR); telemetry data from Bengston, 1979-1980 indicate frequent use of Lake Beresford. In addition, the rangers at Blue

Spring indicate that manatees use Lake Beresford, especially in the winter for foraging, although their use is dependent upon the degree of vegetation available.

Boating activity in this area consists of boats of all sizes cruising the SJR channel north and south. Boaters use the northern end of this zone to access Silver Glen Spring and recreational fishermen fish the edges of the river and Lake Beresford. There is also water skiing on Lake Beresford. In addition, there are two marinas that rent large houseboats, so these types of vessels are found in this zone in concentrations.

The southern portion of this zone contains Blue Spring and Hontoon Island State Park. Blue Spring State Park comprises 3,842 acres and has a diverse range of habitats. These habitats include sand pine scrub, pine flatwoods, depression marshes, hardwood hammocks and riverine forests. At least 21 species of mammals, 137 species of birds, 42 species of reptiles, 16 species of amphibians and 71 species of fish have been identified within the park. Some of the protected species include black bear, white pelican, wood stork, osprey, bald eagle, limpkin, sandhill crane, American alligator, gopher tortoise, Eastern indigo snake, and many raptors, ducks, wading birds and owls as well as the Florida manatee. Submergent, emergent, and floating vegetation is abundant in this zone.

Blue Spring is one of the most important warm water refuges for manatees on the east coast of Florida. The animals use this spring to rest in the colder months, venturing out into the SJR to forage during the warmer periods of the day. Manatee usage of the spring has been steadily increasing over the years. The overwintering manatee population has grown at about 7-8% per year over the past 28 years. Motorboats are prohibited in the Blue Spring run from the confluence of the SJR to the boil.

Boating activity is best described as traveling, recreational fishing, and picnicking at the park. The park is a boating destination for many boaters. In the summer boaters visit Blue Spring to swim in the run, and in the winter to observe the manatees.

The reader is directed to the Wekiva River Aquatic Preserve Management Plan and the Blue Spring and Hontoon Island State Park Management Plan for other regulations regarding boat facilities.

Marinas

In the northern section of this zone there are 10 commercial/recreational marinas and one (1) private marina. Kyp's Fish Camp is currently closed. Hontoon Island State Park also has wet slips for boaters who want to access the park via the water; there is no long-term storage at this facility.

There is very little land that is available or zoned for marinas, so the development of additional slip space most likely will come from the expansion of existing facilities.

Boat Ramps

In the northern portion of this zone, there are currently 12 public access boat launch facilities, with 17 open lanes. Two facilities, the Boat Show Marina and Pier 44 Marina, have large yards that could potentially be used by boaters for extra trailer parking. Lake Beresford is a popular boating destination and there are no public ramps on the lake itself; there are two private ramps and two fish camp ramps that allow public access for a fee. These two ramps are small and not very well maintained. The County also owns land on this lake.

As previously mentioned, boat ramp supply exceeds demand on the SJR, and from observations made during the boat study, the ramps on the SJR proper in this zone are sufficient to meet demand. Building a ramp in this area should only be explored, if demand requires, and it can be shown to be not a risk to manatees.

In the southern section there is one (1) boat ramp, the French Avenue ramp. This dirt ramp has one (1) lane, which is located just north of Blue Spring. The ramp is poorly maintained and not very popular with boaters. It is, however, a popular swimming area, with families observed swimming in the river off the end of the ramp.

Please refer to the corresponding Zone 5 Map and the Boating Activity Study update for ramp details. (See Attachments E and N)

ZONE 6 – Channel Marker 81 to the I-4 Overpass.

This zone is characterized by a winding SJR with numerous oxbows and dead rivers flowing from it. In addition, the Wekiva River flows into the SJR in this zone. Most of the uplands surrounding the SJR are either undeveloped or residential, with only three commercial areas, Highbanks Marina, the FPL power plant, and the Port of Sanford. In addition, much of the land bordering the river is wetlands, and is flooded during periods of high water. The Wekiva River Aquatic Preserve encompasses the river leading into the Wekiva River and runs through the entire length of this zone. This preserve has the same development and construction guidelines that the Tomoka Marsh and Mosquito Lagoon Aquatic Preserves have. Submergent, emergent, and floating vegetation is abundant in this zone.

Manatee use of this area has been documented via VHS telemetry studies done in 1979-1980. (Bengston)

Boating activity is best described as cruising, recreational fishing, waterskiing, and use of personal watercraft. The Florida Power and Light (FPL) plant is also the terminus point for barges bringing fuel from Jacksonville, although the activity level of barge transportation has been sharply curtailed in the past year.

The reader is directed to the Wekiva River Aquatic Preserve Management Plan for other regulations regarding boat facilities.

Marinas

There are two (2) commercial/recreational marinas in this zone; Highbanks Marina on the Volusia County side of the SJR, and Hidden Harbor Marina on the Seminole County side of the SJR. There are also three (3) residential marinas. There is very little land available for development of new marinas, and very little land available for the expansion of the two facilities in this zone.

The undeveloped land in this zone is heavily influenced by wetlands, making permitting and the economic justification, difficult. Therefore, future development is severely limited.

Boat Ramps

There are three (3) boat launch facilities that service this area, Highbanks and Lake Monroe Park in Volusia County, and Lake Monroe Wayside Park in Seminole County. These three facilities have a total of four (4) ramps and six (6) lanes. The boat study indicated that all three of these facilities experience heavy usage. Four of the marinas also have boat launching facilities, which total four (4) ramps and four (4) lanes. The total number of ramps in Volusia County within this zone totals eight (8) with ten (10) lanes. Due to the land issues mentioned above for marinas, new construction seems unlikely.

Expansion of existing facilities is the most likely scenario for meeting future demand.

Please refer to the corresponding Zone 6 Map and the Boating Activity Study update for marina and ramp details. (See Attachments E and N)

ZONE 7 – Lake Monroe from the I-4 Overpass to SR 415.

This zone encompasses all of Lake Monroe, a large water body that is relatively shallow, especially on the north side. Submergent, emergent, and floating vegetation is abundant in this zone.

Manatee use of this zone is not well documented. VHS telemetry data from 1979-

1980 (Bengston) indicates sporadic use of the southern and western ends of the lake during July through September. Again, the exact number of animals in this data is unknown.

Boating on Lake Monroe is extensive, with traveling and recreational fishing occurring on these waters. Sailing is also an important boating activity, as the lake is large and open. Several sailing regattas take place annually on Lake Monroe. In addition, there is a large (Class 3) dinner boat (See Attachment A, Definitions) that cruises from Monroe Harbor to the Wekiva River confluence and back.

Marinas

There are two (2) commercial/recreational marinas in this zone, Monroe Harbor Marina and Sanford Boat Works and Marina. Interviews with the marina managers indicate that many of the boats berthed in wet storage never leave their slips. Regarding new marina development, land availability is limited. The City of Sanford, on the west side of the lake, is developed, while the land on the southern and northern end is marshland. The land on the east side is also developed with single family residences, with the exception of the Florida Power Corporation plant. This plant is currently closed down, and the future use of this site is unknown at this time.

Therefore, new marina construction appears to be limited in this area.

Boat Ramps

There are currently three (3) public access boat launching facilities in this zone, with three (3) ramps and three (3) lanes. Mariner's Cove Park ramp, a county park, has enough open grass area to park approximately 86 trailers, but the boating activity study showed limited use of this ramp. Land for future boat ramp construction in this area is limited.

Please refer to the corresponding Zone 7 Map and the Boating Activity Study update for marina and ramp details. (See Attachments E and N)

ZONE 8 – SJR from SR 415 to Lake Harney.

This zone is more remote than any of the other zones in the county. The river is winding, with many lakes coming from it. In addition, in periods of high water, it can become difficult to follow the river channel. Marked navigational aids cease in this area, thus ending the commercial aspects of the St. Johns River. Submergent, emergent, and floating vegetation is abundant in this zone.

The uplands in this zone consist of large parcels of undeveloped land interspersed with single-family residential areas. There is no commercial zoning in this area. This area experiences problems with flooding during high water events, and most of the land adjacent to the river is wetlands.

Manatee use of this zone is relatively unknown; there is no telemetry or aerial data.

Boating activity is characterized as recreational and commercial fishing, cruising, water-skiing, and personal watercraft use, all in almost exclusively Class A and Class 1 powerboats (See Attachment A, Definitions.)

Marinas

There is one (1) commercial/recreational marina in this area, JJ's Marina Isle, located in Seminole County. This facility is a small-boat fish camp. Based upon the waterway and the upland lands and wetlands situation mentioned above, future marina development in this area seems highly unlikely.

Boat Ramps

There a total of three (3) public access boat launching facilities in this zone, with three (3) ramps and four (4) lanes. Boat study survey data indicates that these ramps experience light usage. In addition, during periods of extremely high water, several of them flood and are closed to boat traffic.

Please refer to the corresponding Zone 8 Map and the Boating Activity Study update for marina and ramp details. (See Attachments E and N)

B.6. IMPLEMENTATION

Future Actions Required for Implementation

Once Phase II of the Manatee Protection Plan has been adopted by County Council, it will be submitted to the FWC and USFWS for approval. Upon approval by these agencies, the MPP can then be used by the state and federal wildlife agencies in their permit review processes.

Upon adoption of the MPP by the County, FWC, and USFWS, city specific provisions as outlined in city council-passed resolutions (Attachment S) can then be used by the state and federal wildlife agencies in their permit review processes along with the other boat facility siting provisions in the MPP.

Those cities and municipalities that decide to adopt the MPP and have city-specific provisions will, upon state and federal approval, be requested to sign a memorandum of understanding that outlines the City's and County's duties and responsibilities. This agreement would then be incorporated into the Volusia County Plan, along with their city's plan or city-specific provisions under Attachment S.

Development of Objectives and Policies

Objectives and policies need to be developed that can be incorporated into the County's Comprehensive Plan. These policies will be developed after the final approvals of this plan and included as an addendum at a later date.

Within two years of state approval of the MPP for Volusia County, the participating municipalities shall amend their comprehensive plans to reflect their participation. Comprehensive plan amendments will be required in order for the cities to continue participation.

Objectives, policies or references must be approved by the DCA, FWC, and County.

Periodic Review and Revision

New initiatives outlined in the MPP will further the cause of manatee protection beyond what currently exists. There is always room for improvement and reevaluation is necessary as conditions or our knowledge base changes. As such, Volusia County will continue to evaluate all elements of the MPP and related Comprehensive Plan elements at regular intervals to ensure that the best possible protection for manatees is being afforded.

The Manatee Protection Plan will be reviewed five years after it is formally approved by the County Council and the FWC. Thereafter, a routine evaluation of the plan will be scheduled every five years.

An Annual Report will also be written by the County, updating the MPP as needed, such as a running total of the slips used from the city slip pools.

In the event that an exceptional review is required, the next routine review will be scheduled five years from that revision date. The following is a list of such exceptions. Any failure to conduct the review and revisions according to the stated schedule shall not invalidate the plan nor any provisions of the county code associated with it. Thus, failure to conduct the update on schedule in no way affects the enforceability of this plan.

- 1) State delisting of the West Indian Manatee
- 2) Significant change in legal requirements

Implementation Process

Attachment R outlines the project application process for applicants interested in developing boat facilities within Volusia County. Applicants must receive a letter of compliance with the MPP from VCEM in order to move forward with permitting a project. Copies of permit applications and all associated documentation (including the mitigation fee as required under section B.4.A) must be provided to Volusia County Environmental Management's Manatee Protection Program for review and approval. If an applicant is interested in increasing the number of powerboat slips over which is allowed by the plan, and the project is located in a city that has opted for the "slip aggregation" option, a letter of concurrence with use of the powerboat slip pool must be obtained. This letter should be provided to the County, FWC and USFWS. Once a letter of compliance from VCEM is provided to the applicant, the applicant must provide this letter to the relevant state and federal wildlife agencies for their review.

Attachment A: Definitions and Acronyms

Definitions

“As Is” Option - The boat facility siting approach as described in B. 4. H., for determining the allocation of future wet/dry slips or boat ramp trailer parking spaces. Riparian rights for single family residential uses would be maintained.

Aquatic Preserve – State-owned submerged lands in areas which have exceptional biological, aesthetic, and scientific value, that have been set aside forever for the benefit of future generations, as defined in the Florida Statutes. These areas include the water column over such lands, which have been set aside to be maintained in an essentially natural or existing condition of indigenous flora and fauna and their supporting habitat and the natural scenic qualities and amenities thereof.

Boat - A vehicle designed for operation as a watercraft propelled by oars, sails or one or more internal combustion engine(s). A boat shall not be considered as a recreational vehicle even though it has facilities for temporary living quarters.

Boat Facility - A public or private structure or operation where boats are moored and/or launched, including commercial, recreational, industrial and residential marinas, dry storage, boat ramps and private docks. For the purposes of this plan, boat facility shall be synonymous with “marine facility”; however, single family docks with two (2) or fewer wet and/or dry slips are not considered boat facilities.

Boat Ramp - A structural, natural or man-made feature that facilitates the launching and landing of boats into a waterbody. For the purposes of this plan, a trailer parking space is considered equivalent to a “slip.” A boat ramp may also be referred to as a boat facility.

“Case-by-Case” Review – In the St. Johns River portion, a coordinated, project-specific review of the manatee death data, manatee telemetry data, boating traffic patterns, primary boater destinations in the vicinity of the project, and potential impacts to manatee habitat or other environmentally sensitive lands, based on the data available at the time of the review. This review will involve Volusia County, the FWC, and the USFWS (See B. 4.H.2 Section C.).

Channel - Means a marked navigation channel, unless otherwise described or designated, and is not intended to mean an access or side channel unless otherwise designated for the purpose of regulation.

Channel of the Intracoastal Waterway - All waters within the navigable channel of the Atlantic Intracoastal Waterway within Volusia County, Florida, and which navigable channel is located by buoys or other markers placed by the U.S. Coast Guard (USCG) or Florida Inland Navigation District (FIND) together with the area extending a distance of one hundred (100) feet from each side of said channel in

a direction away from the center of such channel and the sides of which channel being as determined and marked by the buoys and markers placed by USCG or FIND.

Class A - 1 boat – Boats less than 12 feet in length, and all canoes to which propulsion motors have been attached, regardless of length.

Class A - 2 boat – Boats 12 feet or more and less than 16 feet in length.

Class 1 boat – Boats 16 feet or more and less than 26 feet in length.

Class 2 boat – Boats 26 feet or more and less than 40 feet in length.

Class 3 boat – Boats 40 feet or more and less than 65 feet in length.

Class 4 boat – Boats 65 feet or more and less than 110 feet in length.

Class 5 boat – Boats 110 feet or more in length.

Class I Waters – Potable Water Supplies. Fourteen general areas throughout the state including: impoundments and associated tributaries, certain lakes, rivers, or portions of rivers, used as a drinking water supply.

Class II Waters – Shellfish Propagation or Harvesting. Generally coastal waters where shellfish harvesting occurs.

Class III Waters – The surface waters of the State of Florida are classified as Class III – Recreation, Propagation and Maintenance of a Healthy, Well-Balanced Population of Fish and Wildlife, except for certain waters, which are described in subsection 62-302.400(12), F.A.F. A water body may be designated as an Outstanding Florida Water or an Outstanding National Resource Water in addition to being classified as Class I, Class II, or Class III.

Class IV Waters – Agricultural Water Supplies. Generally located in agriculture areas around Lake Okeechobee.

Class V Waters – Navigation, Utility and Industrial Use. Currently, there are not any designated Class V bodies of water. The Fenholloway River was reclassified as a Class III in 1998.

Conservation Measures - An action or series of actions that may help reduce direct and indirect human impacts to manatees.

“Criteria-based” Evaluation – In the Halifax River/Indian River (Coastal) portion, the slip density outcome is determined by a scoring system. The total score is determined by adding the Limiting Features, then subtracting the Offsetting Features (see B. 4. H. 1, Section 3).

Dredging - Mechanical or other methods used to remove submerged land.

Dry Slip - A space designed for the storage of single watercraft in an upland location.

Dry Storage Facility - An upland structure used for storing watercraft. A dry storage facility may be either a water-dependent or a water related use.

Existing Boat Facilities - For the purpose of the Manatee Protection Plan for Volusia County, existing boat facilities shall be defined as those facilities which have received all active and required permits and/or authorized, constructed and in operation as of the effective date of this plan. All legal and properly permitted existing boat facilities shall be allowed to continue with the existing use, and may renovate according to permitting guidelines, provided there is no change in facility size, including no increase in the number of wet or dry slips, unless the facility meets the expansion criteria as provided in the this Manatee Protection Plan. The effective date of this plan will be the date of State approval.

Existing linear shoreline: For the purposes of the Manatee Protection Plan for Volusia County, linear shoreline is determined by the mean high water line in tidally-influenced areas and the ordinary high water line along waterways that are not tidally influenced. This definition shall not apply to shoreline artificially created through dredge or fill activities (such as boat basins or canals) after January 01, 1996. Such artificially created shoreline created after January 01, 1996 shall not be considered in the calculation of linear shoreline. Artificially created shoreline that was created prior to January 01, 1996 must have received the proper permitting authorization required at the time of construction. Man-made drainage ditches (such as mosquito control, flood control ditches or any non-navigable waterway) shall not qualify as linear shoreline, regardless of their date of construction. Linear shoreline shall be calculated using survey quality aerial photographs or by accurate field survey. The calculation of linear shoreline is based upon contiguous shoreline that is owned or legally controlled by the applicant. Exception to include non-contiguous shoreline within the sphere of influence of the proposed project will be considered if the federal, state, and local permitting agencies agree that inclusion of that shoreline will not result in significant adverse impacts to manatees or manatee habitat.

High Manatee Use Area: In the Halifax River/Indian River (Coastal) portion, an area of high manatee use is defined as greater than five (5) manatees seen per aerial survey flight within a five mile radius of the project site. Five is the countywide average number of manatees in a 5-mile radius. This is calculated using the aerial survey data collected from July 2002-June 2004 during 45 complete overflights. The total number of manatees located in a 5-mile radius of the project site is divided by the total number of flights (45) and then compared to the countywide average (5) for these surveys.

High Watercraft-related Manatee Mortality Area: In the Halifax River/Indian River (Coastal) portion, areas of high watercraft-related manatee mortality are defined (using data and data subsets from January 1976-December 2004 to be updated when next full year is available from FWRI) as follows:

1st level: # of watercraft deaths within a 5 mile radius/total number of watercraft deaths in Coastal Volusia County (≥ 0.125 is significant) (1 point)

2nd level: # of watercraft-related deaths within a 5 mile radius in the last 10 full years/total number of watercraft-related deaths in Coastal Volusia County in the last 10 full years (≥ 0.125 is significant) (1 point)

Idle Speed - The minimum speed that will maintain the steerageway (a rate of motion sufficient to make a ship or boat respond to movements of the rudder) of a motorboat.

Idle Speed Zone - An area where vessels may not be operated at greater than Idle Speed, as defined in 68C-22.002(2), F.A.C.

Lane - A part of a boat ramp that allows for the launching and landing of one boat at a time. A boat ramp can have more than one lane.

Letter of Compliance - A letter drafted by Volusia County Environmental Management to the applicant, stating that they are in compliance with the Manatee Protection Plan for Volusia County. (See B. 4. A. and Attachment R)

Main Access Dock - A walkway that connects a riparian owner's (a person who owns land on the bank of a natural watercourse or body of water) property to a terminal platform.

Maintenance Dredging - Mechanical or other methods used to remove submerged land that has previously been legally dredged.

Manatee Conservation Fund - A mitigation fee for each facility that will contribute to increased law enforcement presence and manatee conservation, for each new or expanded: boat slip, ramp parking space, and/or dry storage space on premises. All marine facilities (with the exception of docks for single family residences) will pay a one-time mitigation fee of \$1000 per wet slip, ramp parking space, or dry storage space. Single family boat docks (see definition) will pay a one-time mitigation fee of \$250.

Manatee Mortality (specific types):

Cold Stress - Manatees which die as a result of exposure to prolonged cold weather. Animals are usually emaciated and in a general state of malnutrition (sometimes combined with "Other Natural" in some documents).

Crushed/Drowned in Flood Gate or Canal Lock - Manatees killed by crushing or asphyxiation in flood gates and canal locks.

Other Human-Related - Manatee deaths caused by vandalism, poaching, entrapment in pipes and culverts, complications due to entanglement in ropes, lines, and nets, or ingestion of fishing gear or debris.

Other Natural - Manatee deaths resulting from infectious and noninfectious diseases, birth complications, natural accidents, and natural catastrophes (such as red tide poisoning).

Perinatal – A Manatee less than 150 cm (5 ft.) in total length which was not determined to have died due to human-related causes.

Undetermined - Manatee deaths in which the cause of death could not be determined.

Verified/Not Recovered - Manatee deaths that were reported and verified, but the carcass was not available. (Combined with "Undetermined" in some documents.)

Watercraft - Manatees hit by boats, barges or any type of watercraft. Death may result from propeller wounds, impact, crushing, or any combination of the three.

Marina (general) - A marina is a facility or structure that provides mooring, docking, anchorage, dry storage, fueling, repairs, launching or other related services for watercraft. Private boat docks associated with single family dwellings are not considered marinas nor are boat ramps.

Marina (specific types):

Commercial/Recreational Marina - A watercraft complex on and/or adjacent to a waterway that provides services available to the general public, provides docking for vessels of private, non-residential usage, and that are not associated with a subdivision, condominium, duplex, or other multi-family development. Permitted uses may include: rental of wetslips or dry storage space and associated utilities, boat lifting and/or launching, boat rentals, sale of marine fuel and lubricants, wastewater pump-out facilities, sale of fishing bait and equipment, charter boat operations, and/or providing for minor repair services for watercraft, not involving removal of watercraft from the water or removal of inboard or outboard engines from the watercraft. Accessory service uses may include on-shore restaurants, bars, hotels, or motels, charter fishing, eco-tours and offshore casino tours.

Industrial Marina - Facilities serving largely commercial interests, including commercial boat building, ship repairs or construction, and

commercial seafood harvesting and processing. Permitted uses may include fueling facilities, repairs and construction, boat production, ship repairs up to 100' or 100 tons, wastewater pump-out facilities, utilities, and commercial sales of fish and farmed/harvested seafood.

Residential Marina - Community docks of three or more boat slips serving subdivisions, condominiums, duplexes, or other multi-family developments. No fueling or repair facilities shall be associated with these marinas. A private residential marina contains wet slips and/or dry slips used only as accessory to a principal multi-family development use. A public/private residential marina has a portion of its wet slips and/or dry slips designated for rental by the general public, with the remaining wet slips and/or dry slips used accessory to a principal multi-family development use.

Mean High Waterline - The intersection of the tidal plane or mean high water with the shore. Mean high water is the average height of high waters over a nineteen (19) year period.

Memorandum of Understanding - Those cities and municipalities that decide to adopt the Volusia County Plan will, upon state and federal approval, be requested to sign a memorandum of understanding. This agreement will outline the City's and County's duties and responsibilities. (See B.3.A, Jurisdiction.)

Mitigation - An action, series of actions, or activity that will offset adverse impacts to manatees.

New or Expanding Boat Facility - A marine facility that is proposed to be built, restored, revitalized, renovated, or otherwise increased in size or scope.

Percent Seagrass Coverage - Seagrass coverage shall be determined on a project site during the months of May through October. The percent coverage of seagrass is determined by counting short shoots in a one square meter (1m²) plot frame that has been evenly subdivided into one hundred square cells. The plot is placed every five meters (5m) along a minimum of three (3) transect lines perpendicular to the shoreline, extending to the end of the project site, and including ingress and egress pathways. The transect lines are to be evenly spaced along the project site shoreline with one transect located at the middle of the site, one at each end of the project site and a minimum of three transects along ingress and egress pathways extending lengthwise from the shoreline to an authorized marked navigational channel. Transects shall be no greater than fifty meters (50m) apart. If the project site is greater than one hundred meters (100m) in width, additional transects shall be added at a rate of one for every fifty meters (50m) of shoreline. If ten of the sample plot frames contain ten percent (10%) or more seagrass, then the final coverage for the site is greater than or equal to ten percent (10%). The project site is defined as all docks, access walkways, finger piers, mooring areas, turning basins, and ingress and

egress pathways. If the project site and the shoreline are not contiguous then the first plot frame shall be placed at the intersection of the project site and the transect line.

Pier - A structure in, on, or over submerged lands, which is used by the public primarily for fishing or swimming. A pier shall not include the mooring of boats.

Powerboat - Any vessel that is primarily propelled or powered by an internal combustion engine and that is used or is capable of being used as a means of navigation or transportation on water. Sailboats with auxiliary engines are not considered powerboats for the purpose of this plan.

Private Boat Docks – See Single-Family Docks below.

SAV - Submerged aquatic vegetation. Rooted, submerged aquatic plants that grow entirely underwater, often in large beds or meadows. Also called seagrasses and submerged macrophytes. These include but are not limited to: shoal grass (*Halodule wrightii*), paddle grass (*Halophila decipiens*), star grass (*Halophila engelmanni*), sago pondweed (*Potamogeton pectinatus*), clasping leaved pondweed (*Potamogeton perfoliatus*), widgeon grass (*Ruppia maritima*), manatee grass (*Syringodium filiforme*), turtle grass (*Thalassia testinudum*), tapegrass (*Vallisneria americana*) and horned pondweed (*Zannichellia palustris*).

Seagrass - A rooted, flowering plant that is aquatic, water pollinated and colonizes marine habitats.

Section 1 – Protected Areas in the Halifax/Indian River (coastal) portion of Volusia County. These areas are generally prohibited for boat facility development that includes powerboats, but allows for canoe/kayak launches and facilities catering to non-motorized vessels. Exceptions may be considered on a case-by-case basis, however, these exceptions shall not allow powerboat-to-shoreline densities exceeding 1 powerboat (or boat trailer parking space) per 100 feet of shoreline. See Section B. 4. H.

Section 2 – Areas in the Halifax/Indian River (coastal) portion of Volusia County where a maximum of one powerboat slip per 100 feet of shoreline is allowed. See Section B. 4. H.

Section 3 - Areas in the Halifax/Indian River (coastal) portion of Volusia County where the allowable density of powerboats are determined by a criteria-based evaluation. The number of powerboats allowed at a specific location will range between one per 100 feet of shoreline and five per 100 feet of shoreline, depending upon the final score. See Section B. 4. H.

Section 4 – Areas in the Halifax/Indian River (coastal) portion of Volusia County where there is no slip to shoreline density required for powerboats. See Section B. 4. H.

Section A - Protected Areas in the St. Johns River portion of Volusia County where boat facility development that includes powerboats is generally prohibited, but allows for canoe/kayak launches and facilities catering to non-motorized vessels. Exceptions may be considered on a case-by-case basis, however, these exceptions shall not allow powerboat-to-shoreline densities exceeding 1 powerboat (or boat trailer parking space) per 100 feet of shoreline. See Section B. 4. H.

Section B - Areas in the St. Johns River portion of Volusia County where boat facility development that includes powerboats on publicly owned lands would be allowed at a density of 1 powerboat or trailer parking space per 100 feet of shoreline. For any privately-owned parcels located in this designation, powerboat-to-shoreline or trailer parking space to shoreline densities shall not exceed three powerboats per 100 feet of shoreline. See Section B. 4. H.

Section C - Areas in the St. Johns River portion of Volusia County where boat facility development that includes powerboats is reviewed on a case-by-case basis. This review will involve Volusia County, the FWC, and the USFWS, and will include the most recent information on manatee death data, manatee telemetry data, boating traffic patterns, primary boater destinations in the vicinity of the project, and potential impacts to manatee habitat or other environmentally sensitive lands. See Section B. 4. H.

Section D - Areas in the St. Johns River portion of Volusia County where a maximum of five powerboats per 100 feet of shoreline is allowed. See Section B. 4. H.

Single-Family Docks - A fixed or floating structure, including moorings, used for mooring, docking, anchorage and launching watercraft. Single-family boat docks located at private residences may have two or fewer wet and/or dry slips. A single-family residence may include a fishing/observation pier.

Slip - A space designed for the mooring or storage of a single watercraft, which include wet or dry slips, anchorage, beached or blocked, hoist, parked on trailers, open or covered racks, seawall, or the number of parking spaces for boat ramps. Piers authorized only for fishing or observation are not considered wet slips.

“Slip Aggregation” Option – A further refinement of the boat facility siting approach as described in B. 4. H., for determining the allocation of future wet/dry slips or boat ramp trailer parking spaces. This option is available to local governments in the coastal portion of Volusia County, and creates a “slip pool” to allow for powerboat slips to be aggregated at specific parcels within a local government’s jurisdiction rather than evenly distributed. Riparian rights for single family residential uses would be maintained.

“Slip Pool” - The allowance for powerboat slips to be aggregated at specific parcels within a local government’s jurisdiction rather than evenly distributed. Based on the siting approach in the plan, the total number of allowable slips within a local government’s jurisdiction is calculated. This total number is then subtracted by the number of existing slips (and existing single-family lots) to calculate the remaining number of available slips for powerboats that can be aggregated, or clustered at specific parcels. The use of the powerboat slips from the slip pool requires a letter of concurrence from the local government.

Slow Speed - The speed at which a vessel proceeds when it is fully off plane and completely settled into the water. Due to the different speeds at which vessels of different sizes and configurations may travel while in compliance with this definition, there is no specific numerical speed assigned to Slow Speed.

A vessel is not proceeding at Slow Speed if it is:

1. On a plane
2. In the process of coming off plane and settling into the water or coming up onto plane
3. Creating an excessive wake or other hazardous condition which unreasonably or unnecessarily endangers other vessels.

A vessel is proceeding at Slow Speed if it is fully off plane and completely settled into the water and not creating an excessive wake or other hazardous condition which unreasonably or unnecessarily endangers other vessels.

Slow Speed Zone - An area where vessels may not be operated at greater than Slow Speed, as defined above and in 68C-22.002(7), F.A.C.

Sovereignty Lands - Those lands including, but not limited to: tidal lands, islands, sandbars, shallow banks, and lands waterward of the ordinary or mean high water line, to which the State of Florida acquired title on March 3, 1845, by virtue of statehood, and of which it has not since divested its title interest.

Special Waters OFW – “Special Waters” shall mean water bodies designated in accordance with Rule 62-302.700, F.A.C., by the Environmental Regulation Commission for inclusion in the Special Water Category of Outstanding Florida Waters, as contained in Rule 62-302.700, F.A.C. A Special Water may include all or part of any water body. The Commission may designate a water of the State as a Special Water after making a finding that the waters are of exceptional recreational or ecological significance and a finding that the environmental, social, and economic benefits of the designation outweigh the environmental, social, and economic costs.

Terminal Platform - That part of a dock or pier, including finger piers, that is connected to the access walkway, is located at the end point of the facility, and is

designed, to secure and load or unload a vessel or conduct other water dependent activities.

Transitory Boat Slip - One that is used by a vessel for a very brief period of time (generally not overnight) and/or is used by various vessels. Examples would include water dependent public transportation dockage and courtesy slips at a fuel dock or restaurant.

Turning Basin - The area of submerged land that is required to maneuver a vessel into or out of a facility.

Wake - All change in the vertical height of the water's surface caused by the passage of a vessel including, but not limited to, a vessel's bow wave, stern wave, and propeller wash.

Water Dependent Uses - Water dependent uses shall include those uses whose primary function is derived by direct water access such as, but not limited to commercial marinas, commercial charter fishing, touring and diving boat piers, water-skiing, sailing and similar instructional operations, dredging, hauling, marine repair and other related uses.

Wet Slip - A space designed for the mooring of a single watercraft in water. Such spaces may extend from a dock or shoreline but shall not be allowed to project from a pier.

Acronyms

USACE (COE) – United States Army Corps of Engineers

FDEP – Florida Department of Environmental Protection

FIND – Florida Inland Navigation District

FWC – Florida Fish and Wildlife Conservation Commission

H/IR – Halifax River/Indian River (Coastal) portion of Volusia County

ICW – Intracoastal Waterway

NSAV – Native submerged aquatic vegetation

SJR – St. Johns River portion of Volusia County

SJRWMD – St. Johns River Water Management District

USCG – United States Coast Guard

USFWS (FWS) – United States Fish and Wildlife Service

VCEM – Volusia County Environmental Management

VCCP – Volusia County Comprehensive Plan

Attachment B: Existing State and Federal Regulatory Requirements

DEPARTMENT OF ENVIRONMENTAL PROTECTION
REGULATORY REQUIREMENTS FOR MARINAS

Petroleum

Petroleum Spill and Recovery Plan

1. Develop a petroleum spill and recovery plan and train personnel in its use. (Chapter 62-16 Florida Administrative Code.) The plan should be short, with clear directions that can be understood by each employee.

Petroleum Control and Containment

1. The Pollutant Discharge Act addresses in Section 376.07, transfers of pollutants; Section 376.09 removal of prohibited discharges; and Section 376.12 liabilities and defenses of responsible parties; liabilities of third parties; financial security requirements for vessels; notification requirements. (Florida Statutes.)
2. Facility owner/operators or designees must be present during fueling and must have direct access to emergency shut off devices. (Chapter 62N-16 Florida Administrative Code.)
3. Above ground and underground storage tanks (AST/UST) are regulated by State Statute Chapters 62-761 and are overseen by local county ordinances.

Fuel Waste and Used Oil Management

1. The Marina must provide labeled containers for the storage of used oil and used oil filters (Title 40 Code of Federal Regulations 279.)
2. Used oil and used oil filters are prohibited from disposal at Florida landfills; they must be recycled (Chapter 62N-710.850 Florida Administrative Code.)
3. Used oil and used oil filters must be managed in such a way as to avoid discharges to water or soil. (Chapter 62N-710.400 Florida Administrative Code.)

Bilge Water

1. Pollution discharge restrictions - 33 Code of Federal Regulations 151 prohibits the discharge of any water, substances, or bilge water which produces a sheen or contains 15 parts per million (or greater) within 12 nautical miles of Florida's coastline or inland navigable waters.
2. Section 376.041, Florida Statutes prohibits the discharge of pollutants into or upon any coastal waters, estuaries, tidal flats, beaches, and lands adjoining the seacoast of the State.
3. Section 403.161 (1), Florida Statutes prohibits the causing of pollution in Florida waters.

Boat Cleaning

Boat Cleaning- Exotic Plants/Sea life

1. Importation, transportation or release of exotic plants and animals are prohibited or regulated by section 369.25 (aquatic plants), Section 370.081 (saltwater animals) and section 372.26 (imported fish.)

Habitat-Species

Boating Sensitive Habitats and Endangered Species

1. The manatee is protected under federal law by the Marine Mammal Protection Act of 1972 and the Endangered Species Act of 1973.
2. To catch, molest, injure, kill or annoy or otherwise interfere with the normal activity and well being of manatee, mammalian dolphins or marine turtles are prohibited by section 370.12, Florida Statute.
3. Dredging, including inadvertent prop dredging, is regulated under part IV of Chapter 373 of the Florida Statutes.

Solid Waste

Solid Waste Management

1. On-site solid waste disposal is prohibited unless the facility is a permitted landfill (Section 403.708, Florida Statutes.)
2. Open burning of solid waste is prohibited. (Chapter 62.701.300 (3) Florida Administrative Code.)

Liquid Waste

Liquid Waste Storage Management

1. Hazardous waste must be managed and disposed of in accordance with Title 40 Code of Federal Regulation, Parts 260-268 (See Hazardous Waste Management.)
2. Used oil and used oil filters must be managed and disposed of in accordance with Chapter 62-710 Florida Administrative Code (See Petroleum Control.)

Hazardous

Hazardous Waste Management

1. Hazardous waste must be managed and disposed of in accordance with Title 40 Code of Federal Regulation 260-268 (See Hazardous Waste Management.)
2. Used oil and used oil filters must be managed and disposed of in accordance with

Chapter 62-710, Florida Administrative Code (See Petroleum Code.)

3. Compliance monitoring at facilities under the Resource Conservation and Recovery Act with Chapter 62-730, Florida Administrative Code.

Household Hazardous Waste Management

1. Section 403.161, Florida Statutes prohibits discharges that cause pollution to waters of the State.

Hull and Topside Maintenance Painting

1. All hazardous waste generated at the facility must be managed and disposed of in accordance with Chapter 62-730 Florida Administrative Code (See Hazardous Waste Management MEM.)
2. Marine facilities that engage in spray painting may be required to obtain an air operating permit from the DEP or their Local Air Pollution office. The rules pertinent to these regulations are covered in Chapter 62-296, Florida Administrative Code, and/or by local regulations or ordinances.
3. The federal Clean Water Act and the Oil Pollution Act of 1990 prohibit the discharge of paint into waters subject to the Coast Guard's or the Environmental Protection Agency's jurisdiction.
4. Paint chips and sanding dust must be collected for disposal at a permitted landfill. On-site solid waste disposal of paint chips and sanding dust must be collected for disposal at a permitted landfill. On-site solid waste disposal of paint chips and sanding dust on land or water is prohibited, (Section 403.708, Florida Statutes.)
5. NPDES industrial storm water permits are required for marinas and boatyards that conduct boatyard activities over land that ultimately discharge to surface waters. These permits must be obtained from the U. S. Environmental Protection Agency. These permits require that the facility use BMP's and prepare a pollution prevention plan. (Title 40 Code of Federal Regulations, Part 122.26.)

Engine Repair and Maintenance

1. Used oil must be managed in such a way as to avoid discharges to water and soil. See Used Oil Management MEM. (Chapter 62.710 Florida Administrative Code.)
2. Oil changes and hydraulic repairs must be performed in a manner that prevents discharges. (Section 403.751 Florida Statutes.)
3. Hazardous wastes must be managed and disposed of properly. See Hazardous Waste Management MEM. (Chapter 62-730 Florida Administrative Code, and Title 40 Code of Federal Regulations, Parts 260-268.)
4. Properly labeled separate or individual containers must be provided for used oil, used oil filters, and hazardous waste. (Chapter 62-710 Florida Administrative Code, and Title 40

Code of Federal Regulations Part 262.)

5. It is prohibited to pour liquid waste down floor drains, sinks, or outdoor storm drain inlets. (Section 403.727 Florida Statutes.)

Distressed Signal Flare Management

1. Hazardous waste generated by commercial boaters must be managed and disposed of in accordance with the hazardous waste regulations in Title 40 Code of Federal Regulations 260-268.
2. An "Emergency Thermal Treatment" permit from DEP is required for sheriff or fire department personnel who dispose of waste safety flares (Chapter 62-730.320, Florida Administrative Code.) Only a local law enforcement bomb squad experienced in the handling and disposal of explosives may conduct the thermal treatment.

Battery Management

1. It is unlawful for anyone to dispose of lead acid, either wet cell or small sealed cell and nickel-cadmium rechargeable batteries in the solid waste stream either sanitary land-filling or municipal waste incineration (Section 403.708(14) and 403.7129, Florida Statutes), or in the waters of the State (Section 403.161, Florida Statutes.) Used lead acid batteries are regulated as hazardous waste if these are not carefully managed and recycled.

Mercury Containing Lamps

1. It is unlawful to incinerate mercury-containing lamps in any quantity (excluding those from households.) In addition, businesses which discard more than 10 such lamps per month must either recycle the lamps or send them to a hazardous waste landfill for disposal (Section 403.161, Florida Statutes.)
2. Recycle all discarded fluorescent and HID lamps used in marina business applications following Chapter 62-737, Florida Administrative Code. Major requirements are listed below:
 - a. Do not place used lamps used in marina business applications in the regular trash.
 - b. Store lamps in an area and in a manner that will prevent them from breaking.
 - c. Do not over fill the shipping container.
 - d. Do not tape lamps together for storage or shipment.
 - e. Label the lamp storage area and each container as "Spent Mercury-Containing Lamps for Recycling."
 - f. Do not intentionally break or crush lamps because mercury may be released.
 - g. If lamps are accidentally broken, immediately store them in a tightly sealed container. It is recommended that you mark the container as "Spent Broken Mercury-Containing Lamps for Recycling."
 - h. Clearly and visibly label each container and the storage area with the starting date of accumulation when the lamps were first placed in the container and storage area.
 - i. If on-site storage is not feasible, lamps may be transported to a central accumulation point at one of your own facilities, to a registered or permitted storage facility, or

- directly to a recycling facility. Your own business may transport its own lamps or hire a transporter complying with the Department's regulations.
- j. Keep copies of any shipping papers for at least 3 years.

Used Antifreeze Management

1. Antifreeze may become contaminated with heavy metals (such as lead) and organics (such as benzene, trichloroethelene or tetrachloroethelene) at levels that would render the used antifreeze a hazardous waste. If the antifreeze is not recycled, a hazardous waste determination must be made by the generator; the marina or boatyard operator. (Title 40 Code of Federal Regulations Section 262.11 and Chapter 62-730, F.A.C.) If the waste antifreeze is determined to be hazardous waste, it must be managed and disposed of in accordance with Title 40 Code of Federal Regulations 260-268.
2. If used antifreeze is recycled on site by the marina or boatyard, a hazardous waste determination must be made on the waste antifreeze filters generated from the recycling process equipment. (Title 40 Code of Federal Regulations, Section 262.11.) If the lead concentration is 5mg/liter or more it is hazardous waste (See MEM.)

Fish Waste

Fish Waste Management

1. Section 403.161, Florida Statute prohibits discharges that cause pollution to waters of the State.

Storm Water

Storm Water Management

1. An environmental resource permit (or storm water discharge permit in the northwest district) may be required from your DEP district, local agency, or water management district as applicable if a new storm water system is to be constructed or if an existing system will be modified. A permit may also be required if new site work is proposed at the facility. (Part IV, Chapter 373, Florida Statutes.)

Sewage-Gray

Sewage Pump Outs and Waste Dump Receptacles

1. Florida statues prohibits the discharge or raw sewage from any vessel. (Section 327.53 - 4 (a), Florida Statutes.)
2. All vessel owners, operators and occupants shall comply with the United States Coast Guard regulations pertaining to marine sanitation devices and with United States Environmental Protection Agency regulations in areas concerning the discharge of sewage, treated and untreated. (Section 327.53 - 5, Florida Statutes)

STANDARD MANATEE CONSTRUCTION CONDITIONS

June 2001

The permittee shall comply with the following manatee protection construction conditions:

- a. The permittee shall instruct all personnel associated with the project of the potential presence of manatees and the need to avoid collisions with manatees. All construction personnel are responsible for observing water-related activities for the presence of manatee(s).
- b. The permittee shall advise all construction personnel that there are civil and criminal penalties for harming, harassing, or killing manatees which are protected under the Marine Mammal Protection Act of 1972, The Endangered Species Act of 1973, and the Florida Manatee Sanctuary Act.
- c. Siltation barriers shall be made of material in which manatees cannot become entangled, are properly secured, and are regularly monitored to avoid manatee entrapment. Barriers must not block manatee entry to or exist from essential habitat.
- d. All vessels associated with the construction project shall operate at "no wake/idle" speeds at all times while in the construction area and while in water where the draft of the vessel provides less than a four-foot clearance from the bottom. All vessels will follow routes of deep water whenever possible.
- e. If manatee(s) are seen within 100 yards of the active daily construction/dredging operation or vessel movement, all appropriate precautions shall be implemented to ensure protection of the manatee. These precautions shall include the operation of all moving equipment no closer than 50 feet of a manatee. Operation of any equipment closer than 50 feet to a manatee shall necessitate immediate shutdown of that equipment. Activities will not resume until the manatee(s) has departed the project area of its own volition.
- f. Any collision with and/or injury to a manatee shall be reported immediately to the FWC Hotline at 1-888-404-FWCC. Collision and/or injury should also be reported to the U.S. Fish and Wildlife Service in Jacksonville (1-904-232-2580) for north Florida or Vero Beach (1-561-562-3909) in south Florida.
- g. Temporary signs concerning manatees shall be posted prior to and during all construction/dredging activities. All signs are to be removed by the permittee upon completion of the project. A sign measuring at least 3 ft. by 4 ft. which reads *Caution: Manatee Area* will be posted in a location prominently visible to water related construction crews. A second sign should be posted if vessels are associated with the construction, and should be placed visible to the vessel operator. The second sign should be at least 8 1/2" by 11" which reads *Caution: Manatee Habitat. Idle speed is required if operating a vessel in the construction area. All equipment must be shutdown if a manatee comes within 50 feet of operation. Any collision with and/or injury to a manatee shall be reported immediately to the FWC Hotline at 1-888-404-FWCC. The U.S. Fish and Wildlife Service should also be contacted in Jacksonville (1-904-232-2580) for north Florida or in Vero Beach (1-561-562-3909) for south Florida.*

CAUTION
MANATEE HABITAT
IDLE SPEED is required if operating a
vessel in the construction area.
All Equipment must be SHUT DOWN if a
manatee comes within 50 feet of operation.
Any collision with and/or injury to a manatee shall be
reported immediately
to the **FWC** at:
1-888-404-FWCC
(1-888-404-3922)

Information on the Review of Department of the Army Permit Applications Related to the Manatee

The Save the Manatee Club, other environmental groups and several individuals filed suit in the District of Columbia against the U.S. Army Corps of Engineers ("Corps") and the U.S. Fish and Wildlife Service ("Service"). Plaintiffs alleged violations of the Endangered Species Act ("ESA"), the National Environmental Policy Act ("NEPA"), the Marine Mammal Protection Act ("MMPA"), and the Administrative Procedure Act ("APA"), with regard to the Florida manatee, and alleged that the Corps' Clean Water Act Section 404 permitting of Florida boating facilities was responsible for vessel-related manatee mortality in Florida's coastal counties. A settlement was entered on January 5, 2001.

Under the settlement, the Corps agreed to participate in the rulemaking process to be conducted by FWS for incidental take of the Manatee under the MMPA. The Corps is participating and providing information FWS requested relevant to the rulemaking.

Pending MMPA rulemaking, the parties will operate under the following interim measures. The Corps is using a revised version of the 1997 "manatee key", to determine which proposed activities may affect the manatee thus triggering consultation under Section 7 of the ESA. The new key has resulted in more consultations on proposed Corps-permitted projects than in the past. The Corps developed, published, and has been using various form letters and other documents to administratively expedite this process. The Service developed guidance for permit applicants who wish to implement measures (as part of any proposed activity that would increase watercraft access to manatee waters) that would offset project impacts so that the project would not result in the take of manatees. Application of the version of the proposed Guidance that was part of the settlement would have required project proponents to make donations to law enforcement for purposes of maintaining the current ratio of on-the-water-law enforcement hours to numbers of registered boats. The Service has published its final guidance, which, in light of state efforts to increase speed zone enforcement, does not include provisions for law enforcement contributions.

Finally, the settlement required FWS to designate refuges and sanctuaries throughout peninsular Florida by September 21, 2001. FWS proposed 16 new protection areas on August 10, 2001, and designated two on January 7, 2002.

Plaintiffs are challenging the final guidance and FWS' failure to meet deadlines associated with the designation of sanctuaries and refuges as violating the terms of the settlement. With regard to the FWS' designation of refuges and sanctuaries, the court agreed with the Plaintiffs and, at a hearing on July 31, 2002, ordered FWS to complete rulemaking on additional sanctuaries and refuges by November 1, 2002. The judge also issued an order requiring the federal Defendants to show cause why they should not be held in contempt for violating his original settlement order. It is important to point out that the plaintiffs have not alleged, nor has the judge found, that the Corps of Engineers failed to carry out any of its responsibilities in compliance with the terms of the manatee settlement of January 2001.

What does "consultation under Section 7" mean? The ESA requires the Corps to determine for each application whether the proposed project (a dock or other activity) will affect the manatee or its habitat. If the Corps determines the project will not affect the manatee, then the Corps proceeds with the review of the project for other issues, such as navigation and public interest, and renders a decision. If the determination is that the project may affect the manatee but is not likely to adversely affect the manatee, then the Corps asks FWS for their concurrence. If the Corps determines that the project may affect the manatee (without concluding it is not likely to adversely affect) the Corps and FWS engage in formal consultation which normally concludes with a Biological Opinion.

What is the "Manatee Key"? This is a document that provides a list of questions that guides the Corps employee reviewing an application through the determination of whether the proposed project may affect the manatee. The Corps had been using a Key dated from 1997 but as part of the Settlement Agreement agreed to use a revised Key. That Key has been used since January, 2001.



United States Department of the Interior

FISH AND WILDLIFE SERVICE
Office of the State Supervisor - Ecological Services
1339 20th Street
Vero Beach, Florida 32960-3559
(561) 562-3909

January 2, 2001

Colonel James G. May
District Engineer
U.S. Army Corps of Engineers
P.O. Box 4970
Jacksonville, Florida 32232-0019

Dear Colonel *May*

On October 27, 2000, the Regulatory Division, Jacksonville District, Corps of Engineers (Corps) sent the Fish and Wildlife Service (Service) a letter regarding the State Programmatic General Permit (SPGP) and the revision and reissuance of the following Regional General Permits:

- SAJ- 5 - Maintenance Dredging of Residential Canals,
- SAJ-12 - Boat Ramps,
- SAJ-13 - Aerial Transmission Lines,
- SAJ-14 - Subaqueous Transmission Lines,
- SAJ-17 - Minor Structures,
- SAJ-18 - Boat Slips in Upland Cuts,
- SAJ-20 - Private Piers,
- SAJ-33 - Private Multi-Family Piers,
- SAJ-34 - Commercial Piers,
- SAJ-42 - Minor Activities-Miami Dade, and
- SAJ-46 - Bulkheads & Backfill in Residential Canals.

At the Service's request, issuance of these revised permits had been held in abeyance by your Regulatory Division because of unresolved issues surrounding the endangered West Indian manatee.

Enclosed with the October 27, 2000, letter was a copy of a newly revised "Manatee Key." The "Manatee Key" is a tool that has been used by the Regulatory Division for the past several years to assist them in making their effects determination, as required by 50 CFR Section 402.14(a).

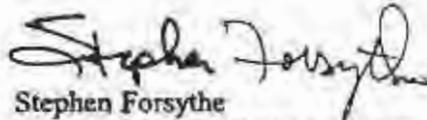
Based on the application of the newly refined "Manatee Key," the Regulatory Division revised their earlier "no effect" determinations to the SPGP and the above-listed Regional General Permits and concluded that the SPGP and the above-listed Regional General Permits "may affect,

but are not likely to adversely affect" the manatee. Additionally, the Regulatory Division, in the October 27, 2000, letter, requested that the Service complete the consultation on the above-listed general permits and the SPGP.

The Service concurs with the Corps' "may affect, not likely to adversely affect" determination for the above-listed Regional General Permits and the SPGP. Additionally, the Service has closely examined the "Manatee Key" and, at this time, is in agreement with its structure and content. Therefore, for all future applications analyzed with the "Manatee Key" in which the Corps reaches a "may affect, not likely to adversely affect" determination with respect to the manatee, the Service as prescribed under 50 CFR Section 402.14(b)(1), hereby concurs with those determinations. Furthermore, for all future applications analyzed with the "Manatee Key" in which the Corps reaches a "may affect, not likely to adversely affect" determination, no authorization is needed for incidental take under the Marine Mammal Protection Act.

Thank you for your cooperation in this matter. Should you have any questions regarding this letter, please contact Jacksonville Field Office Supervisor Dave Hankla at (904) 232-2580, extension 108.

Sincerely yours,



Stephen Forsythe
State Supervisor-Ecological Services

cc:

Assistant Regional Director, Ecological Services, Service, Atlanta, Georgia
Field Supervisor, South Florida Field Office, Service, Vero Beach, Florida
Field Supervisor, Jacksonville Field Office, Service, Jacksonville, Florida

GLOSSARY

Critical habitat - for listed species consists of: (1) the specific areas within the geographical area occupied by the species, at the time it is listed in accordance with the provisions of section 4 of the ESA, on which are found those physical or biological features (constituent elements) (a) essential to the conservation of the species and (b) which may require special management considerations or protection; and (2) specific areas outside the geographical area occupied by the species at the time it is listed in accordance with the provisions of section 4 of the ESA, upon a determination by the Secretary that such areas are essential for the conservation of the species. Designated critical habitats are described in 50 CFR 17 and 50 CFR 226.

Direct effects - Direct effects include effects from projects in waters accessible to manatees.

Indirect effects - those effects that are caused by or will result from the proposed action and are later in time, but are still reasonably certain to occur. Examples of indirect effects include, but are not limited to, changes in water flow, water temperature, water quality (e.g., salinity, pH, turbidity, nutrients, chemistry), prop dredging of seagrasses, and manatee watercraft injury and mortality. Indirect effects also include watercraft access developments in waters not currently accessible to manatees, but watercraft access can, is, or may be planned to waters accessible to manatees by the addition a boat lift, or the removal of a dike or plug.

In-Water-Construction – Any type of activity used to construct/repair/replace any type of in-water structure; the act of dredging .

In-water-construction window – The period of time in certain manatee areas of heightened scrutiny to which in-water construction is restricted (April 1 through November 14) Conversely, in-water construction outside of this window is prohibited.

In-water structures - watercraft access structures – docks or piers, marinas, boat ramps, boat slips, boat lifts, floats, pilings, boat davits, dry storage, etc.

In-water structures - other than watercraft access structures - bulkheads, seawalls, riprap, groins, boardwalks, pilings.

Is not likely to adversely affect - the appropriate conclusion when effects on listed species are expected to be discountable, insignificant, or completely beneficial. **Discountable effects** are those extremely unlikely to occur. Based on best judgment, a person would not (1) be able to meaningfully measure, detect, or evaluate insignificant effects or (2) expect discountable effects to occur. **Insignificant effects** relate to the size of the impact and should never reach the scale where take occurs. **Beneficial effects** are contemporaneous positive effects without any adverse effects to the species.

Manatee areas of heightened scrutiny - designated critical habitat, manatee concentrations, manatee attractants (warm water refugia, freshwater sources), migratory corridors, calving areas, cavorting areas, feeding areas, resting areas, documented mortality, posted speed zones.

May affect - the appropriate conclusion when a proposed action may pose any effects on listed species or designated critical habitat. When the Federal agency proposing the action determines that a “may affect” situation exists, then they must initiate consultation.

No effect - the appropriate conclusion when the action agency determines its proposed action will not affect a listed species or designated critical habitat.

Public access - Any boat dock, boat ramp, or related facility available to the public that is consistent with applicable state and local trespass laws.

Submerged aquatic vegetation (SAV) - Rooted, submerged, aquatic plants such as, but not limited to, shoal grass (*Halodule wrightii*), paddle grass (*Halophila decipiens*), star grass (*Halophila engelmanni*), Johnson’s seagrass (*Halophila johnsonii*), sago pondweed (*Potamogeton pectinatus*), clasping-leaved pondweed (*Potamogeton perfoliatus*), widgeon grass (*Ruppia maritima*), manatee grass (*Syringodium filiforme*), turtle grass (*Thalassia testudinum*), tapegrass (*Vallisneria americana*), horned pondweed (*Zannichellia palustris*), and eel grass (*Zostera marina*).

Watercraft access structures – docks or piers, marinas, boat ramps, boat slips, boat lifts, floats, pilings, boat davits, dry storage, etc.

Waters accessible to manatees - Although all waters of the State of Florida are designated as a manatee sanctuary, there are some areas that are not accessible to manatees such as landlocked lakes. There are also some weirs, salinity control structures and locks that may preclude manatees from accessing water bodies. If there is any question to accessibility, contact the U.S. Fish and Wildlife Service or the Florida Fish and Wildlife Conservation Commission.

MANATEE KEY

- A. Project is **not** located in waters accessible to manatees and does **not** have indirect effects.....*No effect*
- Project is located in waters accessible to manatees **or** directly or indirectly affects (see Glossary) manatees..... **B**
- B. Project will have beneficial, insignificant, discountable, (see Glossary, “is not likely to adversely affect”) or no affect to submerged aquatic vegetation and/or mangrove vegetation and **does** provide watercraft access (*e.g.*, docks or piers, marinas, boat ramps, boat lifts, pilings, floats, boat slips, dry storage, or other watercraft access structures)..... **C**
- Project will have beneficial, insignificant, discountable, (see Glossary) or no affects to submerged aquatic vegetation and/or mangrove vegetation and does **not** provide additional watercraft access (*e.g.*, bulkheads, seawalls, riprap, groins, boardwalks and/or the repair or reconstruction of existing docks or piers as long as the total amount of docking space is not increased)
- Project will adversely affect submerged aquatic vegetation and/or mangrove vegetation.*May affect*
- C. Project is located in a manatee area of heightened scrutiny (see Glossary and Attached Maps) in one of the following counties:
- | | | | |
|------------|--------------|---------------------|---------------------|
| Brevard | Broward | Charlotte | Citrus ¹ |
| Clay | Collier | DeSoto | Dixie |
| Duval | Flagler | Glades | Hendry |
| Hernando | Hillsborough | Indian River | Lake |
| Lee | Levy | Manatee | Marion |
| Martin | Miami-Dade | Monroe ² | Nassau ³ |
| Okeechobee | Palm Beach | Pasco | Pinellas |
| Putnam | St. Johns | St. Lucie | Sarasota |
| Seminole | Taylor | Volusia | Wakulla |
- May affect*
- Project is located in one of the counties above, but **not** in a manatee area of heightened scrutiny (see Glossary and Map)..... **D**
- Project is **not** located in the above counties **E**

D. Project involves construction of a new watercraft access facility (including single family docks, single-family boat ramps, and multi-family docks with 3 or fewer slips) or expansion of an existing facility⁴ by 3 or fewer slips (including dry storage) E

Project involves construction of a new watercraft access facility (including public access boat ramps, multi-family boat ramps, and commercial boat ramps) or expansion of an existing facility by **more than 3** slips (including dry storage)
.....*May affect*

E. Applicant agrees to follow standard manatee construction precautions and any Special Conditions including any “no in-water construction” windows identified on the maps
.....*May affect, not likely to adversely affect*

Applicant does **not** agree to follow standard manatee construction precautions and any Special Conditions included in the permit..... *May affect*

¹ Refer to the Citrus County Manatee Key to make effect determinations.

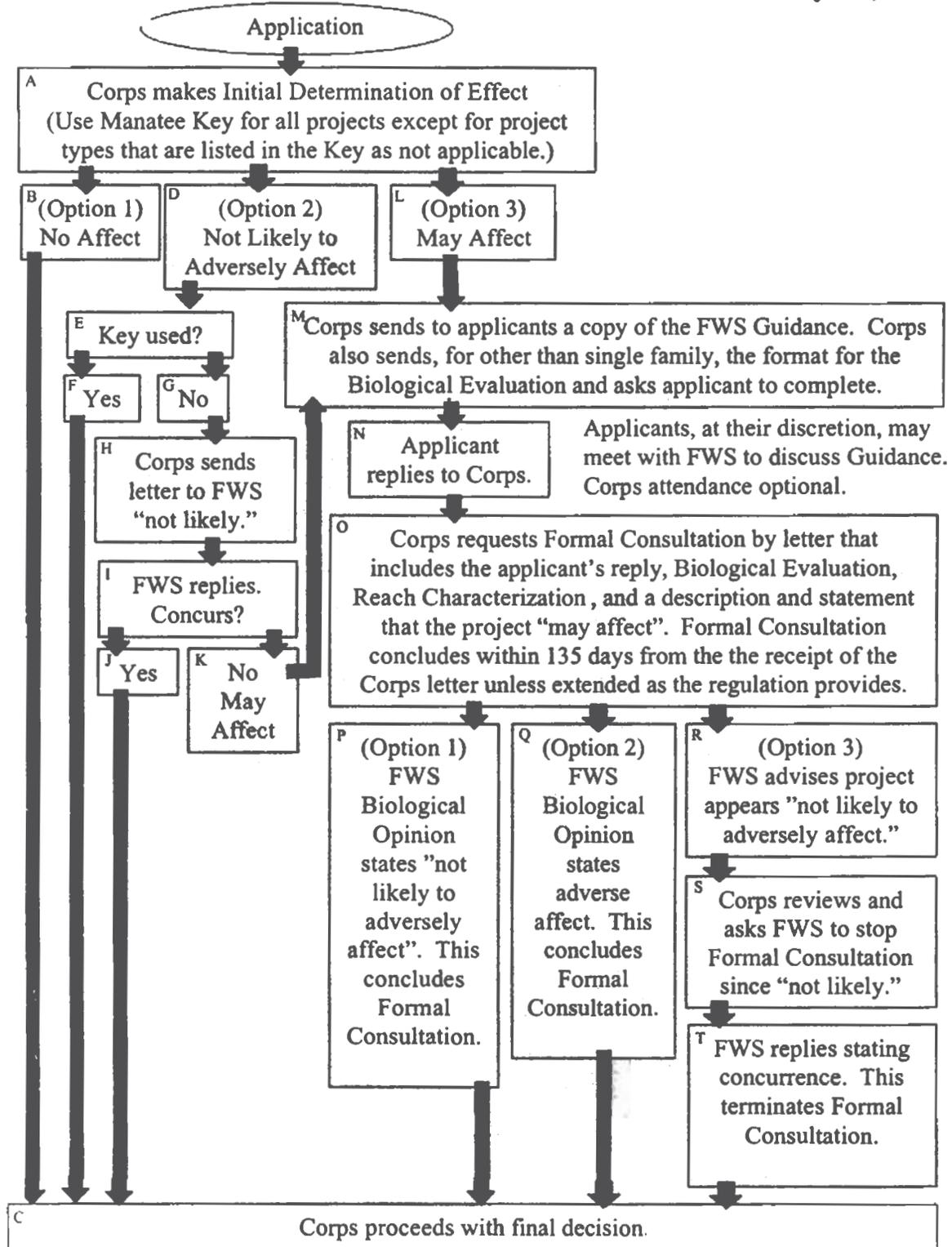
² The area in lower Monroe County to the south and west of the Seven Mile Bridge is not considered a manatee area of heightened scrutiny; thus it is not depicted on the Monroe County map.

³ On the St. Mary’s River, this key is only applicable to those areas that are within the geographical limits of the State of Florida.

⁴ Take into consideration the effects of multiple independent permit applications, *i.e.*, how many docks have been requested or permitted in nearby waters.

Review Process for the Manatee

January 10, 2001



Notes

January 10, 2001

Block A: Use Manatee Key dated January 2, 2001

Block C: Decision also includes an independent review of information related to the Manatee including, information and, if applicable, the Biological Opinion received from the FWS.

Block M: Guidance is the document referenced by the Settlement Agreement between Save the Manatee Club, et al vs Ballard et al filed with the U.S. District Court for the District of Columbia on January, 2001.

Block M: The format for the Biological Evaluation is the document prepared by the Corps, dated January 10, 2001.

Block O: The Reach Characterizations are the set of analysis of Florida waterways (which are subdivided into 81 individual reaches) related to Manatee/watercraft interactions. These were prepared by the Corps and provided as a GIS dataset on a CD to the FWS. The summaries of the characterizations are also found on individual pages for each reach.

Block O: The length and conduct of the formal consultation is described by the FWS Regulations at 50 CFR 402.14

Blocks P, Q, T, and U: Ensure letter from FWS has provided a statement regarding project under the Marine Mammal Protection Act.

MANATEE BIOLOGICAL EVALUATION

The Corps has determined that the project may affect the endangered West Indian manatee. Therefore, pursuant to Section 7 of the Endangered Species Act of 1973, as amended, the Corps is required to seek formal consultation from the U.S. Fish and Wildlife Service (Service) for the proposed project. Pursuant to 50 CFR Part 402.14(c), we are required to provide the following information to the Service. We need your assistance in providing information for items 4-6 below:

Description of the action considered: The proposed project consists of_

2. Description of the specific areas that may be affected by the action (scope of analysis):

a. The proposed "action area" is determined to be all or a portion of reach(es) based on the overall project purpose which is _____.

b. The project site is located within which sub-population range of the West Indian manatee? (circle response)

(1) Atlantic (Georgia to Key West, including the lower St. Johns River)

(2) Upper St. Johns River (Rice Creek, Putnam County south to State Road 528, Orange and Brevard Counties)

(3) Southwest Florida (Pasco County south through Cape Sable, Monroe County)

(4) Northwest Florida (Hernando County north and west to the Perdido River, Escambia County)

3. Description of any listed species or critical habitat that may be affected by the action: The action may affect the endangered West Indian manatee but not adversely modify its critical habitat

4. Description of the manner in which the action may affect any listed species or critical habitat and an analysis of any cumulative impacts:

a. Habitat. Check those that would apply to within 1-mile of the project site and a brief description.

(1) Source of warm water input to the area?

(2) Source of fresh water input to the area?

(3) Do sea grasses or algae occur in the area (within 1-mile radius)? (If yes, where and how extensive? _____)

(4) Are existing depths suitable (greater than -3 feet msl) for manatee use?

b. Proposed Facility (If existing, show proposed change)

- (1) Number of slips for power boats < 26 feet _____
- (2) Number of slips for power boats > 26 feet _____
- (3) Number of slips for sailboats _____
- (4) Launching facilities: ramp _____, travelift _____, other _____

(5) Number of parking spaces for launching facility.

(6) Number of dry storage spaces.

(7) Number of estimated launches per day.

c. Project Influence on Vessel Use Patterns. The project's facilities may affect vessel use patterns in the area by attracting transient traffic or causing modification of existing vessel navigation patterns.

(1) Will this facility substitute for the use of another facility? If yes, please describe.

(2) Are vessels that are expected to use this facility, presently docking at a nearby facility within this area of action area? If yes provide estimate and explain.

(3) The proposed facility will provide the following services:

(a) Permanent moorings/slips (leased on an annual or monthly basis) for:

_____ commercial use (including fishing vessels, charter boats, rental boats, etc.).

Number _____

_____ non-commercial use (including privately-owned recreational boats).

Number _____

(b) Transient moorings/slips (leased or used on a daily basis) for:

_____ Temporary berths. Number _____

_____ Fuel. Number _____

_____ Pump-out. Number _____

_____ Supplies. Number _____

_____ Entertainment. Number _____

Mechanical. Number.

 Other Number

(4) What is the estimated number of slips used for the following?

- (a) Used primarily for day trips .
- (b) Used primarily for longer trips .
- (c) Used primarily for dockside entertainment .
- (d) Used by charter vessels .

(5) For (4)(a) and (4)(b), define vessel traffic and patterns within the defined action area.

d. Enforcement Activities. It is important to consider the presence and effectiveness of on-going enforcement activities within the action area.

(1) Describe existing enforcement activities regulating speed zones within the action area

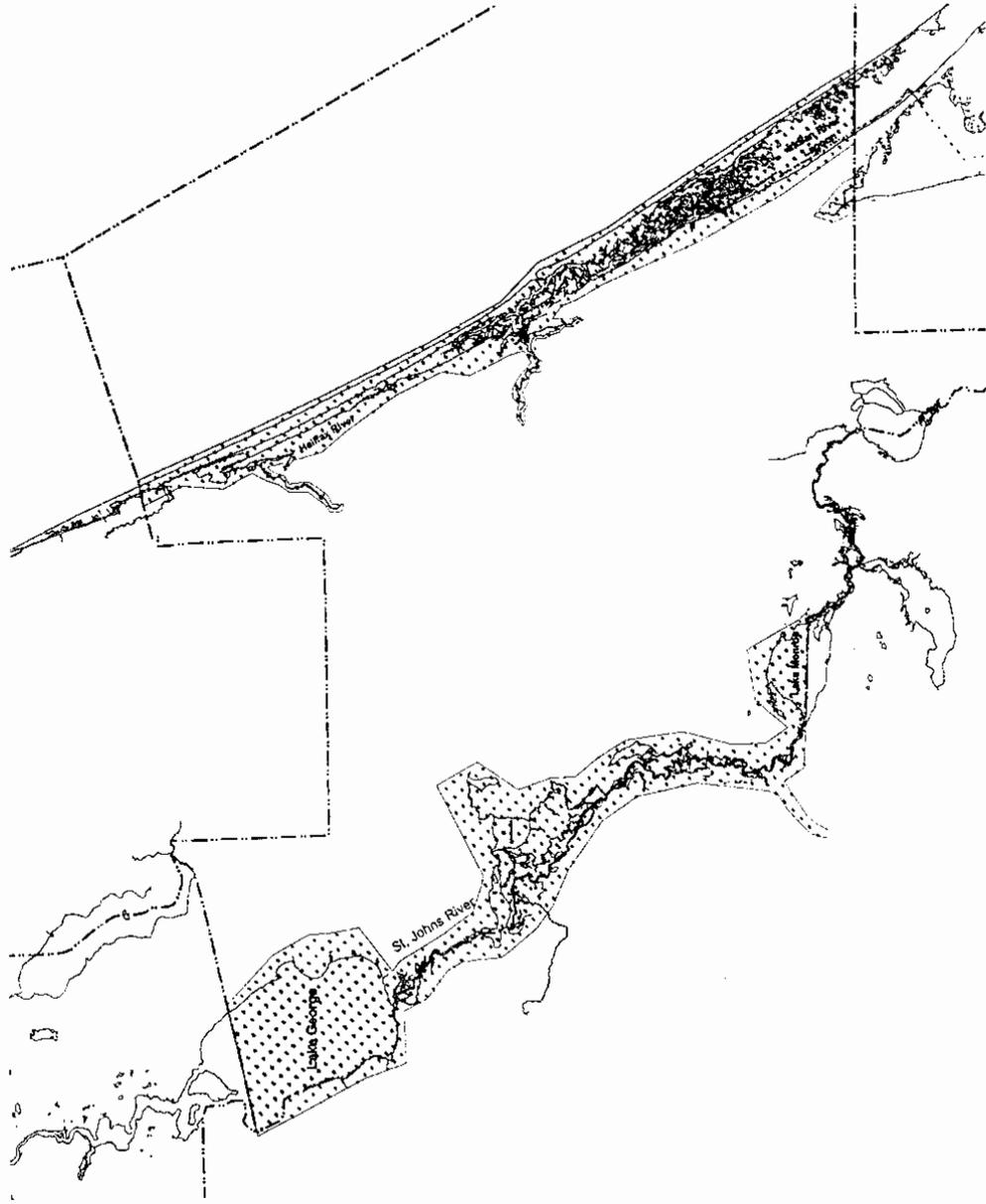
(2) Is the project in a State-established manatee speed zone? (If not, how close is the nearest speed zone? miles)

(3) If possible, provide an estimate of patrol days/week performed and by whom.

5. Relevant reports, including any environmental impact statement, environmental assessment, or biological assessment prepared. Provide any relevant report prepared for this project.

6. Any other relevant available information on the action, the affected listed species, or critical habitat. Provide any other information available that would assist in our review of the effects your proposal would have on the species or its habitat.

Volusia County

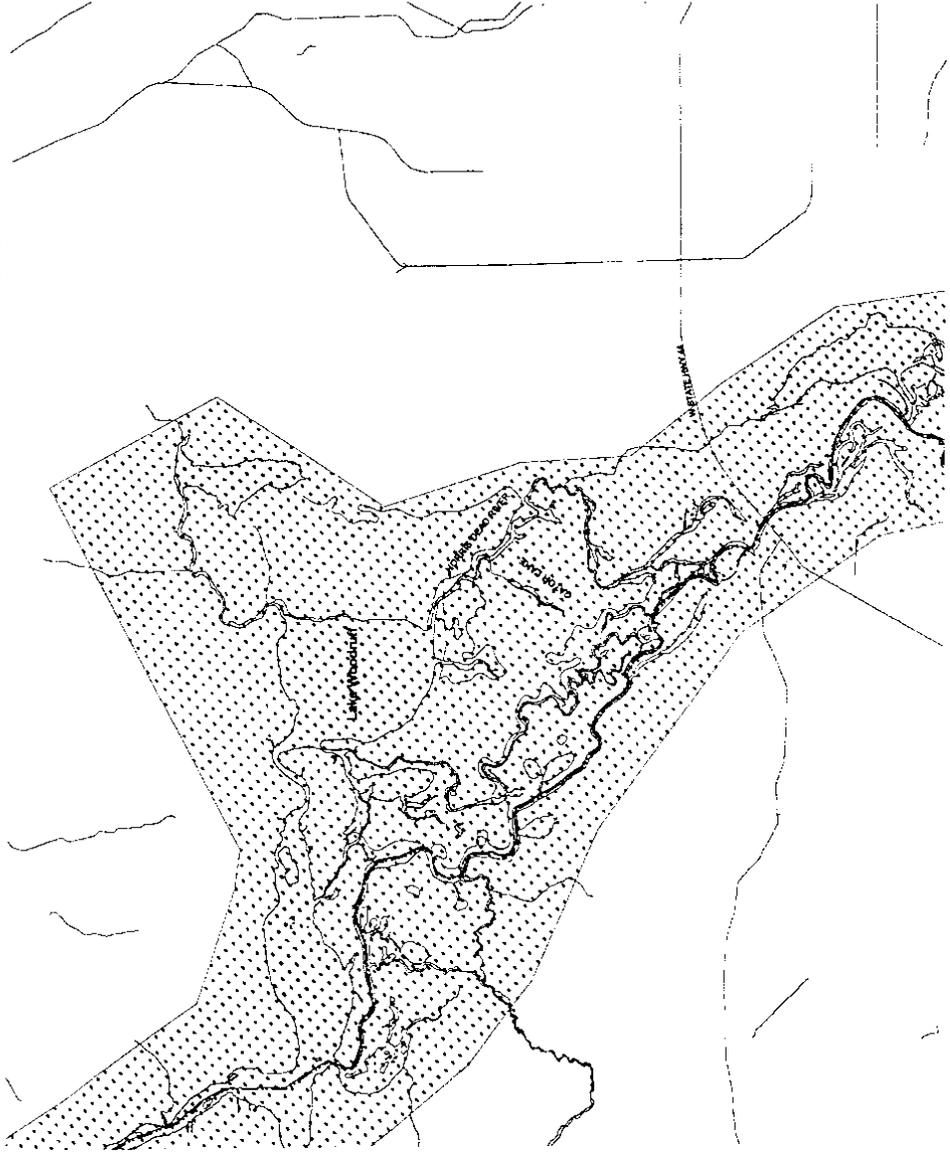


Managed area of heightened scrutiny
Primary roads with limited access
Primary road
Secondary and connecting road
County boundary



11 December 2000

Volusia County Northwest Detail



Heightened area of heightened scrutiny
Primary road with limited access
Primary road
Secondary and connecting road
County boundary



11 December 2000

DOCK CONSTRUCTION GUIDELINES

U.S. Army Corps of Engineers - Jacksonville District

Adverse impacts to aquatic vegetation from dock construction may be ameliorated by strict adherence to the attached joint U.S. Army Corps of Engineers'/National Marine Fisheries Service's "Dock Construction Guidelines in Florida for Docks or Other Minor Structures Constructed in or over Submerged Aquatic Vegetation, Marsh or Mangrove Habitat - U.S. Army Corps of Engineers/National Marine Fisheries Service - August 2001." Additionally, because of concerns about adverse impacts to Johnson's seagrass (*Halophila johnsonii*), dock construction anywhere in the estuarine lagoon systems on Florida's east coast from Sebastian Inlet (Brevard County) south to and including central Biscayne Bay (Miami-Dade County) must also comply with the construction guidelines titled "Key for Construction Conditions for Docks or Other Minor Structures Constructed in or Over Johnson's seagrass (*Halophila johnsonii*) National Marine Fisheries Service/U.S. Army Corps of Engineers - February 2002." Note: Both of the Construction Guidelines may be subject to revision at any time. It is our intention that the most recent version of this technical tool will be utilized during the evaluation of any permit application.

1. Dock Construction Guidelines in Florida for Docks or Other Minor Structures Constructed in or over Submerged Aquatic Vegetation, Marsh or Mangrove Habitat - U.S. Army Corps of Engineers/National Marine Fisheries Service - August 2001 (updated October 2002)

2. Key for Construction Conditions for Docks or Other Minor Structures Constructed in or over Johnson's seagrass (*Halophila johnsonii*) National Marine Fisheries Service/U.S. Army Corps of Engineers - February 2002 (Johnson's seagrass only occurs in the estuarine lagoonal systems on Florida's east coast from Sebastian Inlet (Brevard County) south to the middle of Biscayne Bay (Rickenbacker Causeway-Miami-Dade County)) (updated October 2002)

Point of contact for comments and questions of a general nature on the Dock Construction Guidelines is Stuart L. Santos at 904-232-2018 or by email at Stuart.L.Santos@saj02.usace.army.mil. For questions on specific projects involving the use of the Dock Construction Guidelines in specific geographic areas, please contact the Project Manager, if known, or the appropriate field office. (See "Geographic Alignments" above to determine which field office services the location in question.)

**Dock Construction Guidelines in Florida for Docks or Other Minor Structures Constructed in or
over Submerged Aquatic Vegetation (SAV), Marsh or Mangrove Habitat
U.S. Army Corps of Engineers/National Marine Fisheries Service
August 2001**

Submerged Aquatic Vegetation:

1. Avoidance. The pier shall be aligned so as to minimize the size of the footprint over SAV beds.
 2. The height of pier shall be a minimum of 5 feet above MHW/OHW as measured from the top surface of the decking.
 3. The width of the pier is limited to a maximum of 4 feet. A turnaround area is allowed for piers greater than 200 feet in length. The turnaround is limited to a section of the pier no more than 10 feet in length and no more than 6 feet in width. The turnaround shall be located at the midpoint of the pier.
 4. Over-SAV bed portions of the pier shall be oriented in a north-south orientation to the maximum extent that is practicable.
 5. a. If possible, terminal platforms shall be placed in deep water, waterward of SAV beds or in an area devoid of SAV beds.
b. If a terminal platform is placed over SAV areas and constructed of grated decking, the total size of the platform shall be limited to 160 square feet. The grated deck material shall conform to the specifications stipulated below. The configuration of the platform shall be a maximum of 8 feet by 20 feet. A minimum of 5 feet by 20 feet shall conform to the 5-foot height requirement; a 3 feet by 20 feet section may be placed 3 feet above MHW to facilitate boat access. The long axis of the platform should be aligned in a north-south direction to the maximum extent that is practicable.
c. If the terminal platform is placed over SAV areas and constructed of planks, the total size of the platform shall be limited to 120 square feet. The configuration of the platform shall be a maximum of 6 feet by 20 feet of which a minimum 4-foot wide by 20-foot long section shall conform to the 5-foot height requirement. A section may be placed 3 feet above MHW to facilitate boat access. The 3 feet above MHW section shall be cantilevered. The long axis of the platform should be aligned in a north-south direction to the maximum extent that is practicable. If the 3 feet above MHW section is constructed with grating material, it may be 3 feet wide.
 6. One uncovered boat lift area is allowed. A narrow catwalk (2 feet wide if planks are used, 3 feet wide if grating is used) may be added to facilitate boat maintenance along the outboard side of the boat lift and a 4-foot wide walkway may be added along the stern end of the boat lift, provided all such walkways are elevated 5 feet above MHW. The catwalk shall be cantilevered from the outboard mooring pilings (spaced no closer than 10 feet apart).
 7. Pilings shall be installed in a manner which will not result in the formation of sedimentary deposits("donuts" or "halos") around the newly installed pilings. Pile driving is the preferred method of installation, but jetting with a low pressure pump may be used.
 8. The spacing of pilings through SAV beds shall be a minimum of 10 feet on center.
 9. The gaps between deckboards shall be a minimum of ½ inch.
- Grid Specifications and Suppliers Section modified in October 2002 to add an additional vendor of materials.

Marsh:

1. The structure shall be aligned so as to have the smallest over-marsh footprint as practicable.
2. The over-marsh portion of the dock shall be elevated to at least 4 feet above the marsh floor.
3. The width of the dock is limited to a maximum of 4 feet. Any exceptions to the width must be accompanied by an equal increase in height requirement.

Mangroves.

1. The width of the dock is limited to a maximum of 4 feet.

2. Mangrove clearing is restricted to the width of the pier.
3. The location and alignment of the pier should be through the narrowest area of the mangrove fringe.

Grid Specifications and Suppliers

The following information does not constitute a U.S. Army Corps of Engineers endorsement or advertisement for any particular provider and is provided only as an example for those interested in obtaining these materials for dock construction. A type of fiberglass grate panel is manufactured by SeaSafe (Lafayette, LA; phone: 1-800-326-8842). Similar panels are also manufactured by ChemGrate (1-800-527-4043). Plastic grate panels are also available from Southern Pine Lumber Company (Stuart, FL; phone: 772-692-2300). Panels are available in a variety of sizes and thicknesses. For safety, the grate should contain an anti-slip texture which is integrally molded into the top surface. The manufacturer or local distributor should be consulted to ensure that the load-bearing capacity of the selected product is sufficient to support the intended purpose. Contact the manufacturer(s) for product specifications and a list of regional distributors.

Grid Specifications and Suppliers Section modified in October 2002 to add an additional vendor of materials.

Key¹ for Construction Conditions for Docks or Other Minor Structures Constructed in or
Over Johnson's Seagrass (*Halophila johnsonii*)
National Marine Fisheries Service/U.S. Army Corps of Engineers
October 2002

- 1a. The construction site is within the known range of Johnson's seagrass occurrence (Sebastian Inlet to central Biscayne Bay in the lagoonal systems on the east coast of Florida). *Go to 2.*
- 1b. The construction site is not within the known range of Johnson's seagrass occurrence but submerged aquatic vegetation (SAV) is present at the site. Use *"Dock Construction Guidelines in Florida for Docks or Other Minor Structures Constructed in or over Submerged Aquatic Vegetation, Marsh or Mangrove Habitat"* - U.S. Army Corps of Engineers/National Marine Fisheries Service, August 2001.
- 1c. The construction site is not within the range of Johnson's seagrass and SAV is not present at the site: *No construction conditions for SAV are necessary.*
- 2a. Seagrass survey for Johnson's seagrass is performed at the proposed site during the April 1 - August 31 growing season. *Go to 3.*
- 2b. No survey for Johnson's seagrass is performed at the proposed site during the growing season, or a survey is performed at the proposed site but is outside of the growing season. *Go to 4.*
- 3a. Johnson's seagrass is present at the proposed construction site. *Go to 5.*
- 3b. Johnson's seagrass is not present at the proposed construction site. *Go to 6.*
- 4a. The construction is in an area designated by the National Marine Fisheries Service - Protected Resources Division (NMFS-PRD) as **critical habitat²** for Johnson's seagrass. Use *"Dock Construction Guidelines in Florida for Docks or Other Minor Structures Constructed in or over Submerged Aquatic Vegetation, Marsh or Mangrove Habitat"* - U.S. Army Corps of Engineers/National Marine Fisheries Service, August 2001, **except that light-transmitting materials² (LTMs) shall comprise 100% of all pedestrian surfaces waterward of the mean low water (MLW) line.**
- 4b. The construction is not in an area designated by NMFS-PRD as critical habitat for Johnson's seagrass. Use *"Dock Construction Guidelines in Florida for Docks or Other Minor Structures Constructed in or over Submerged Aquatic Vegetation, Marsh or Mangrove Habitat"* - U.S. Army Corps of Engineers/National Marine Fisheries Service, August 2001, **except that LTMs shall comprise at least 75% of all pedestrian surfaces waterward of the MLW line and a minimum 1-inch spacing shall be maintained between all wooden deckboards used waterward of the MLW line.**
- 5a. The construction is in an area designated by NMFS-PRD as critical habitat for Johnson's seagrass. Use *"Dock Construction Guidelines in Florida for Docks or Other Minor Structures Constructed in or over Submerged Aquatic Vegetation, Marsh or Mangrove Habitat"* - U.S. Army Corps of Engineers/National Marine Fisheries Service, August 2001, **except that LTMs shall comprise at least 75% of all pedestrian surfaces waterward of the MLW line and a minimum 1-inch spacing shall be maintained between all wooden deckboards used waterward of the MLW line.**
- 5b. The construction is not in an area designated by NMFS-PRD as critical habitat for Johnson's seagrass. Use *"Dock Construction Guidelines in Florida for Docks or Other Minor Structures Constructed in or over Submerged Aquatic Vegetation, Marsh or Mangrove Habitat"* - U.S. Army Corps of Engineers/National Marine Fisheries Service, August 2001, **except that all pedestrian surfaces directly over Johnson's seagrass areas shall be constructed of LTMs and a minimum**

This key was modified in October 2002 to change the percent light transmittance requirement of the grids from 46 to 43 as stipulated in Note #3.

1-inch spacing shall be maintained between all wooden deckboards used waterward of the MLW line.

6a. The construction is in an area designated by NMFS-PRD as critical habitat for Johnson's seagrass. Use *"Dock Construction Guidelines in Florida for Docks or Other Minor Structures Constructed in or over Submerged Aquatic Vegetation, Marsh or Mangrove Habitat"* - U.S. Army Corps of Engineers/National Marine Fisheries Service, August 2001, **except that a minimum 1-inch spacing shall be maintained between all wooden deckboards used waterward of the MLW line.**

6b. The construction is not in an area designated by NMFS as critical habitat for Johnson's seagrass. Go to 7

7a. SAV other than Johnson's seagrass is present at the site. Use *"Dock Construction Guidelines in Florida for Docks or Other Minor Structures Constructed in or over Submerged Aquatic Vegetation, Marsh or Mangrove Habitat"* - U.S. Army Corps of Engineers/National Marine Fisheries Service, August 2001.

7b. No SAV present. *No construction conditions for SAV are necessary.*

Notes:

1. This key is meant to complement but not supersede the *"Dock Construction Guidelines in Florida for Docks or Other Minor Structures Constructed in or over Submerged Aquatic Vegetation, Marsh or Mangrove Habitat"* - U.S. Army Corps of Engineers/National Marine Fisheries Service, August 2001. **Docks incorporating light-transmitting materials shall not exceed the dimensions recommended in the Guidelines.**

2. Federal Register 65 FR 17786, April 5, 2000, Designation of critical habitat for Johnson's seagrass.

3. Light-transmitting materials are made of various materials shaped in the form of grids, grates, lattices, etc., to allow the passage of light through the open spaces. **All light-transmitting materials used for dock construction in the known range of Johnson's seagrass shall have a minimum of forty-three (43) percent open space.**

This key was modified in October 2002 to change the percent light transmittance requirement of the grids from 46 to 43 as stipulated in Note #3.

Attachment C: Data Used for Boat Facility Siting Requirements

Attachment C: Data Used For Boat Facility Siting Criteria

Various information sources were evaluated to develop the boat facility siting criteria for Volusia County's Manatee Protection Plan. The following data sources were utilized:

-Manatee Data

- Abundance and distribution data
- Mortality data
- Manatee movement and use patterns
- Ecology and historical information
- Local knowledge
- Manatee Relative Abundance Composite Index Map

-Environmental Factors

- Water depths
- Shoreline conditions
- Benthic community resources
- Warm water refuges
- Freshwater sources

-Boating Data

- Volusia County Boating Activity Study-boating patterns, concentrations, seasonality
- Speed zones
- Marked channels
- Local knowledge concerning boating patterns and needs

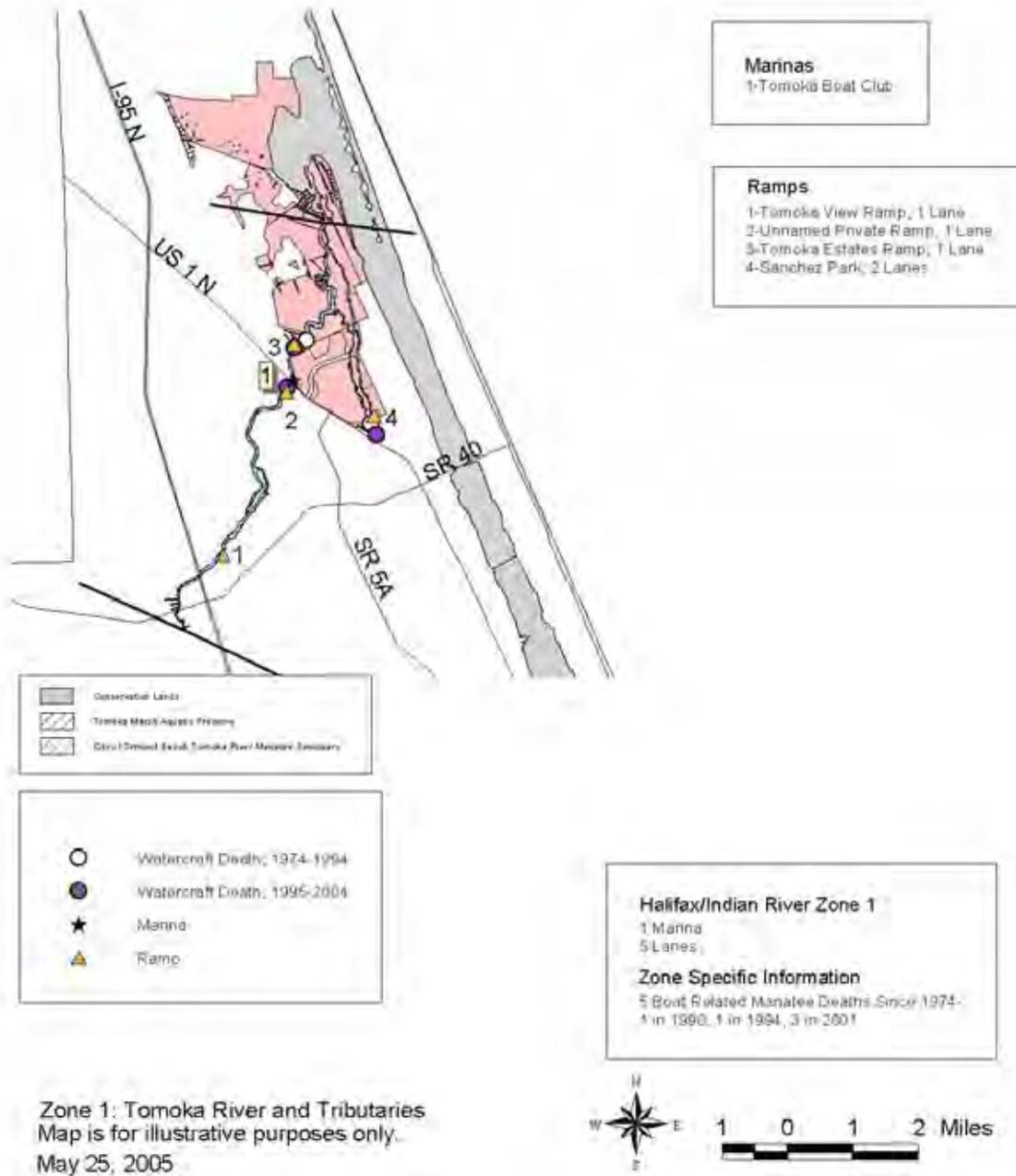
-Land Use Data

- Current county and municipality development regulations
- Land available for development
- Public Lands Inventory

**Attachment D: Halifax/Indian River (H/IR) Planning
Zone Maps**

Attachment D: Halifax/Indian River (H/IR) Planning Zone Maps

Halifax/Indian River Zone 1



Halifax/Indian River Zone 2



Zone 2: Halifax River and Tomoka Basin from the Volusia/Flagler County Line to Red ICW Marker 22 (just North of the Holly Hill/Daytona Beach City Limits)
 Map is for illustrative purposes only.
 May 25, 2005



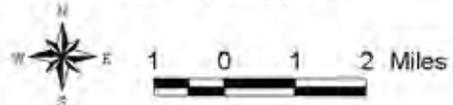
Halifax/Indian River Zone 3



Zone 3: Red ICW Marker 22 (just North of the Holly Hill/Daytona Beach City Limits) to Red ICW Marker 2 (Town of Ponce Inlet)

Map is for illustrative purposes only.

May 25, 2005



Halifax/Indian River Zone 4



Marinas
1-Brigadoon Fish Camp; Closed

Ramps
1-Airport Road Ramp; 1 Lane (Closed)
2-Sawgrass Subdivision; 1 Lane
3-Riverwood Plantation; 1 Lane
4-Unnamed Dirt Ramp; 1 Lane
5-Unnamed Dirt Ramp; 1 Lane

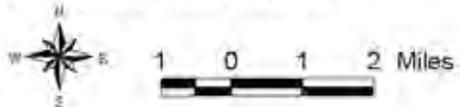
Conservation Land

○ Watercraft Death: 1974-1984
● Watercraft Death: 1995-2004
★ Marina
▲ Ramp

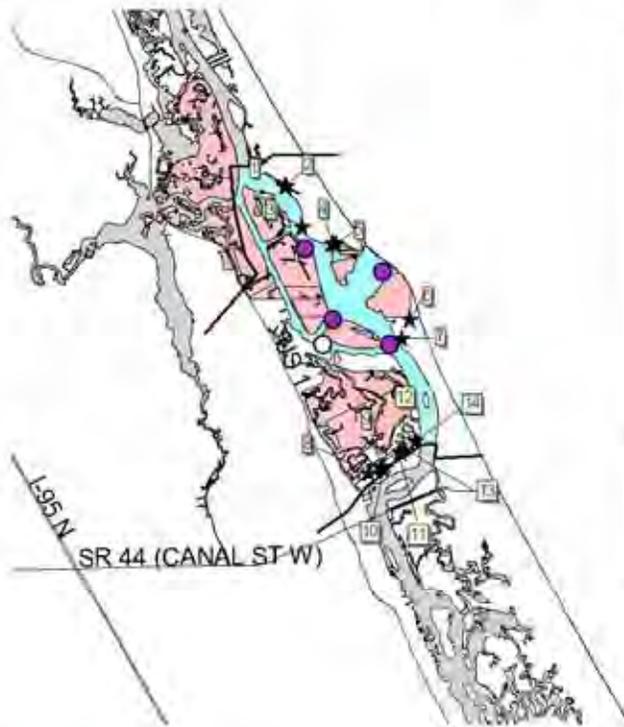
Halifax/Indian River Zone 4
1 Marina
4 Open Lanes
Zone Specific Information
1 Boat Related Manatee Death Since 1974-
Occurred in 1986

Zone 4: West Side of the ICW (West of Ponce Cut) through Strickland Creek, Rose Bay, and Turnbull Bay; Spruce Creek

Map is for illustrative purposes only.
May 25, 2005



Halifax/Indian River Zone 5



- Marinas**
- 1 Inlet Harbor Marina, 1 Lane
 - 2 Inlet Cove Marina
 - 3 Sea Love Marina, Closed (Currently operates charter boats only)
 - 4 Oriole Fleet
 - 5 Lighthouse Boat Yard
 - 6 Inlet Marina Condo
 - 7 Ocean Inlet Yacht Club
 - 8 Venetian Villas United Homeowners Association
 - 9 36 Live Boat
 - 10 Gerry's Marina
 - 11 Waterway West
 - 12 Waterway East
 - 13 The Venetian Condo
 - 14 Diamond Head Point Condo

- Ramps**
- 1 Lighthouse Park, 1 Lane

 Conservation Land

-  Watercraft Deaths: 1974-1994
-  Watercraft Deaths: 1996-2004
-  Marina
-  Ramp

Halifax/Indian River Zone 5
 14 Marinas
 1 Ramp

Zone Specific Information
 5 Boat Related Marine Deaths Since 1974:
 1 in 1980, 1 in 1986, 1 in 1988, 2 in 1989

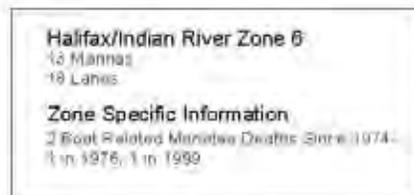
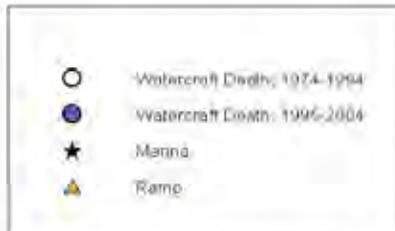
Zone 5: Red ICW Marker 2 (Town of Ponce Inlet) to the North Causeway in New Smyrna Beach, Including Ponce DeLeon Cut, Cook Creek, Hunter Creek, Inlet Creek, and Smyrna Creek

Map is for illustrative purposes only.

May 25, 2005



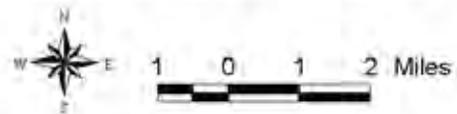
Halifax/Indian River Zone 6



Zone 6: The North Causeway in New Smyrna Beach to Marker 65, Including the Backwaters of Mosquito Lagoon

Map is for illustrative purposes only.

May 25, 2005



Halifax/Indian River Zone 7



- Marinas**
- 1-JB's Fish Camp, 1 Lane (Closed)
 - 2-Boston Wheeler Plant, Boat Works
 - 3-Lopez Fish Camp, 1 Lane
 - 4-Goodrich Seafood, 1 Lane (Closed)
 - 5-LeFils Fish Camp, 1 Lane

- Ramps**
- 1-Centreville National Seashore Ramp, 2 Lanes
 - 2-Turtle Mound Ramp, 2 Lanes (Closed)
 - 3-Tierra Mar Ramp, 1 Lane
 - 4-Hacienda Del Rio, 1 Lane
 - 5-Bissitt Bay Fish Camp, 1 Lane
 - 6-Indian Mound Fish Camp, 2 Lanes
 - 7-Riverbreeze Park, 4 Lanes

○ Watercraft Death: 1974-1994

● Watercraft Death: 1995-2004

★ Marina

△ Ramp

★ Mammé Commerce Park

Halifax/Indian River Zone 7

5 Marinas

1 Potential Marina

13 Open Lanes

Zone Specific Information

16 Boat Related Manatee Deaths Since 1974:

7 in 1978, 1 in 1982, 2 in 1987, 1 in 1989,

1 in 1990, 1 in 1992, 1 in 1996, 2 in 2000,

3 in 2001, 2 in 2002, 1 in 2004

Abundance of Seagrass Beds:

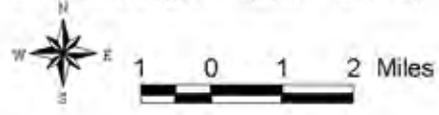
Conservation Land

Seagrass

Conservation National Wetlands

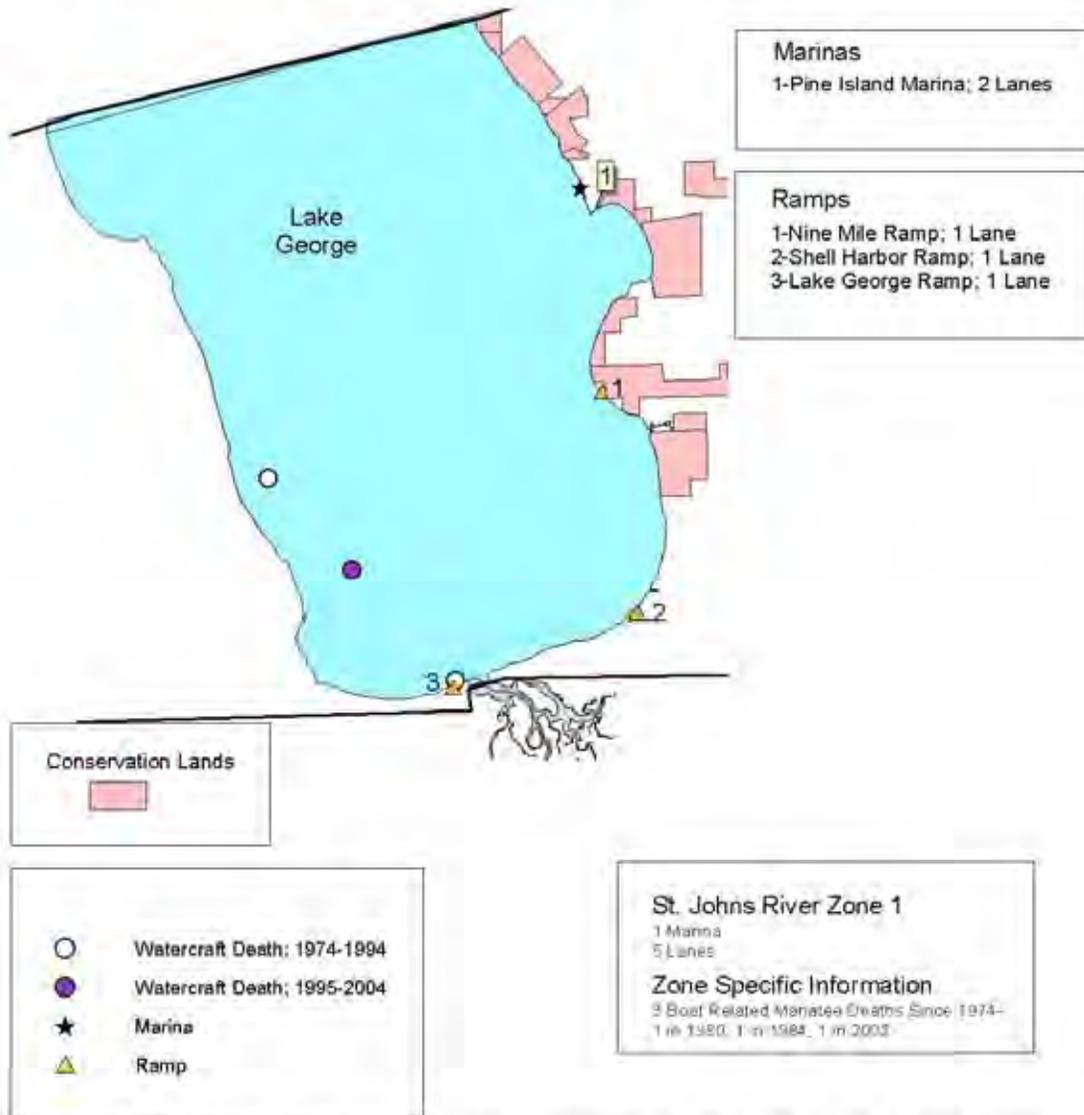
Mosquito Lagoon Aquatic Preserve

Zone 7: Marker 65, Mosquito Lagoon (includes CNS, Oak Hill, Mosquito Lagoon Aquatic Preserve) to the Volusia/Brevard County Line
 Map is for illustrative purposes only.
 May 25, 2005



Attachment E: St. Johns River (SJR) Planning Zone Maps

St. Johns River Zone 1



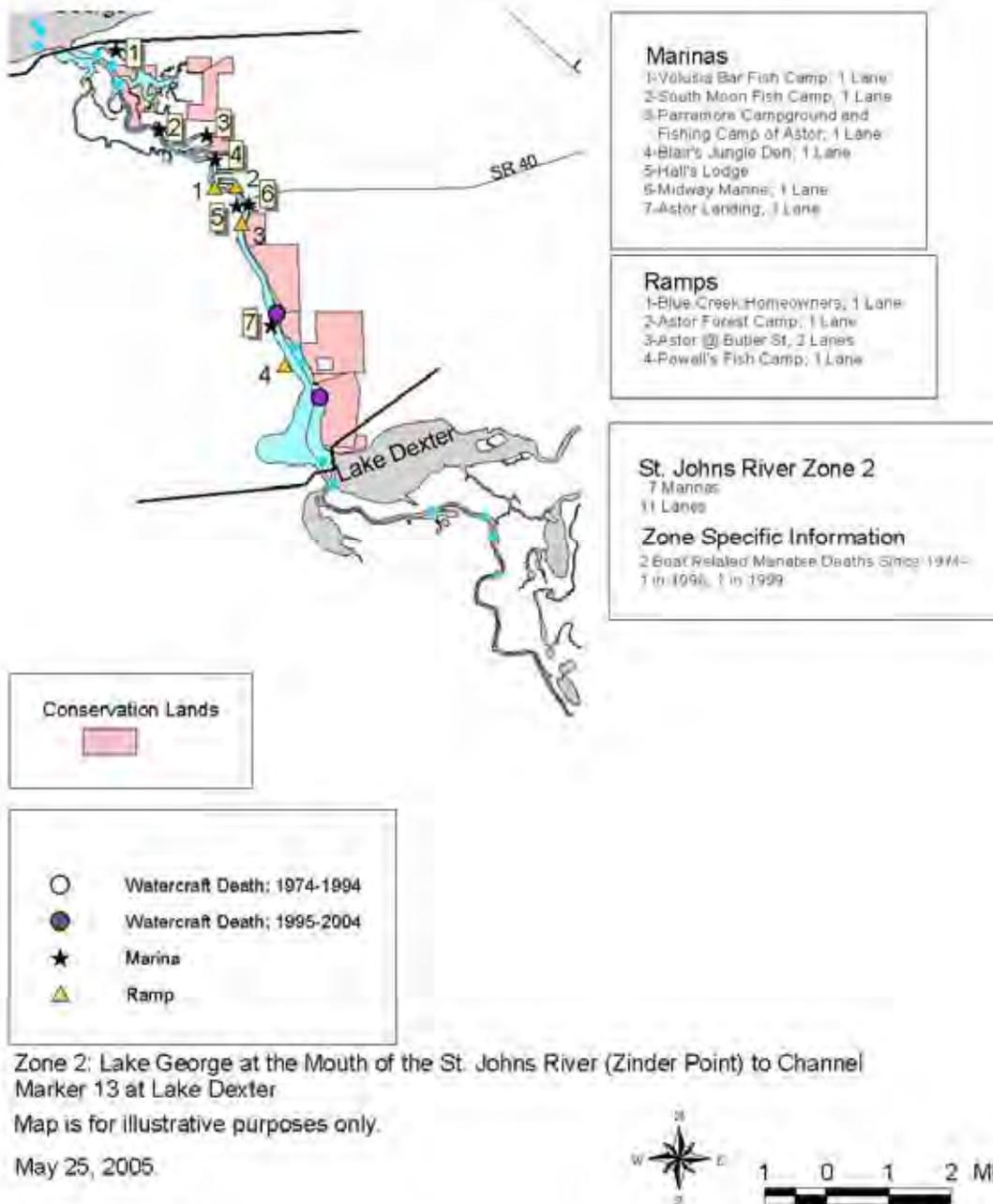
Zone 1: Lake George from the Volusia/Putnam County Line to the Mouth of the St. Johns River (Zinder Point)

Map is for illustrative purposes only.

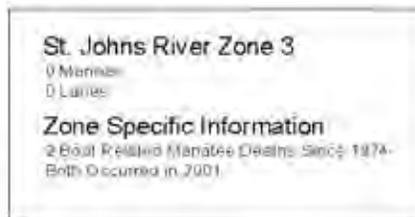
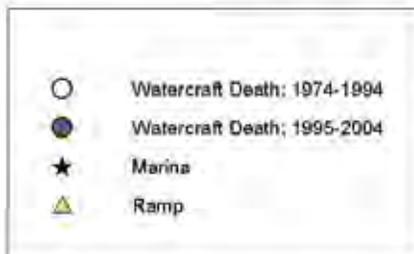
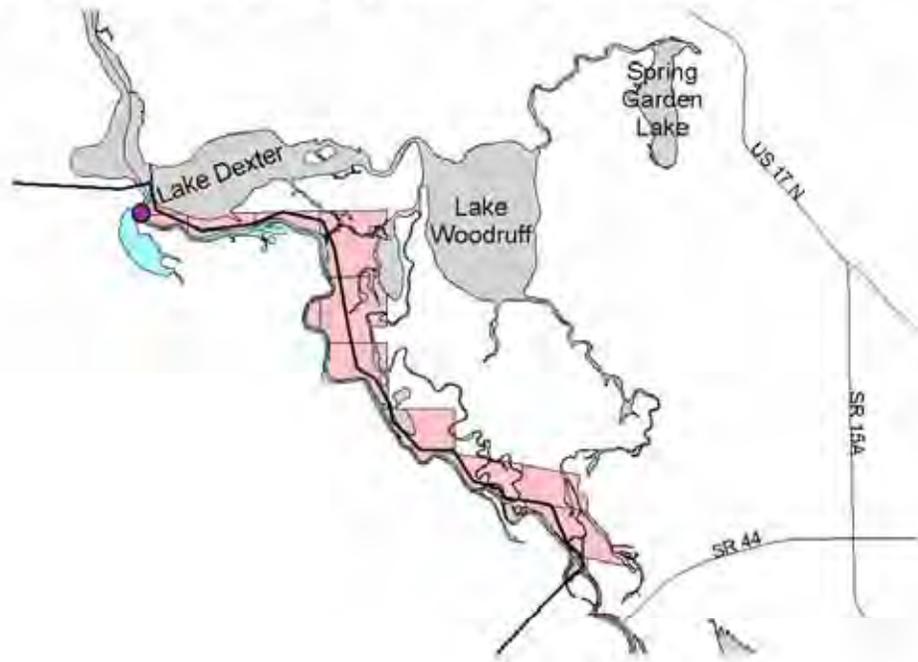
May 25, 2005



St. Johns River Zone 2



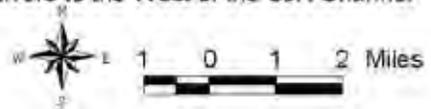
St. Johns River Zone 3



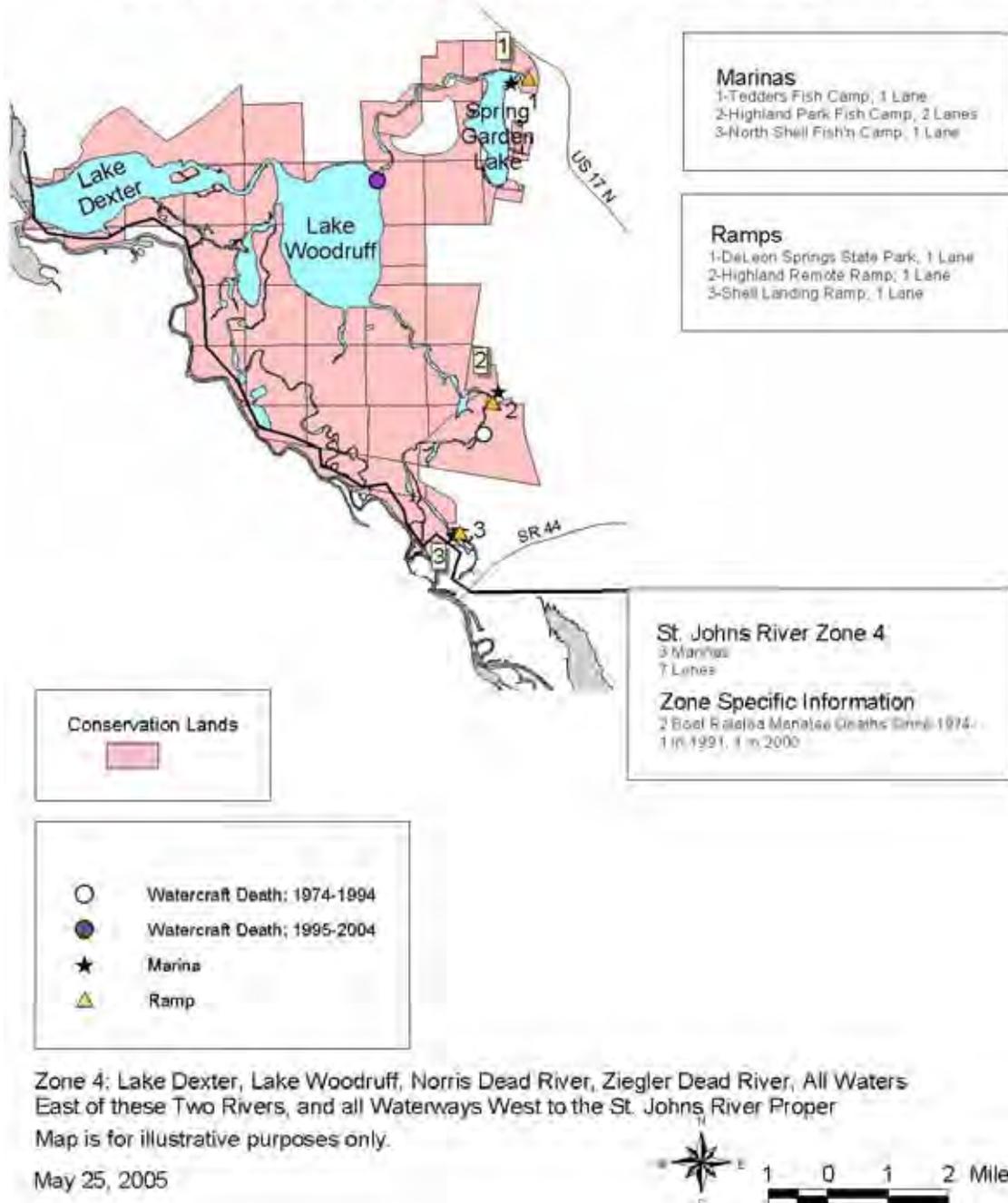
Zone 3: SJR from Channel Marker 13, at Lake Dexter, to the Confluence of the SJR and Highland Park Canal, Including all Lakes, Creeks, and Dead Rivers to the West of the SJR Channel

Map is for illustrative purposes only

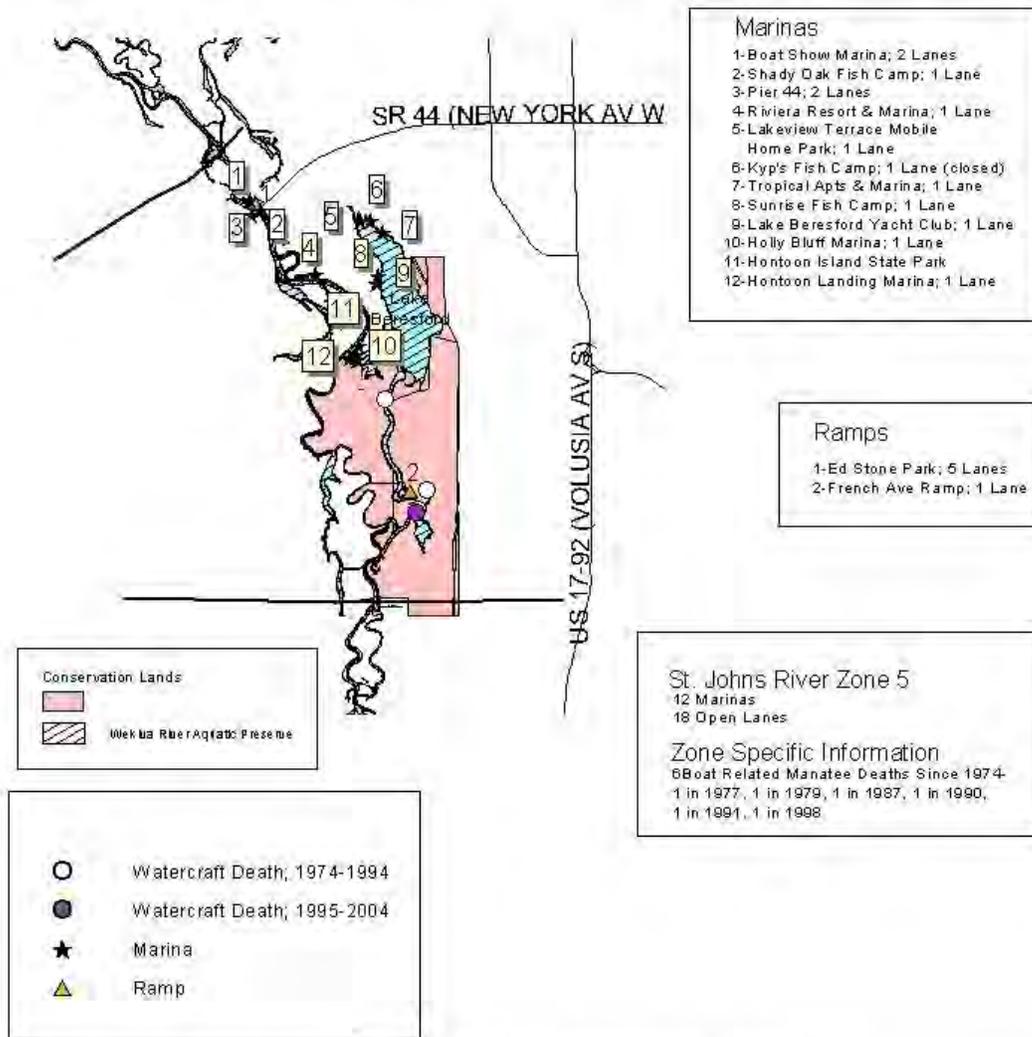
May 25, 2005



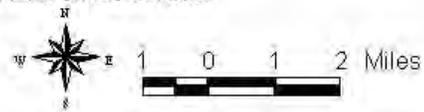
St. Johns River Zone 4



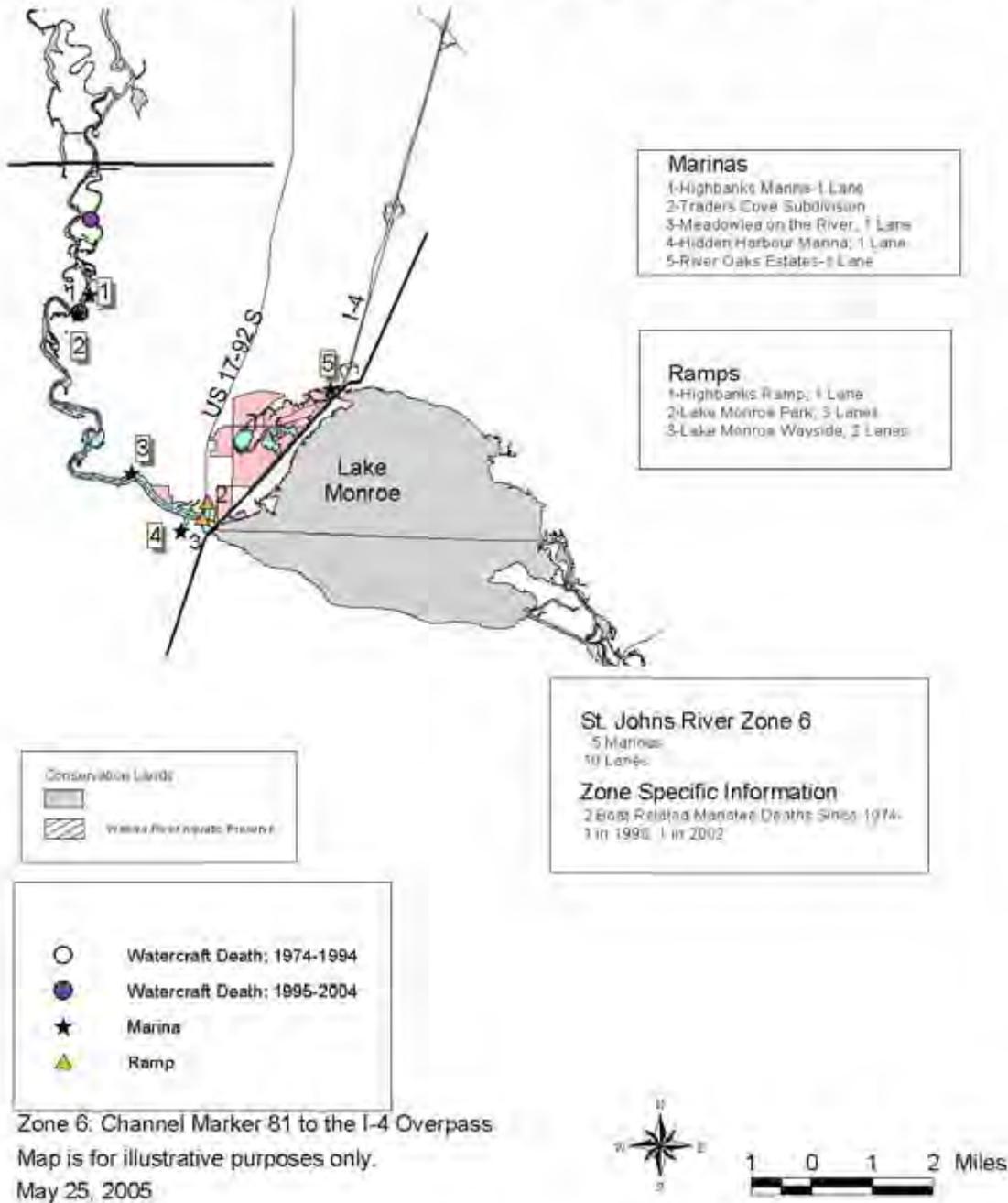
St. Johns River Zone 5



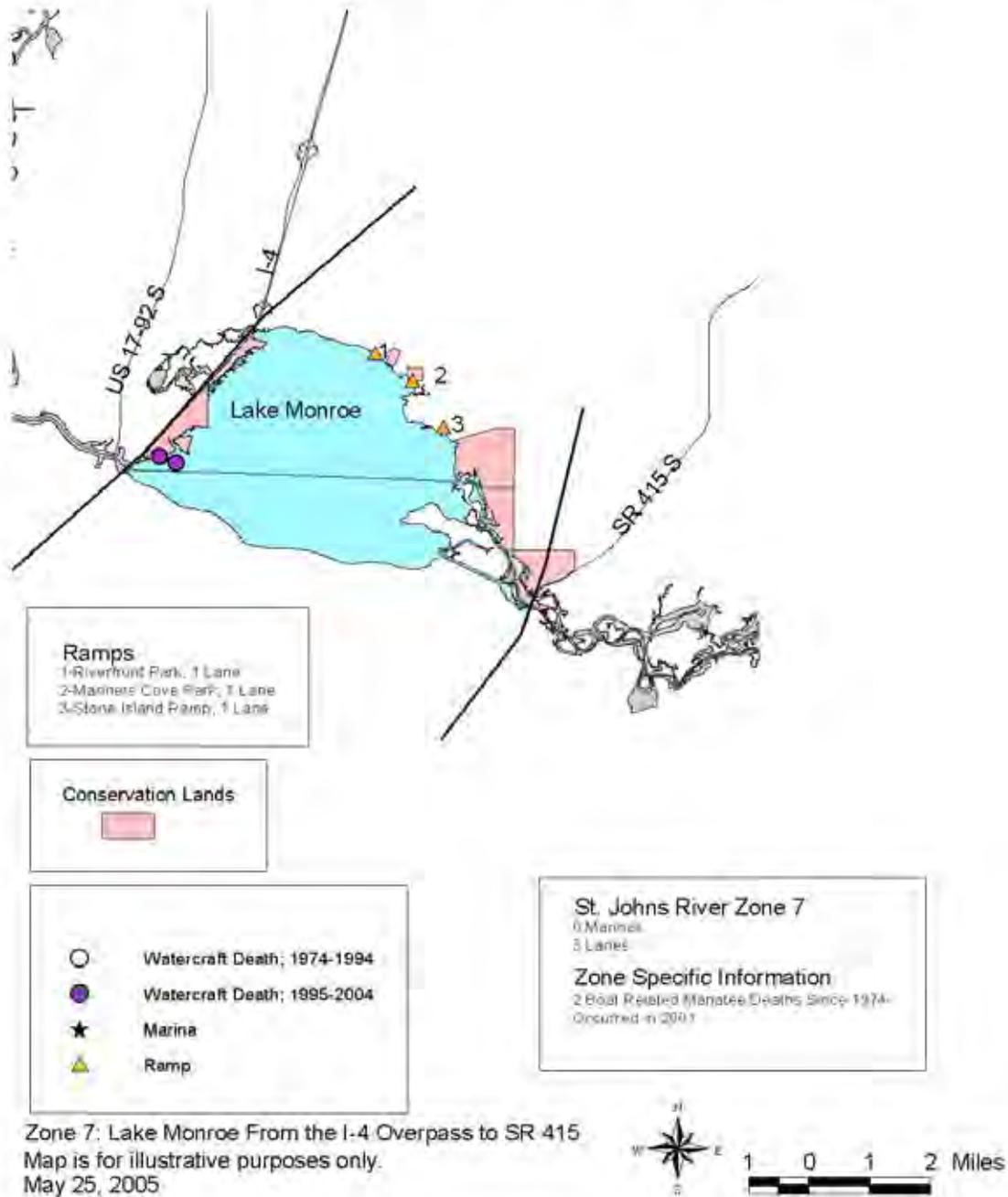
Zone 5: The Confluence of the St. Johns River and Highland Park Canal to Channel Marker 81, Including all of Lake Beresford and the Hontoon Dead River
 Map is for illustrative purposes only
 May 25, 2005



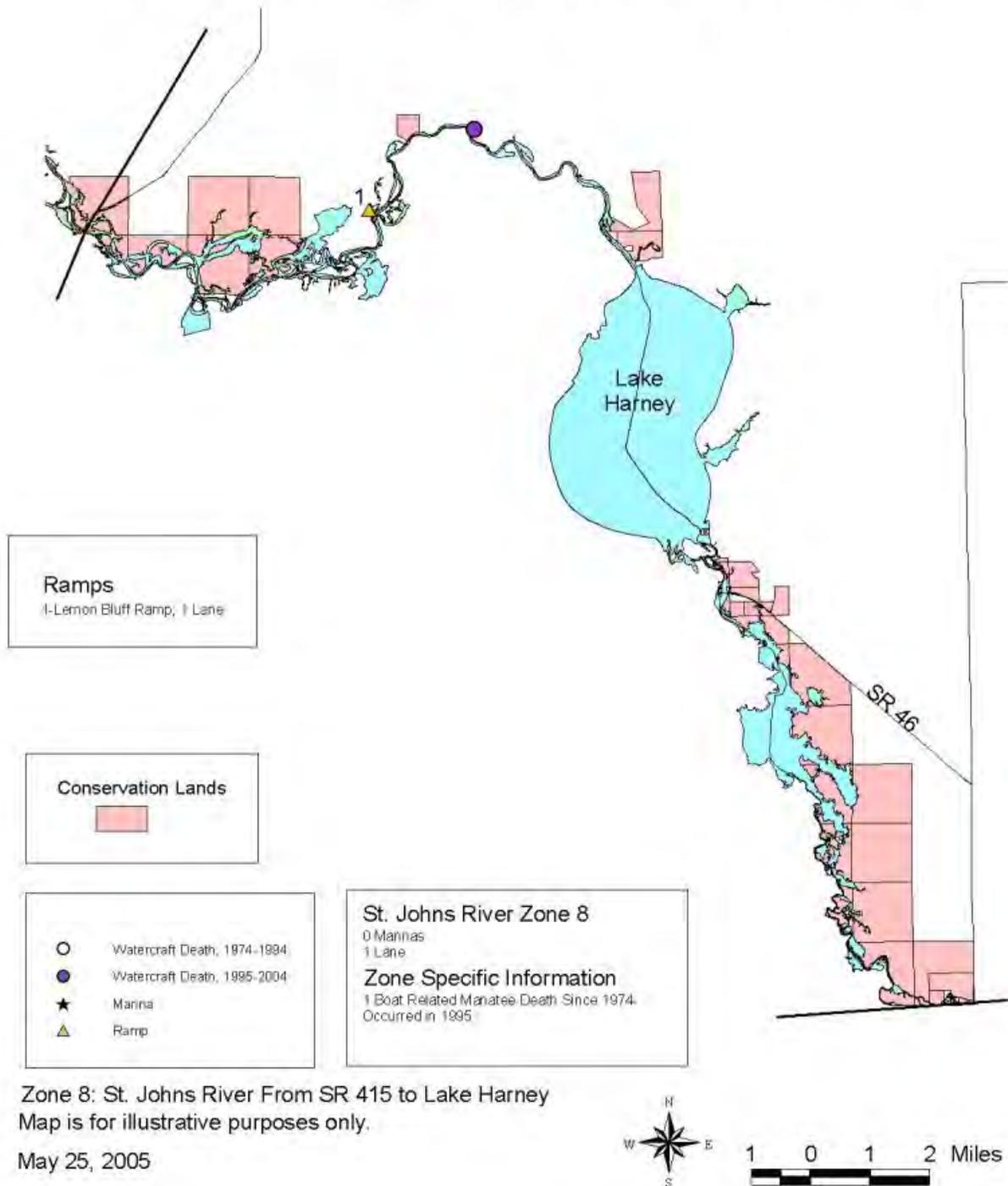
St. Johns River Zone 6



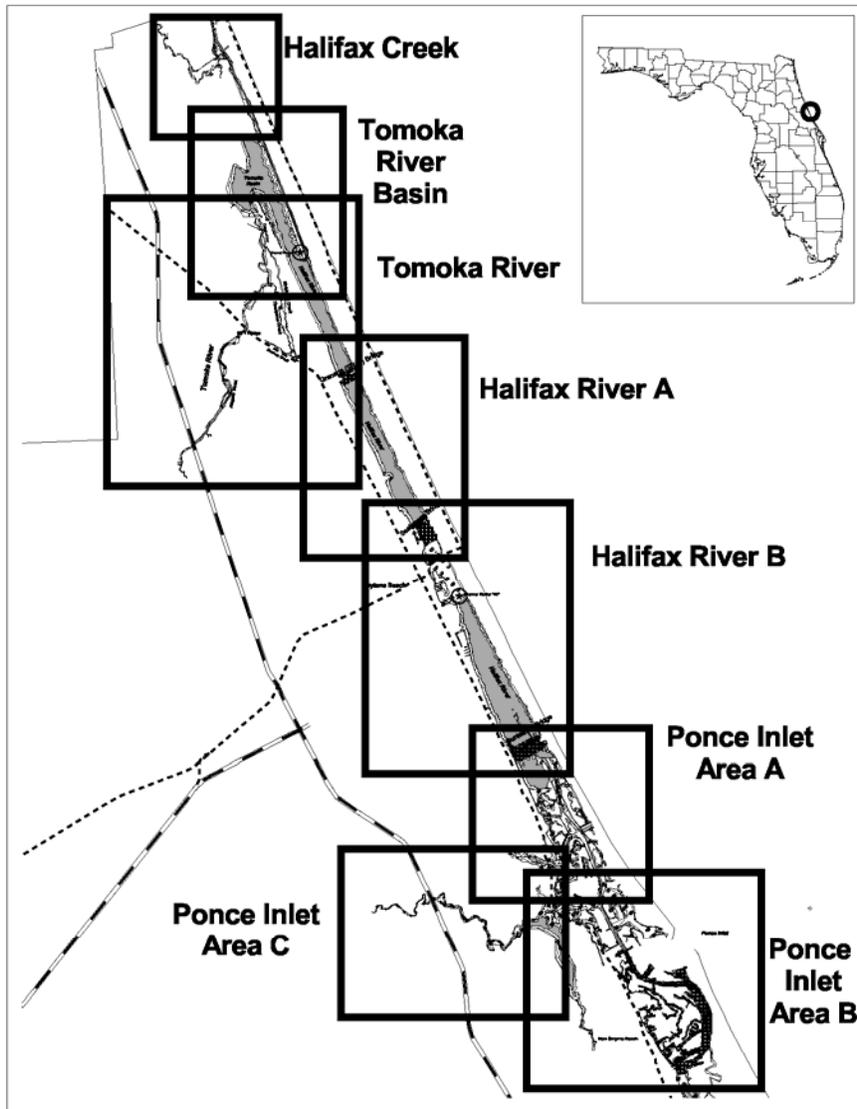
St Johns River Zone 7



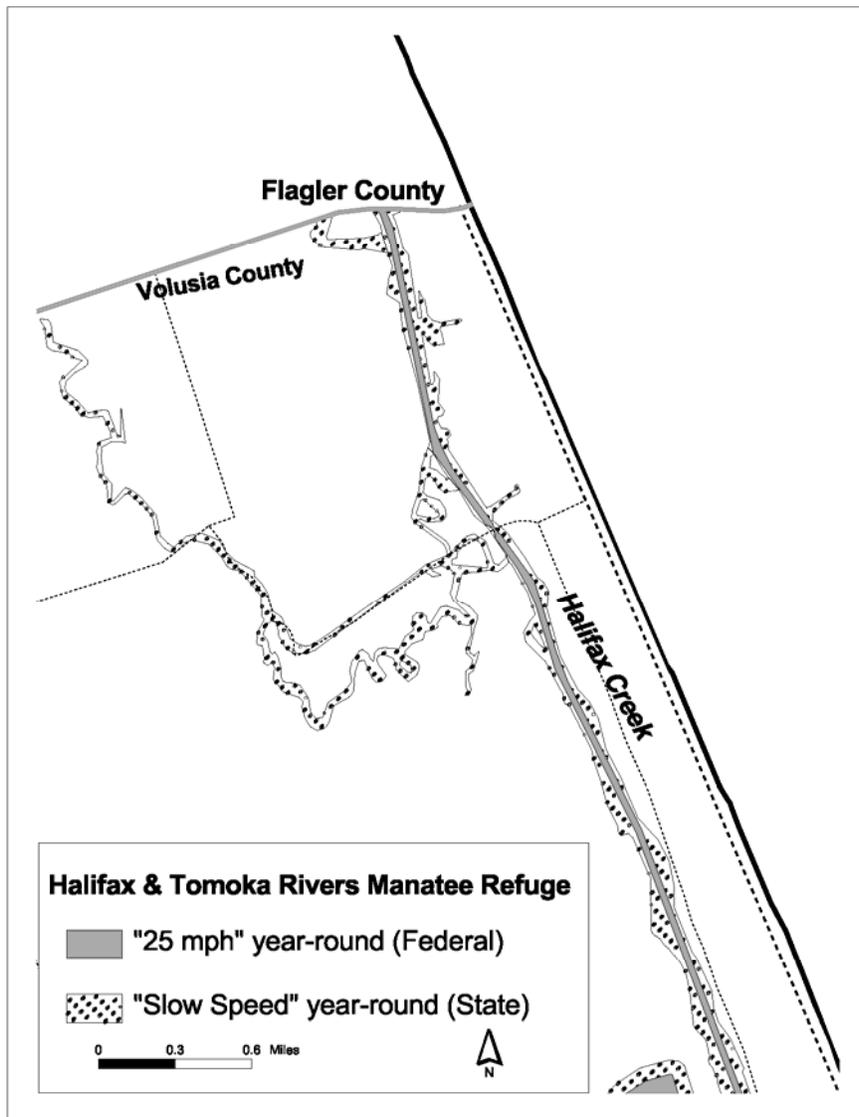
St. Johns River Zone 8



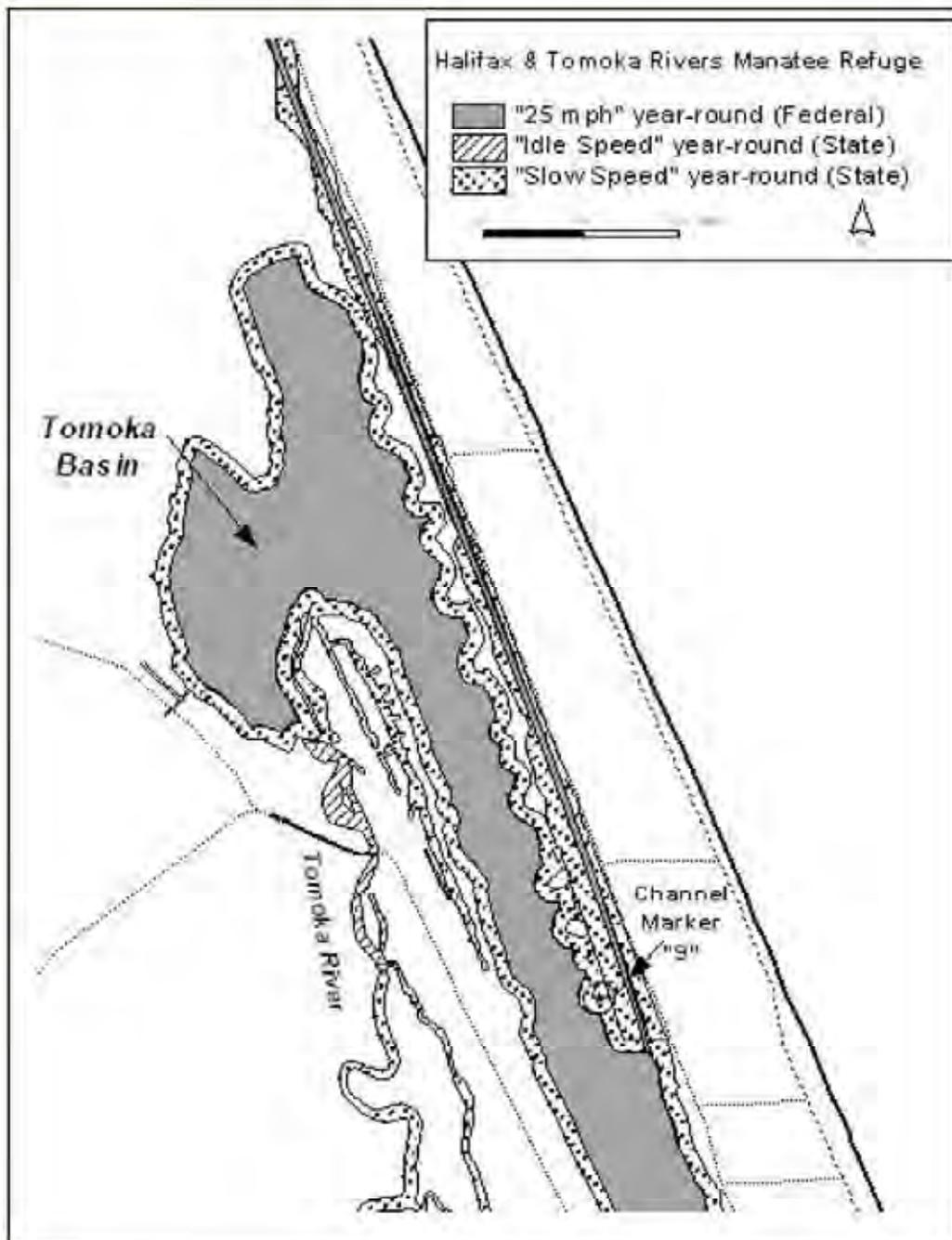
Attachment F: H/IR Speed Zone Maps



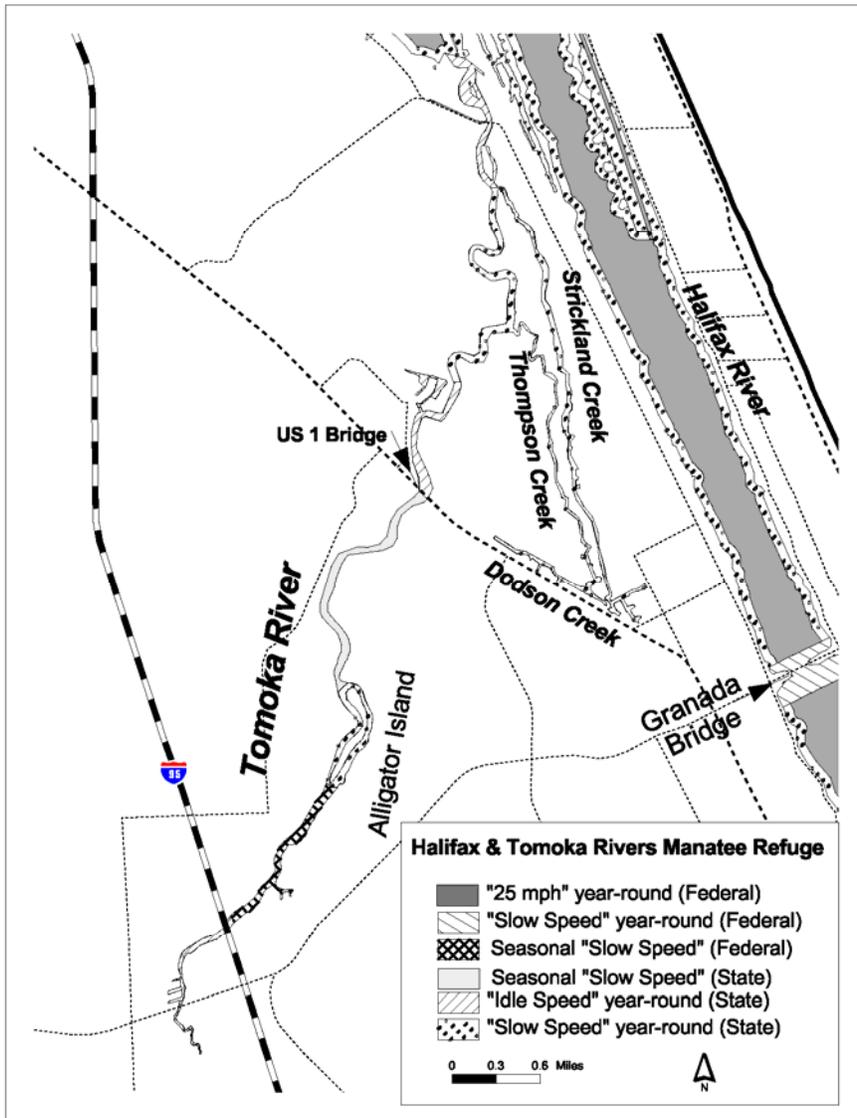
Halifax & Tomoka Rivers Manatee Refuge



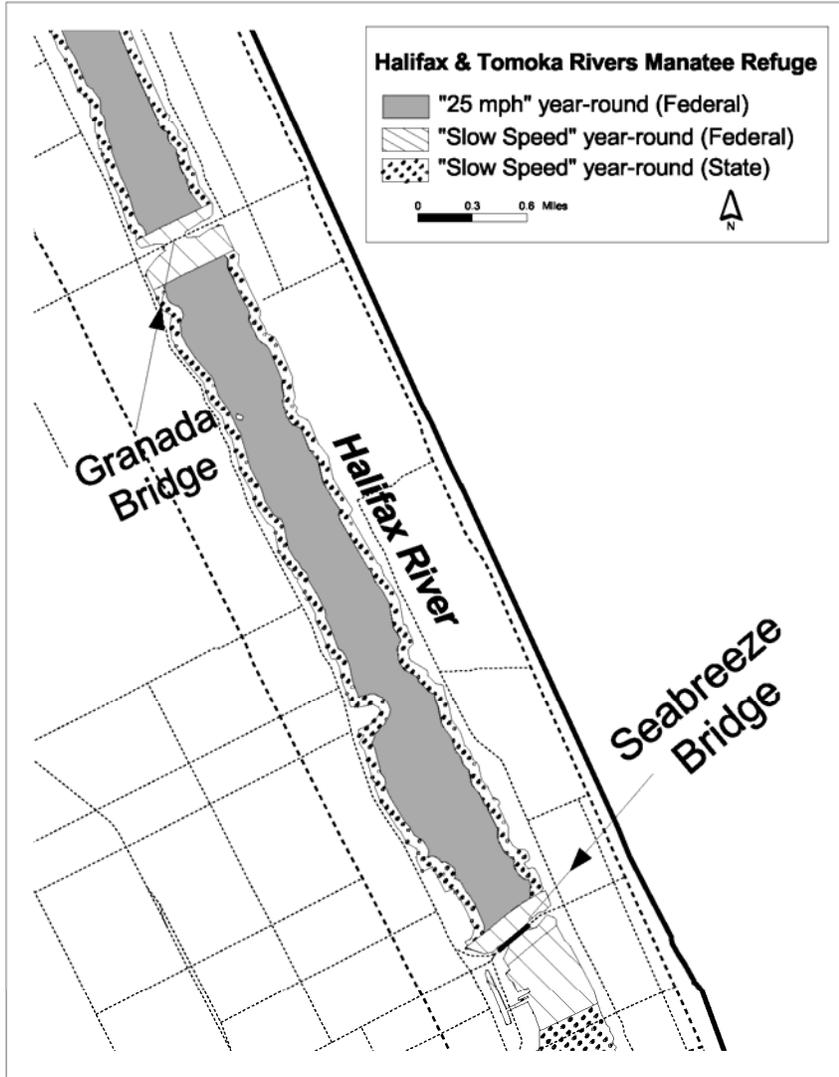
Halifax Creek



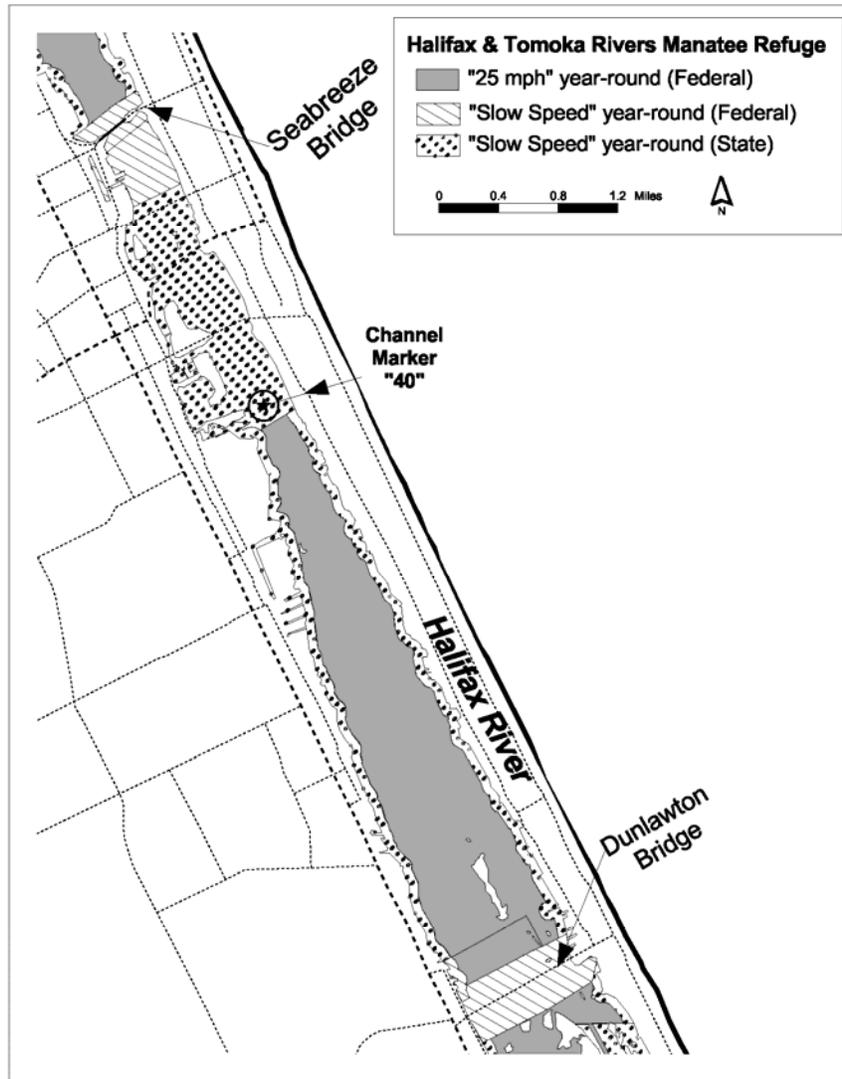
Tomoka River Basin



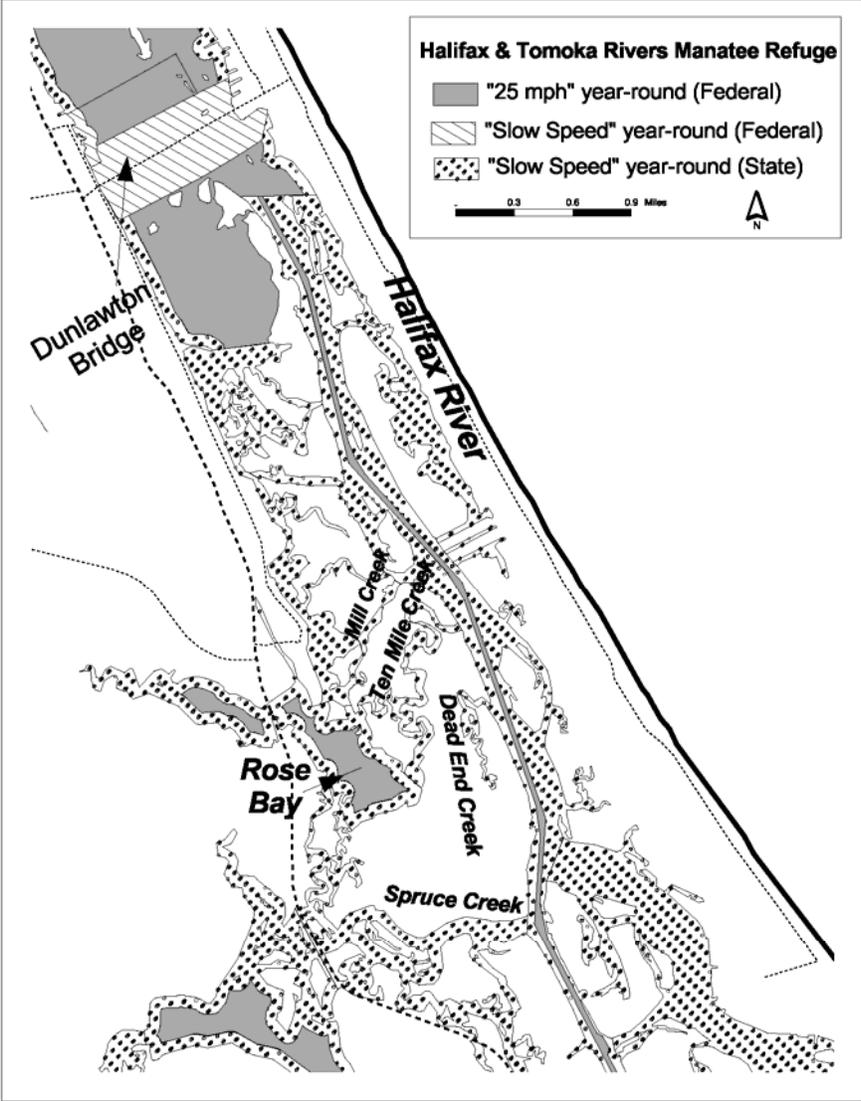
Tomoka River



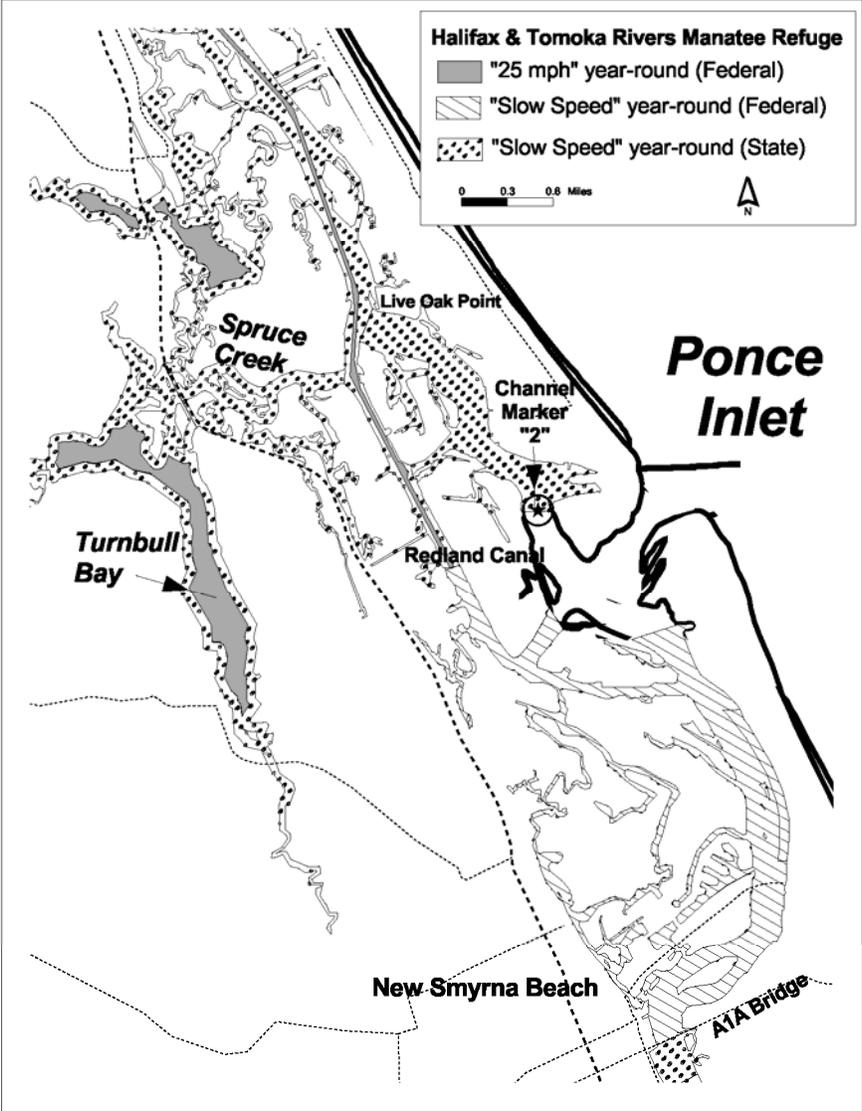
Halifax River A



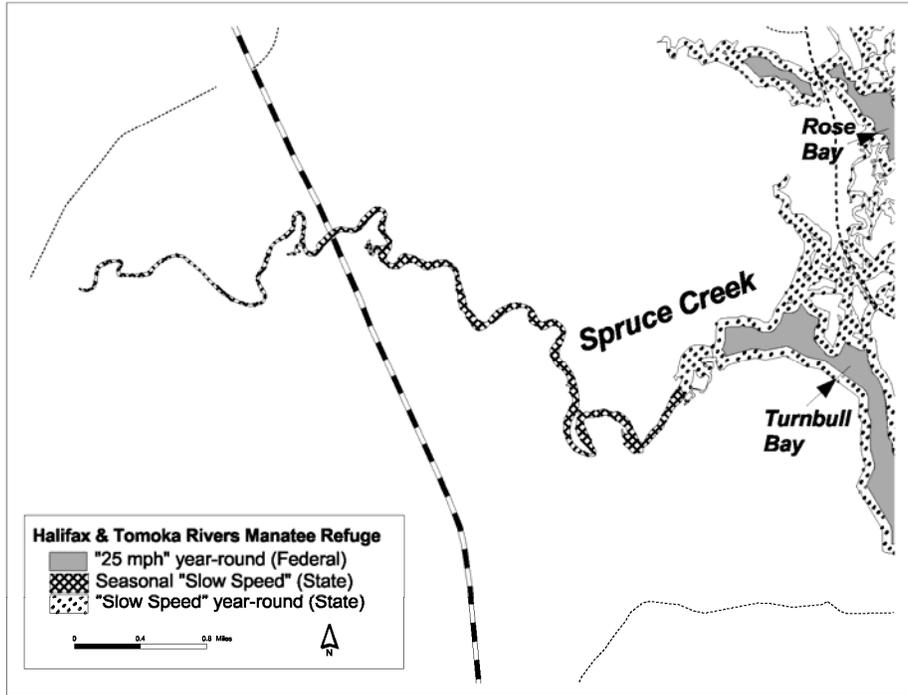
Halifax River B



Ponce Inlet Area A



Ponce Inlet Area B





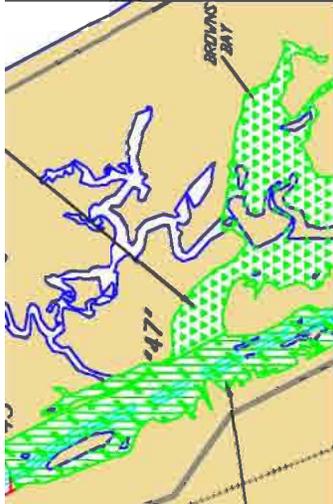
NEW SMYRNA
BEACH

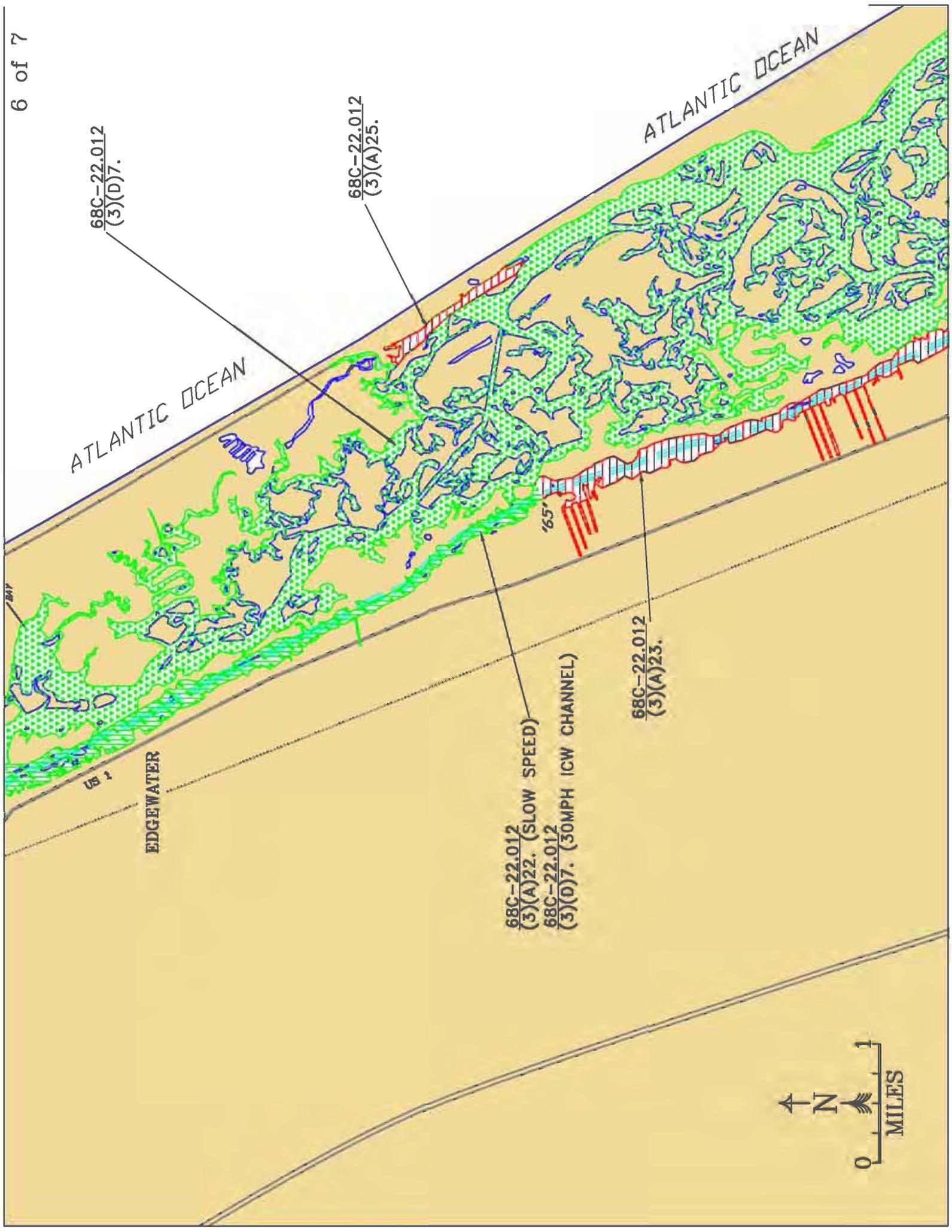
SR 11A

68C-22.012
(3)(A)21.

68C-22.012
(3)(A)22. (SLOW SPEED)

68C-22.012
(3)(D)7. (30MPH ICW CHANNEL)





ATLANTIC OCEAN

ATLANTIC OCEAN

US 1

EDGEWATER

BAY

68C-22.012
(3)(D)7.

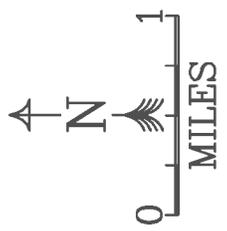
68C-22.012
(3)(A)25.

68C-22.012
(3)(A)22. (SLOW SPEED)
68C-22.012
(3)(D)7. (30MPH ICW CHANNEL)

68C-22.012
(3)(A)23.

165'

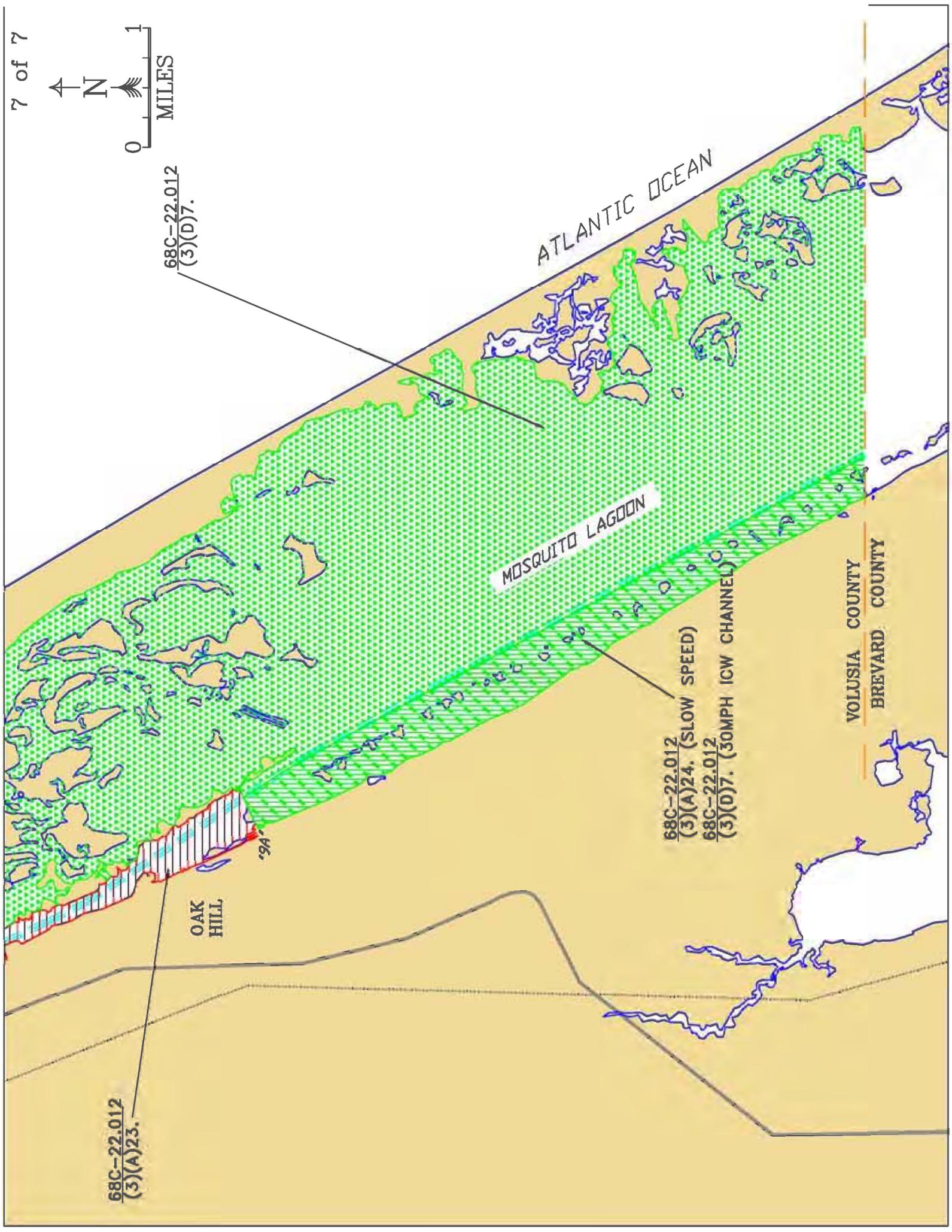




68C-22.012
(3)(A)23.

68C-22.012
(3)(D)7.

68C-22.012
(3)(A)24. (SLOW SPEED)
68C-22.012
(3)(D)7. (30MPH ICW CHANNEL)



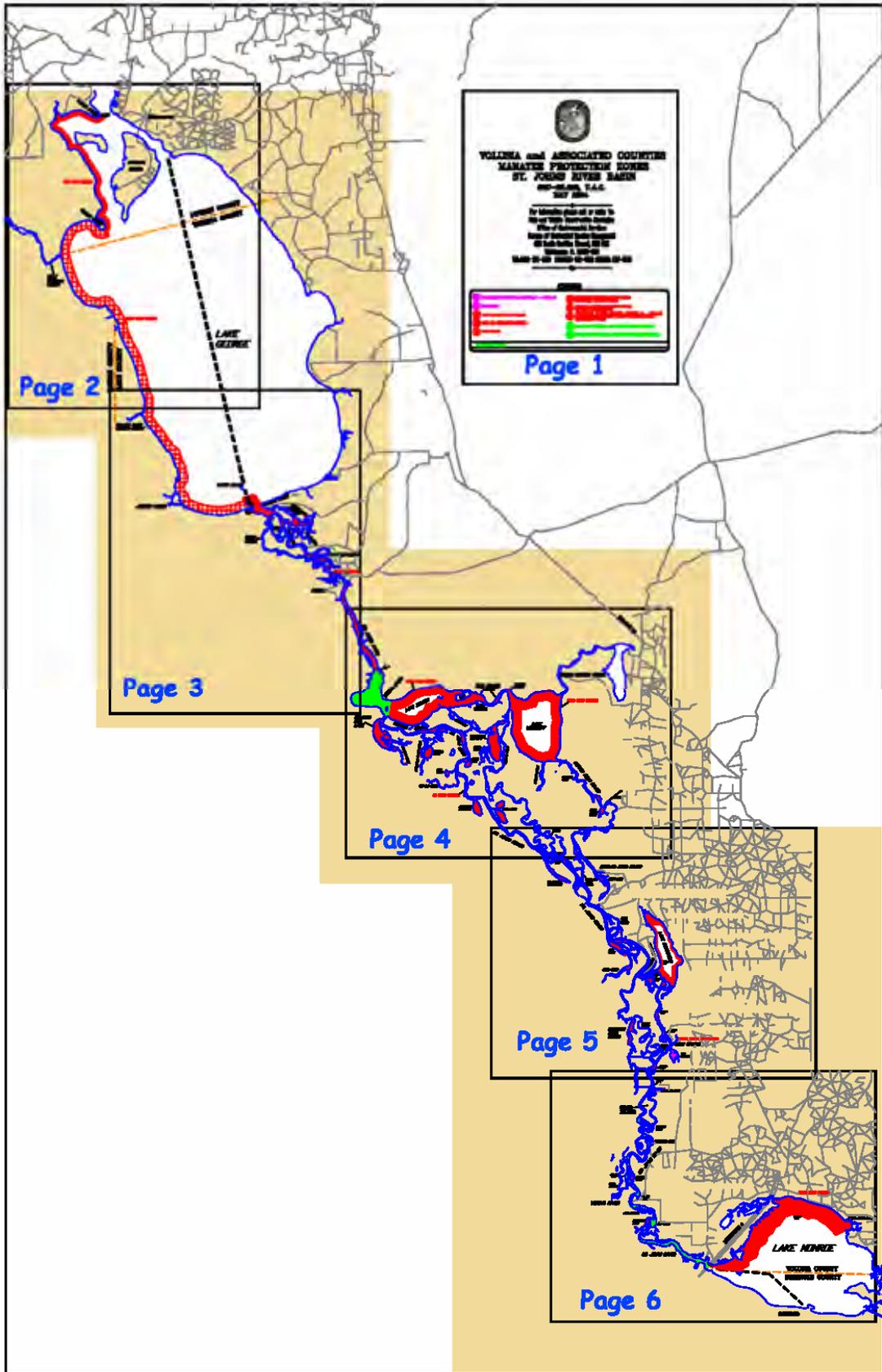
OAK HILL

MOSQUITO LAGOON

ATLANTIC OCEAN

VOLUSIA COUNTY
BREVARD COUNTY

Attachment G: SJR Speed Zone Maps





VOLUSIA and ASSOCIATED COUNTIES
 MANATEE PROTECTION ZONES
 ST. JOHNS RIVER BASIN

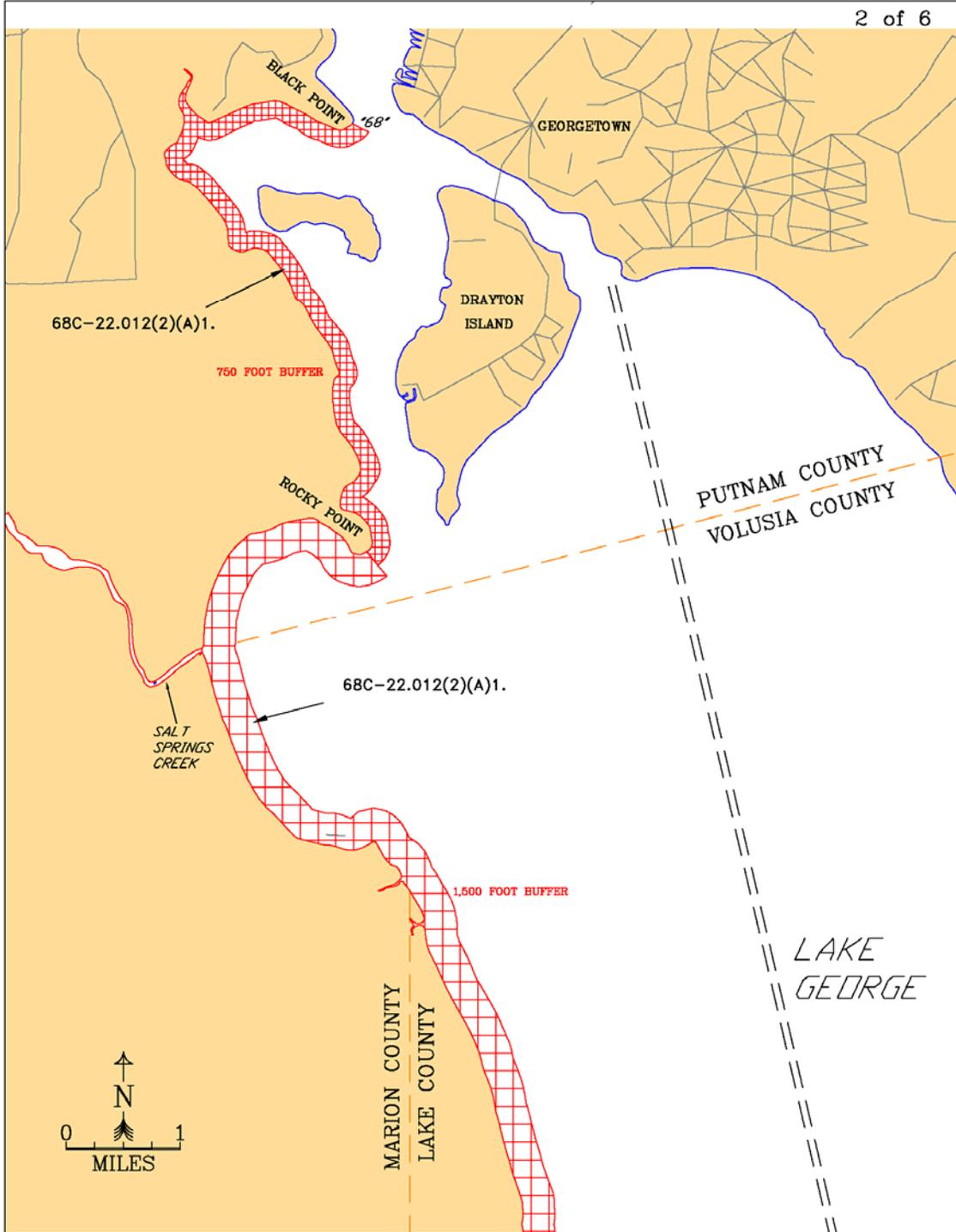
68C-22.012, F.A.C.
 MAY 1994

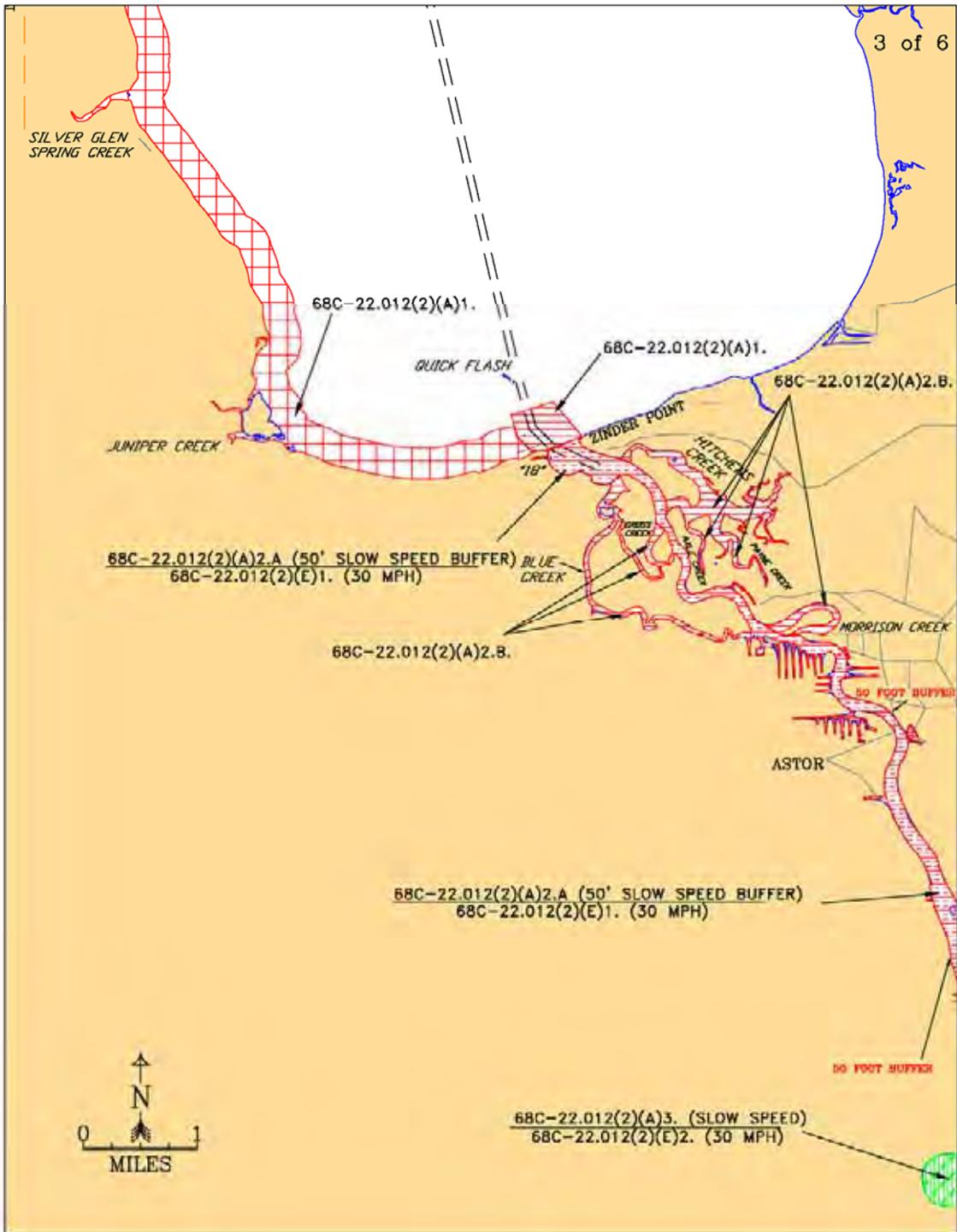
For information please call or write to:
 Fish and Wildlife Conservation Commission
 Office of Environmental Services
 Bureau of Protected Species Management
 620 South Meridian Street, OES-BPS
 Tallahassee FL 32399-1600
 TEL:(850) 922-4330 FAX:(850) 922-4338 SUNCOM: 292-4330

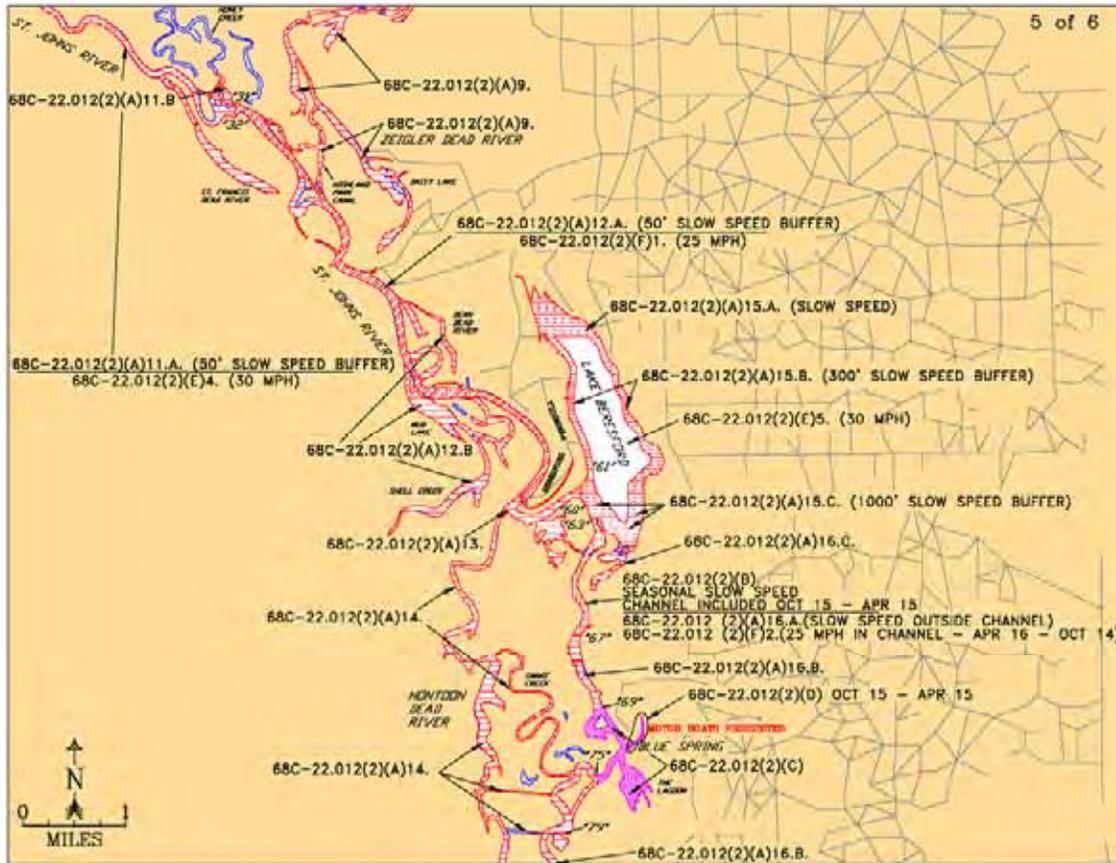
LEGEND

	MOTORBOATS PROHIBITED, OCTOBER 15 - APRIL 15		VARIABLE WIDTH SLOW SPEED BUFFER; 30 MPH (*) OUTSIDE BUFFER
	IDLE SPEED		VARIABLE WIDTH SLOW SPEED BUFFER; 25 MPH OUTSIDE BUFFER
	750 FT. SLOW SPEED BUFFER		SLOW SPEED, CHANNEL INCLUDED, OCTOBER 15 - APRIL 15; 25 MPH IN CHANNEL, SLOW SPEED OUTSIDE CHANNEL, REMAINDER OF YEAR
	1500 FT. SLOW SPEED BUFFER		25 MPH IN CHANNEL; SLOW SPEED OUTSIDE CHANNEL
	SLOW SPEED		30 MPH (*) IN CHANNEL; SLOW SPEED OUTSIDE CHANNEL
<p>• 25 MPH AT NIGHT</p>			

Date Printed: February 11, 2003



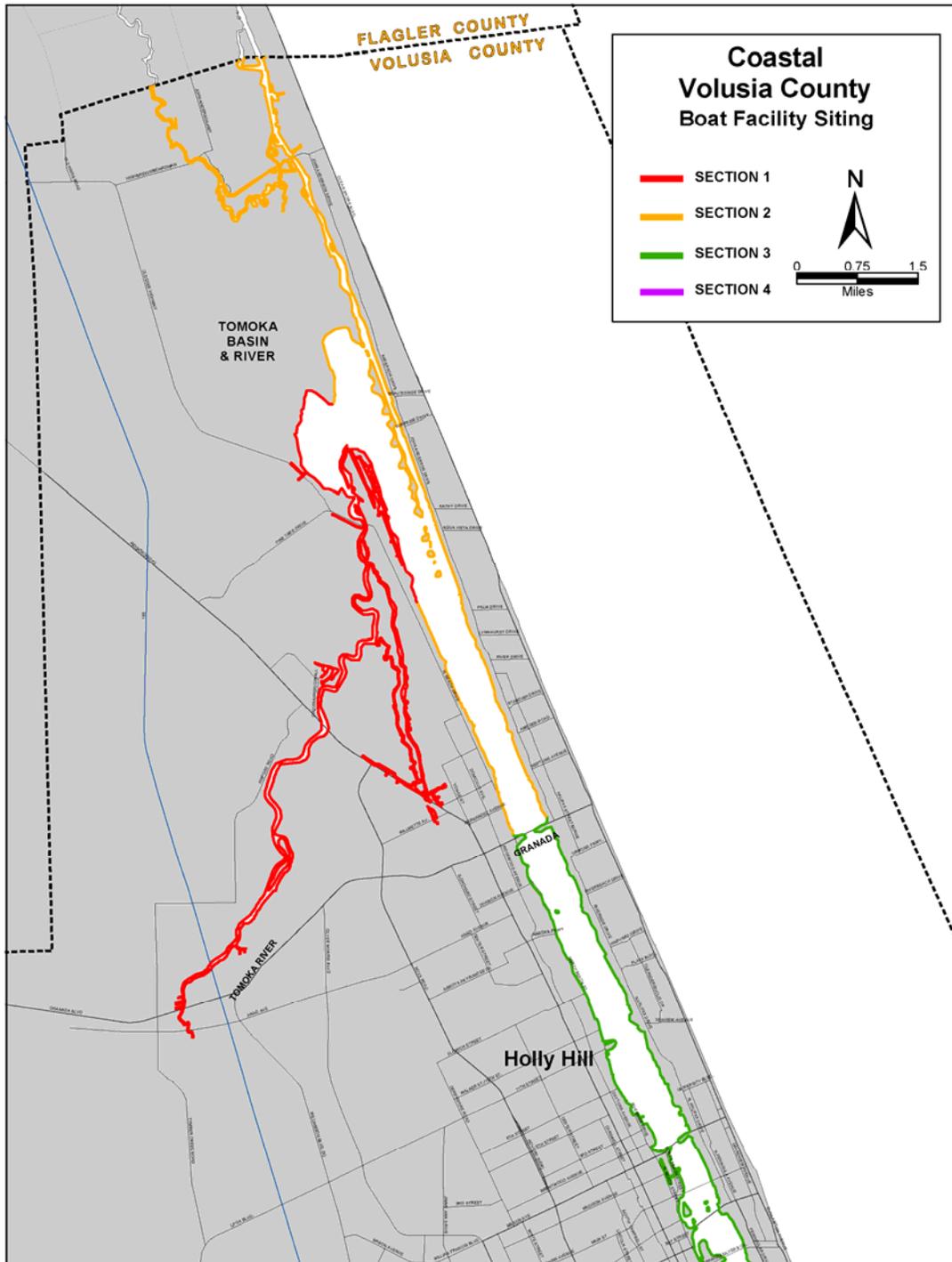




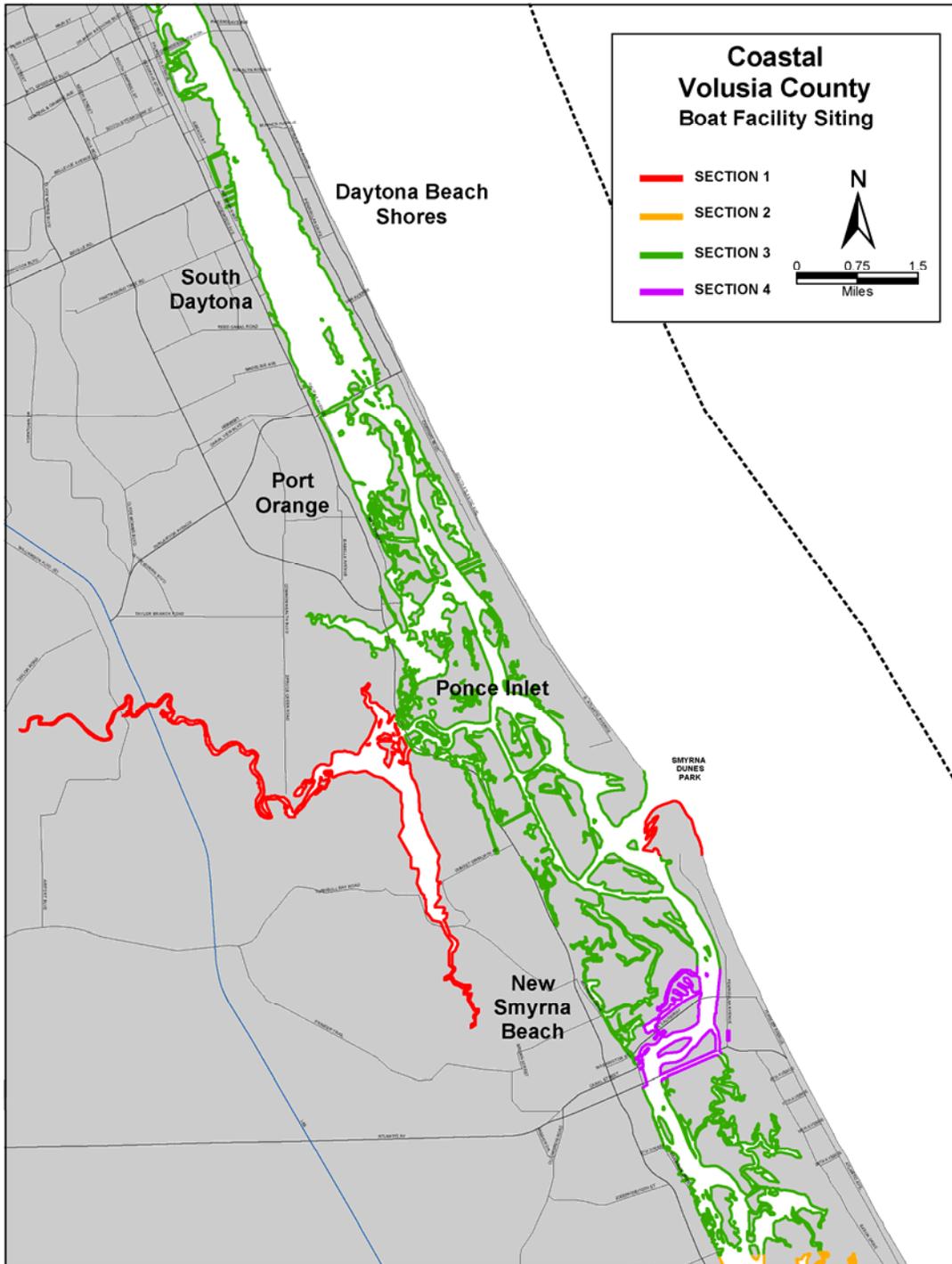


Attachment H: H/IR Boat Facility Siting Maps

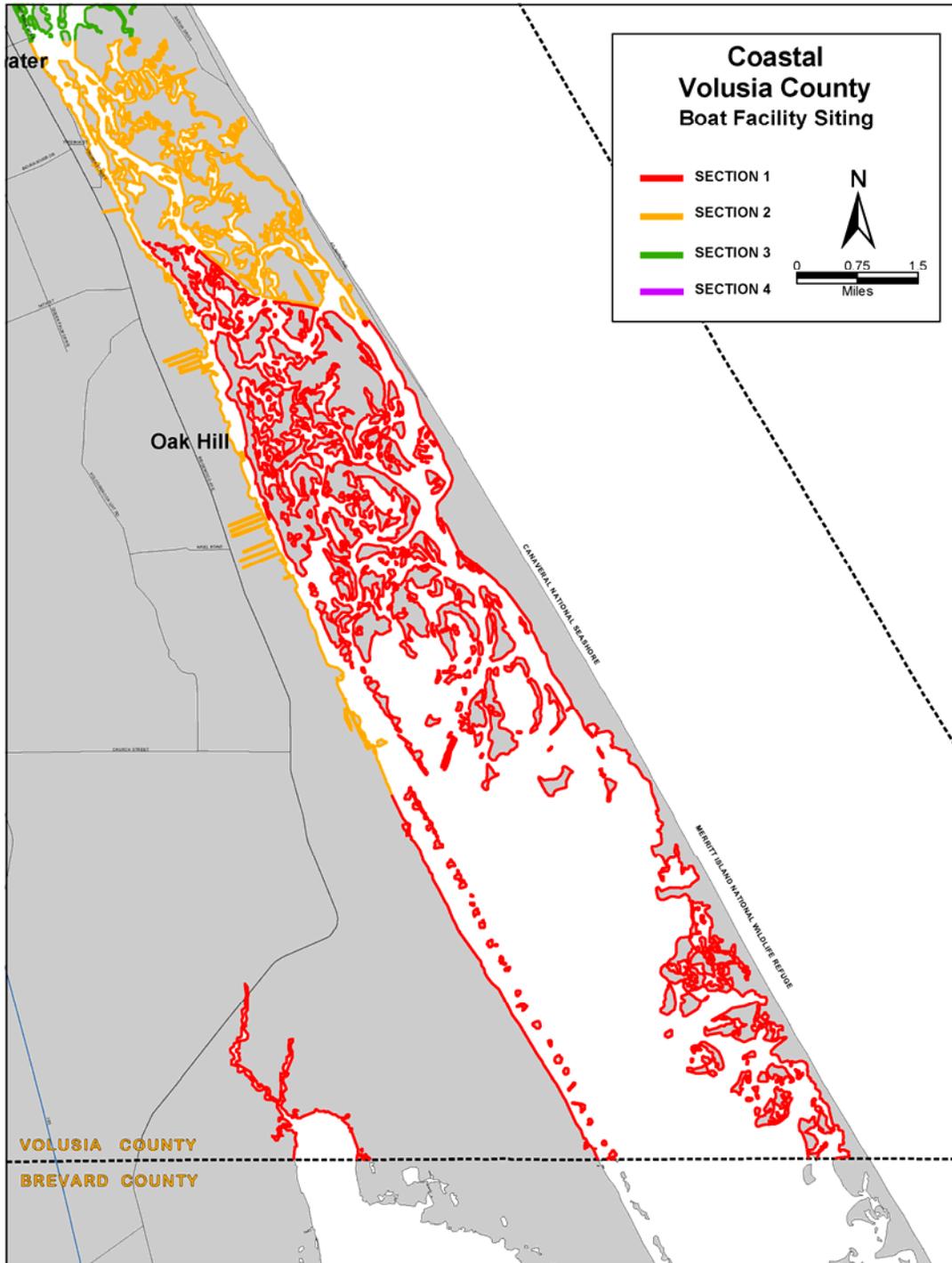
Attachment H: Halifax River/Indian River Volusia County Boat Facility Siting



Map 1a: Boat Facility Siting Recommendations
Northern Coastal Volusia County



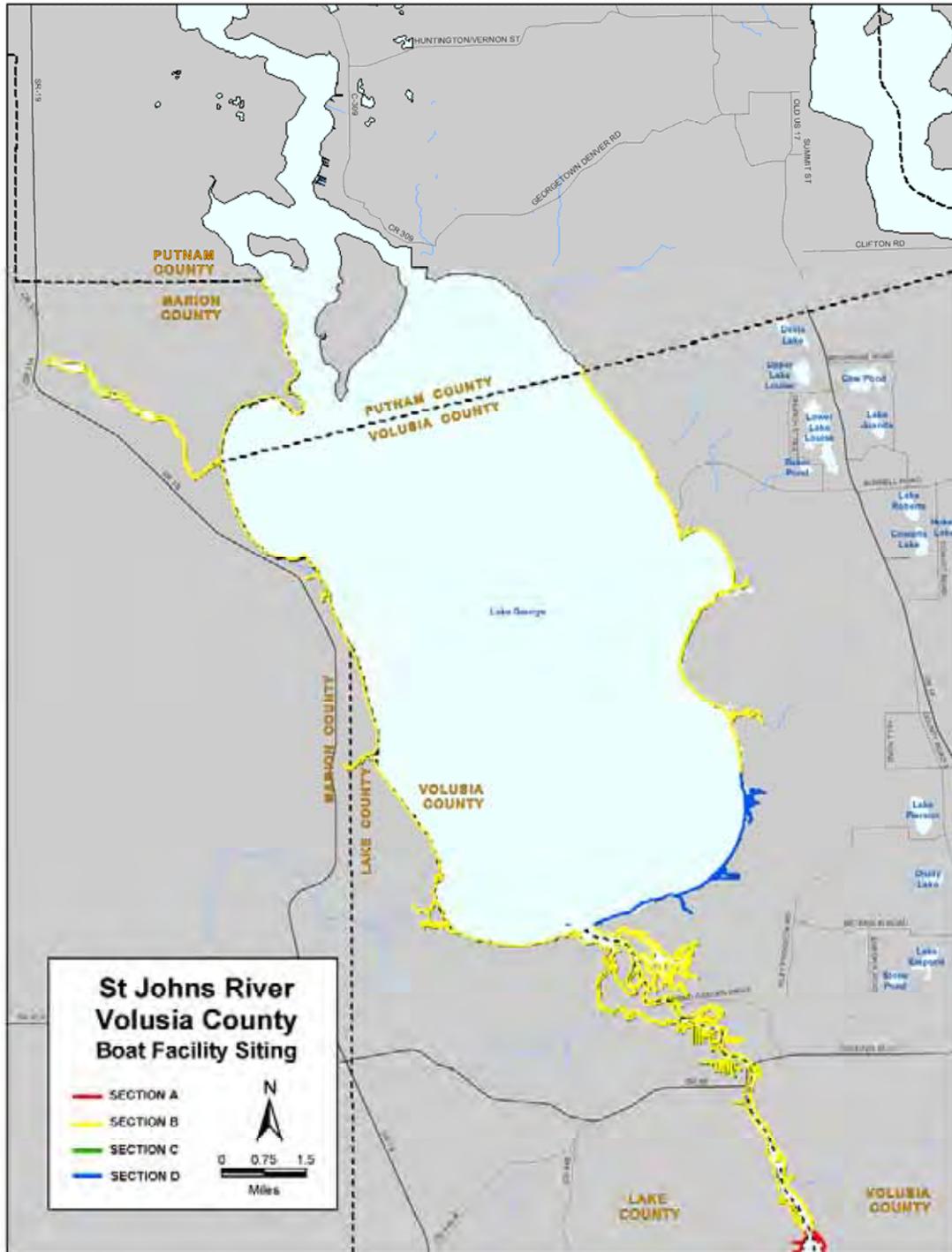
Map 1b: Boat Facility Siting Recommendations
Central Coastal Volusia County



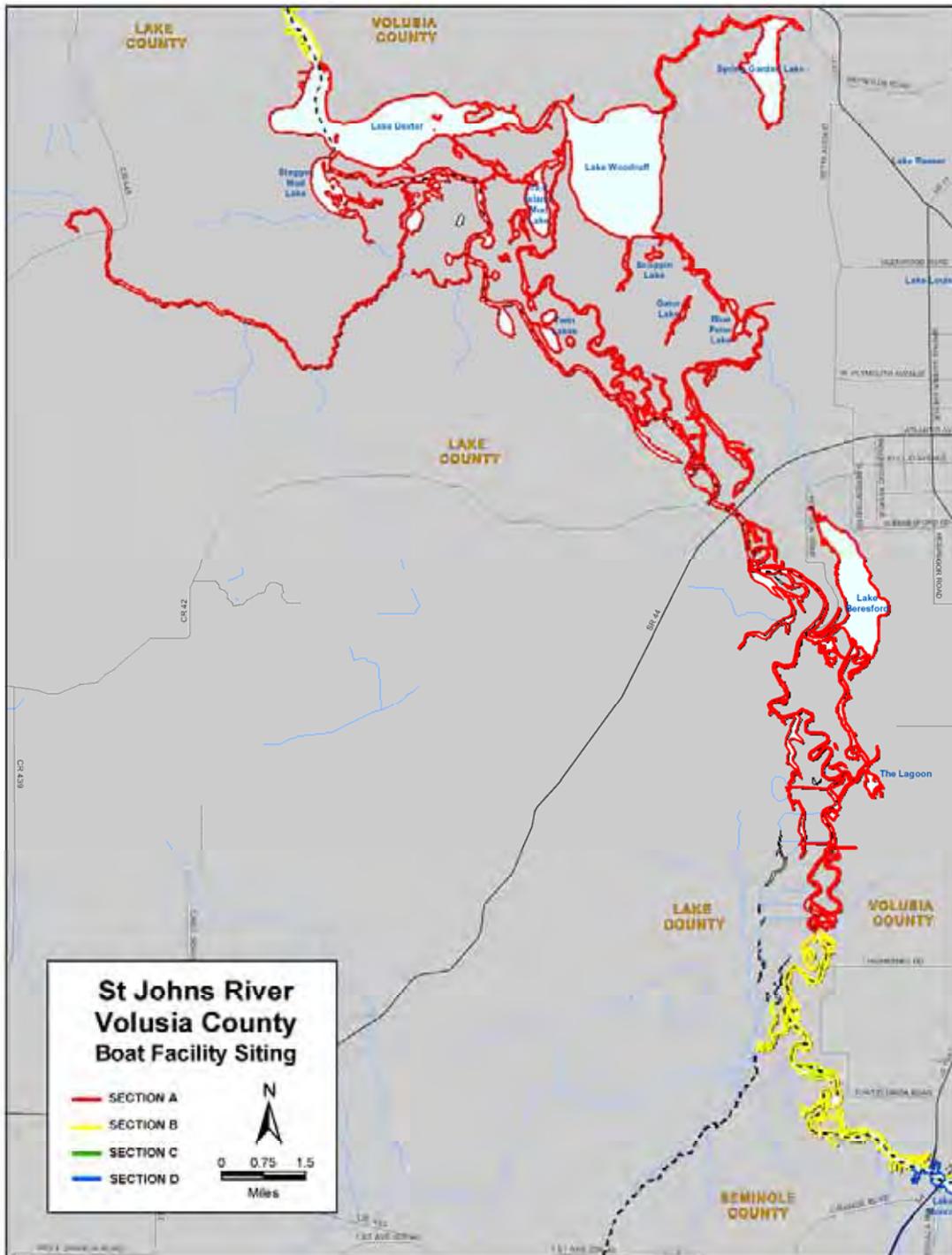
Map 1c: Boat Facility Siting Recommendations
Southern Coastal Volusia County

Attachment I: SJR Boat Facility Siting Maps

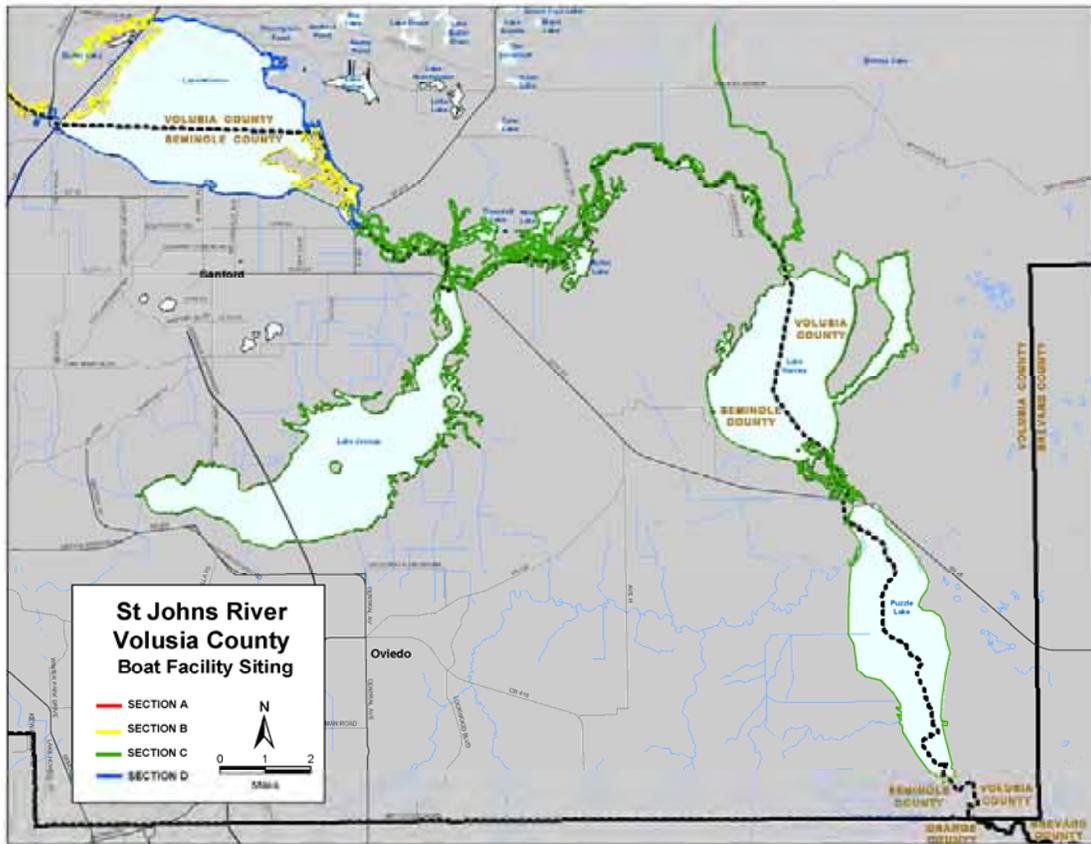
Attachment I: St. Johns River portion of Volusia County Boat Facility Siting



Map 2a: Boat Facility Siting Recommendations
Northern Volusia County along the St. Johns River



Map 2b: Boat Facility Siting Recommendations
Central Volusia County along the St. Johns River



Map 2c: Boat Facility Siting Recommendations
Southern Volusia County along the St. Johns River

Attachment J: Volusia County Comprehensive Plan Elements

VOLUSIA COUNTY COMPREHENSIVE PLAN ELEMENTS

Land development reviews, for the purposes of siting marinas, or expanding marinas shall include the following criteria with priority given to expansion of existing marinas. (Chapter 11, Section 11.2.3.3 of the Coastal Element of the VCCP.

- A) Marinas shall be located in areas where the least amount of dredging and maintenance are required and where aquatic resources (seagrass, oyster bar, freshwater submerged vegetation, etc.) shall not be adversely affected.
- B) Sufficient upland areas to accommodate needed support facilities such as adequate parking, dry storage, work areas, stormwater management facilities, and other non-water dependent uses.
- C) The location of marinas and docking facilities in areas which require minimal dredging or no dredging or filling to provide access by either canal, channel or road.
- D) The marina areas and navigation access channels shall not be dredged to depths greater than necessary to prevent prop dredging.
- E) Marina basins shall be located where there is an existing basin and access channel and adequate depths to accommodate the proposed use. A minimum of four feet below mean low water shall be required.
- F) Facilities shall be designed to maximize or improve water circulation patterns and shall not adversely affect existing circulation patterns.
- G) Any buffer zones established by FDEP's Shellfish Environmental Assessment Section shall be maintained and where necessary, enhanced or expanded.
- H) Marinas shall not be permitted in areas where approved or conditionally approved shellfish harvesting would be severely impacted and/or sections closed to shellfish harvesting.
- I) Marinas or marina expansion should not be permitted in areas that have been determined by FDEP, FWCC and USFWS to be critical to the survival of the endangered Manatee. These areas may include, but are not limited to, Manatee Sanctuaries, feeding areas or areas which have been identified in Manatee recovery plans.

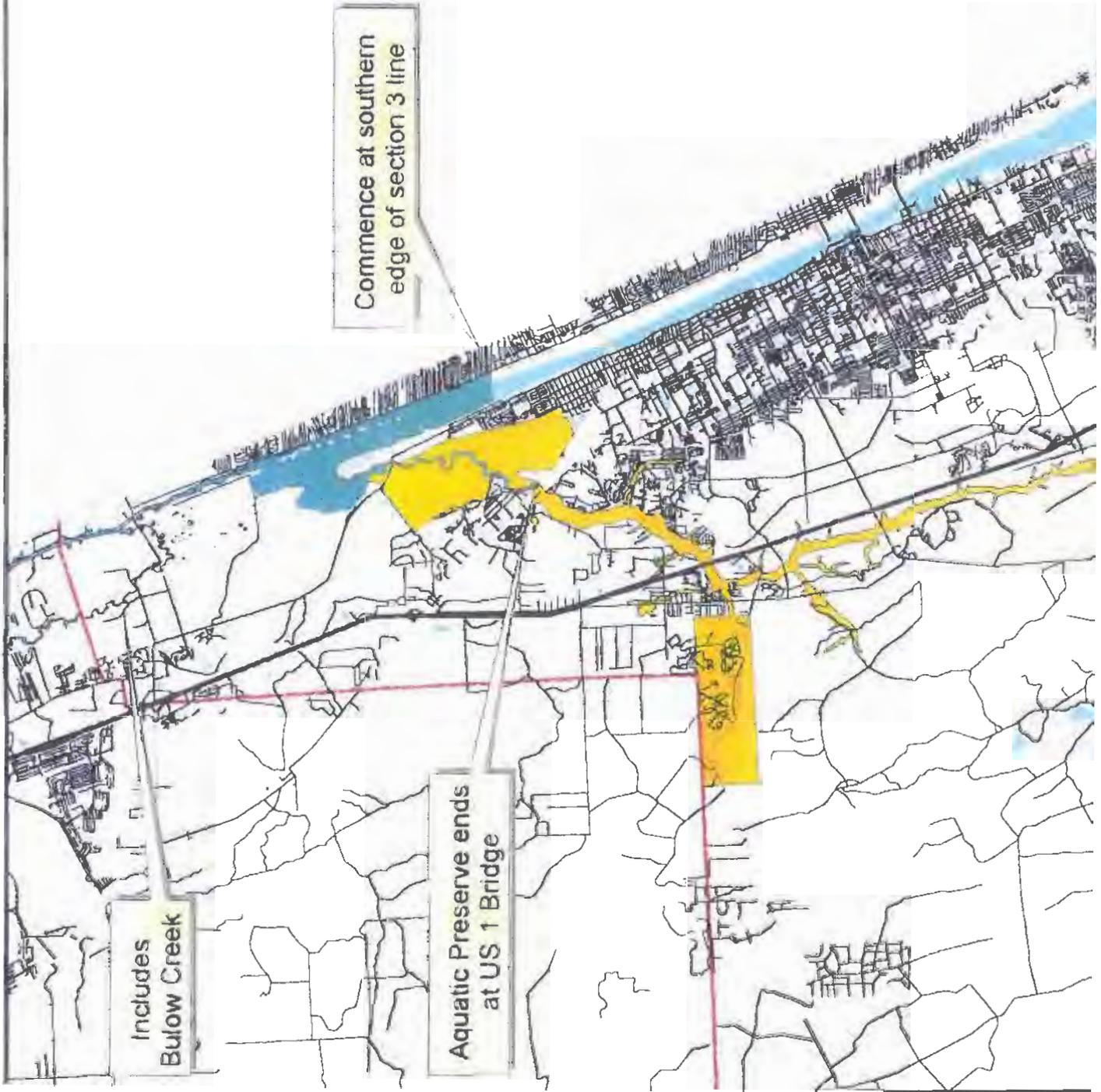
- J) Prior to the operation of any new marina fueling facility or expansion of an existing facility, fuel management/spill contingency issues shall be coordinated with the State.
- K) Sewer pump-out service and facilities shall be available and accessible to all new boat slips constructed or renovated, inside marinas.
- L) New or expanded marina facilities shall utilize dry storage to the fullest extent possible in addition to wet slips.

Resource management plans such as Aquatic Preserve management plans or Surface Water Improvement Management Plans (SWIM) plans shall be utilized in reviewing marina sites. (VCCP 11.2.3.4)

**Attachment K: Outstanding Florida Waters,
National Wildlife Refuges, National Seashore and
Aquatic Preserve Maps**

Tomoka River and Halifax River

Special Waters



Includes
Bulow Creek

Aquatic Preserve ends
at US 1 Bridge

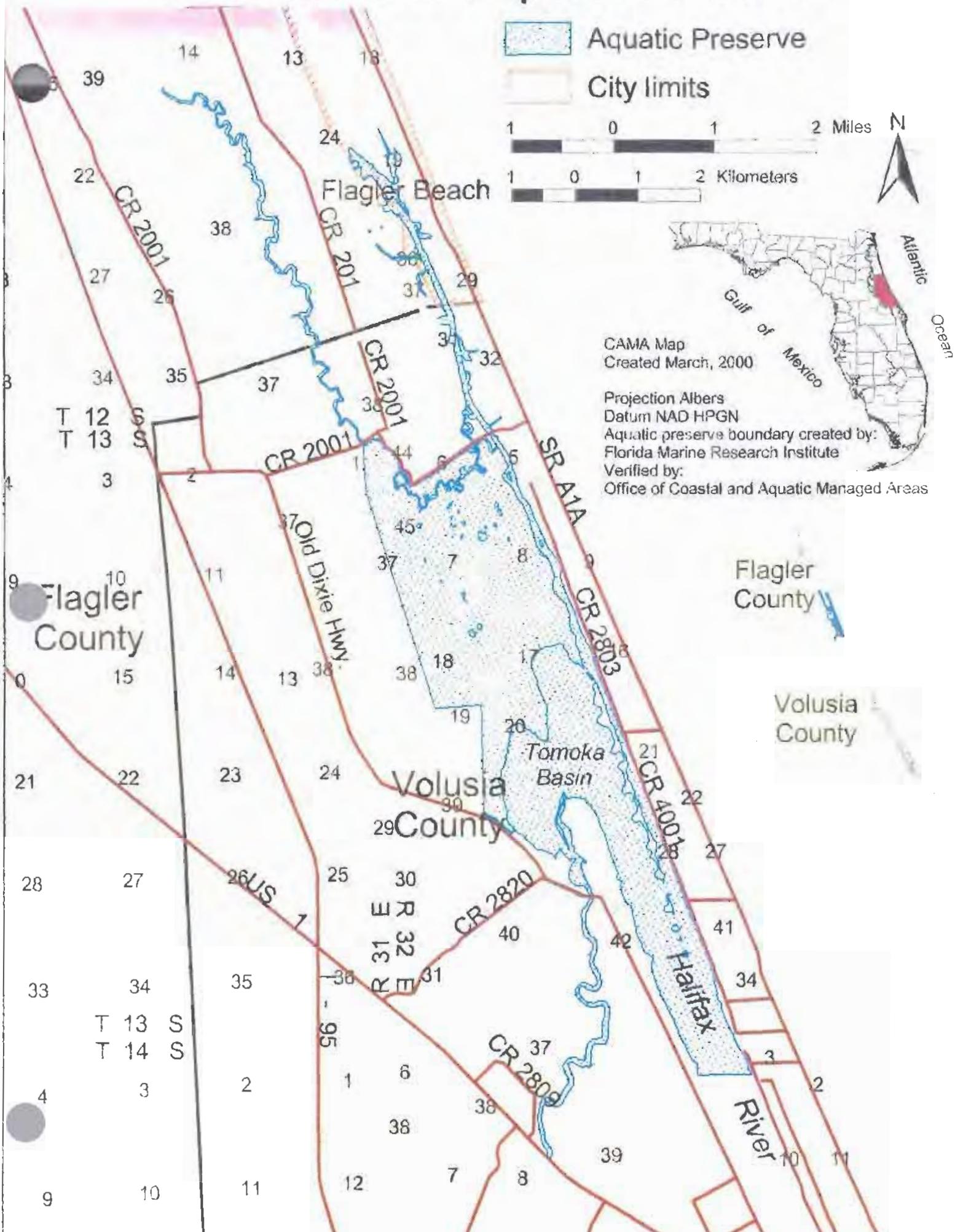
Commence at southern
edge of section 3 line

LEGEND

- TIGER Roads
 - Primary road with limited access
 - Primary road
 - Secondary and connecting road
 - Local road
 - Road, major and minor categories unknown
 - Ferry crossing
 - District Boundaries/FDEP Regulatory District
 - Water Management Districts
 - Aquatic Preserves Listed in CFW
 - Special Outstanding Florida Waters
 - Water Bodies
 - Wetlands
- Boundary/Florida Counties (1:40,000)



Tomoka Marsh Aquatic Preserve



Aquatic Preserve

City limits

1 0 1 2 Miles

1 0 1 2 Kilometers



CAMA Map
Created March, 2000

Projection Albers
Datum NAD HPGN
Aquatic preserve boundary created by:
Florida Marine Research Institute
Verified by:
Office of Coastal and Aquatic Managed Areas

Flagler
County

Volusia
County

Flagler
County

Volusia
County

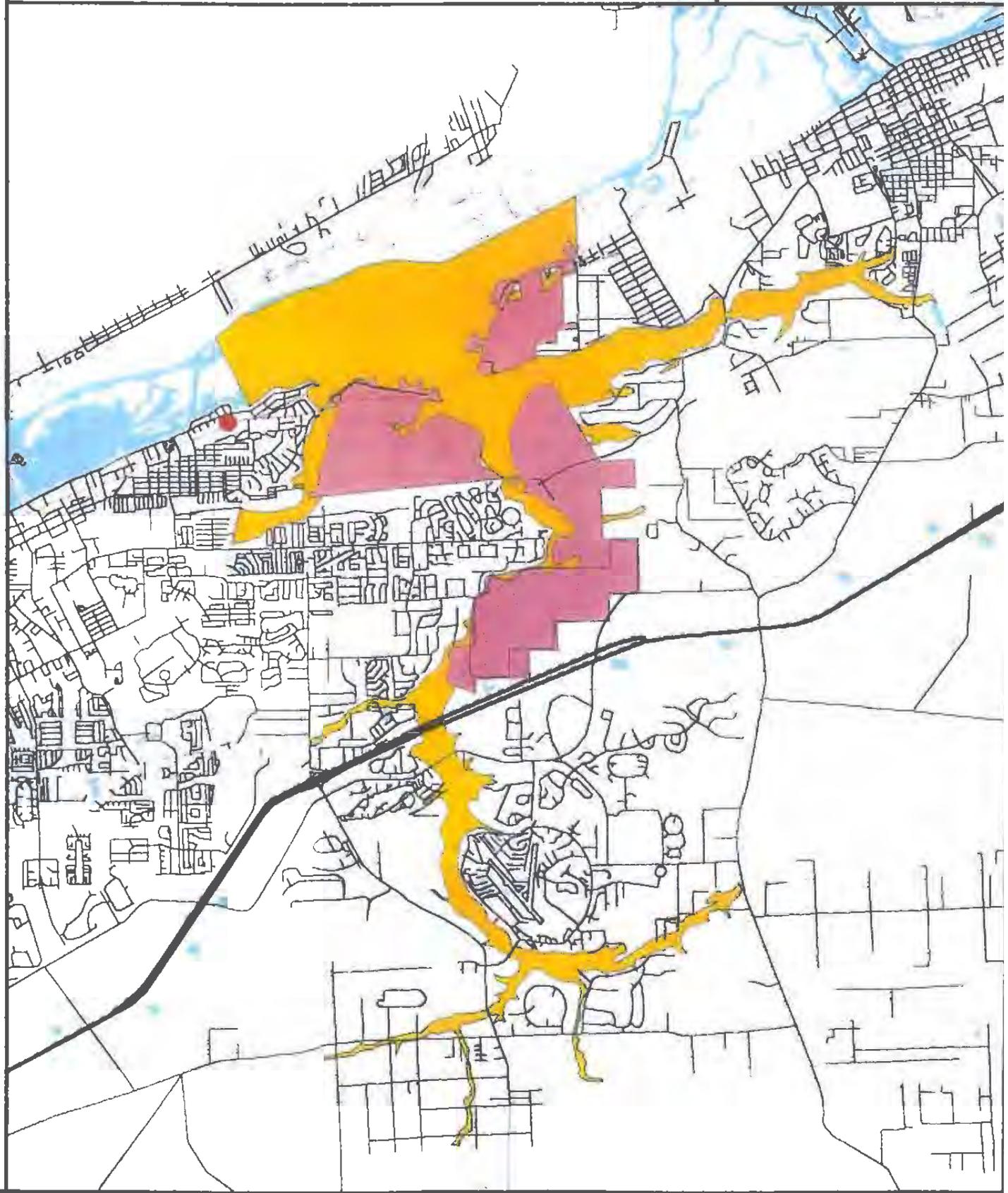
Tomoka
Basin

Halifax
River

River

Spruce Creek

Outstanding Florida Waters



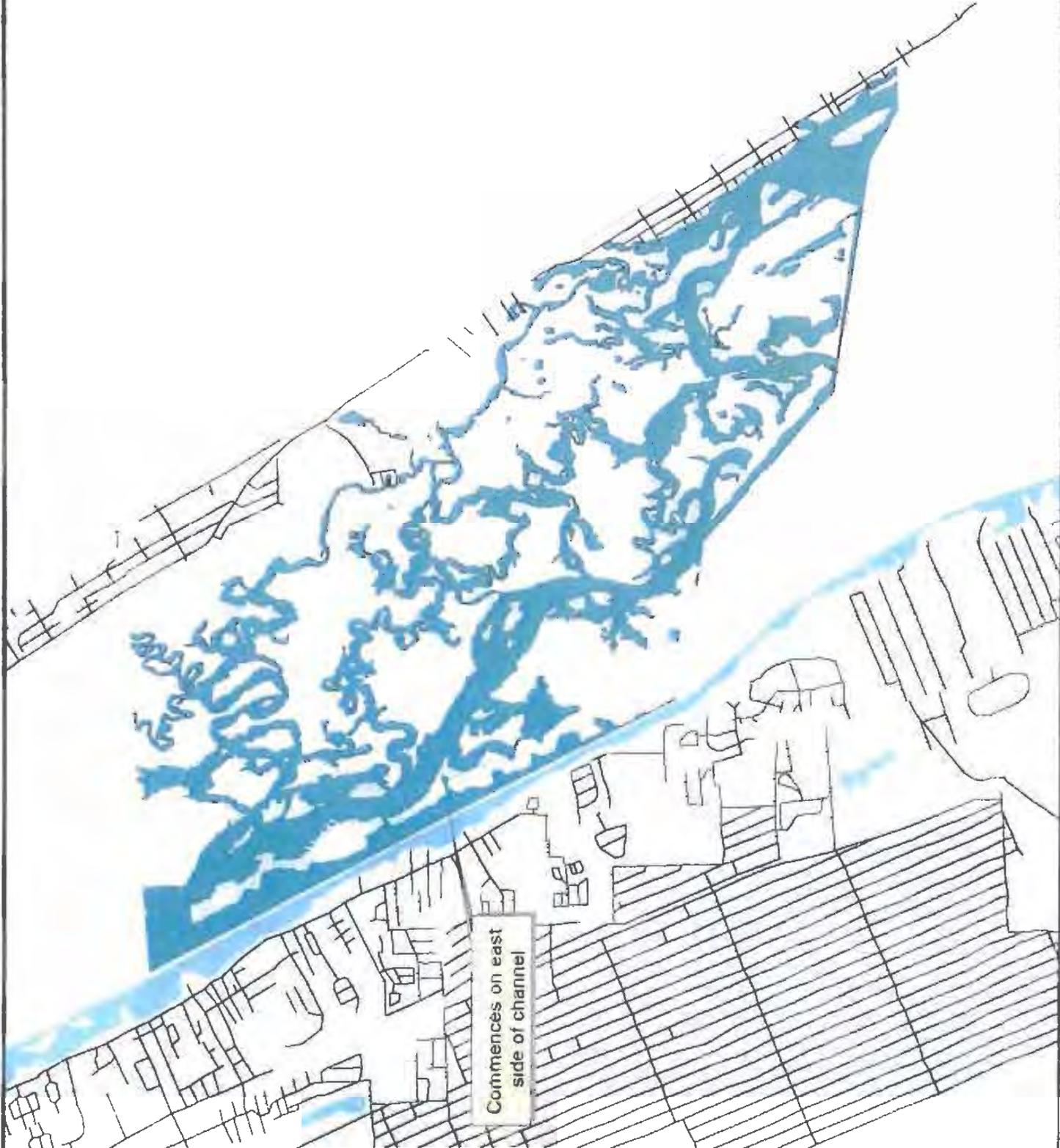
LEGEND

- TULSA Roads
 - Primary road with limited access
 - Primary road
 - Secondary and connecting road
 - Local road
 - Road, major and minor categories unknown
 - Ferry crossing
 - District Boundaries/DEP Regulatory District
 - Water Management Districts
 - Other Outstanding Florida Waters
 - Special Outstanding Florida Waters
 - Aquatic Preserves listed in OFW
 - Water Bodies
 - Water
- Boundary/Florida Counties (1:40,000)



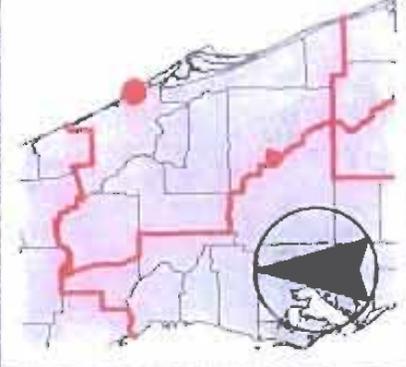
Mosquito Lagoon Aquatic Preserve

Southern limits of New Smyrna to Canaveral Nat'l Seashore

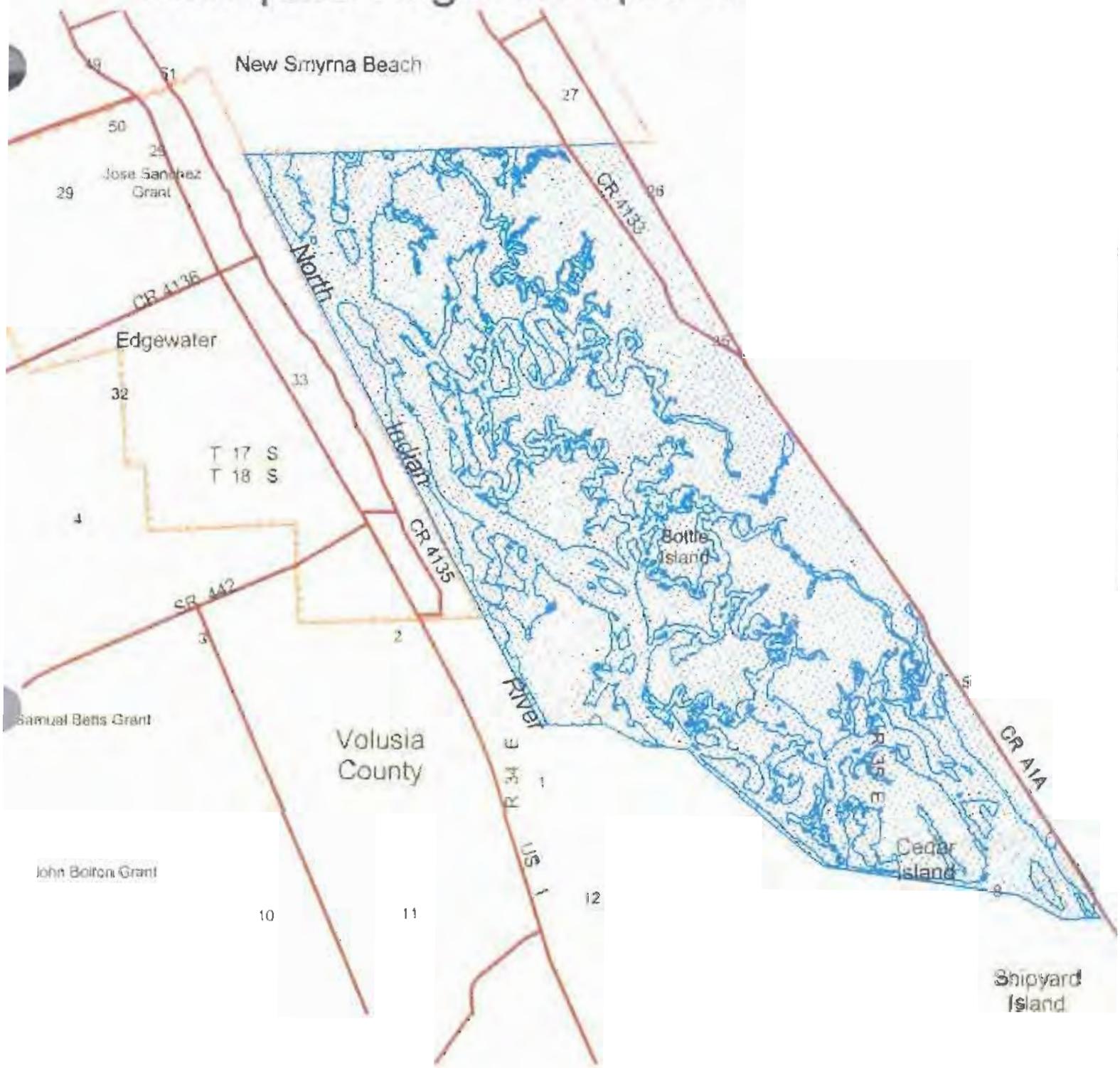


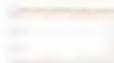
LEGEND

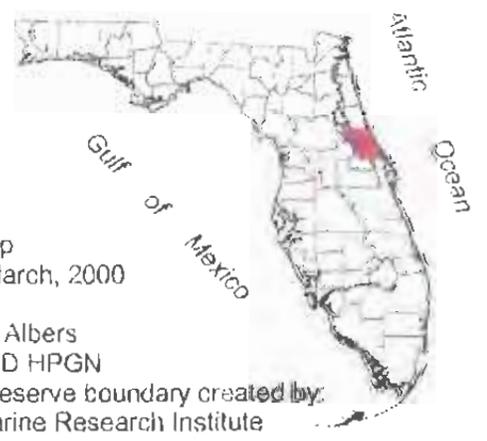
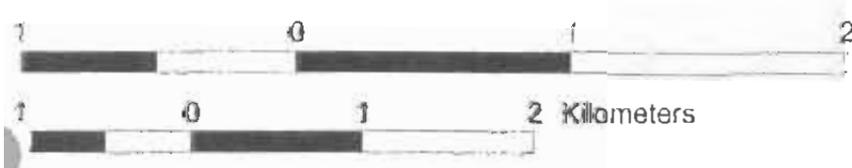
- Thick Roads
- Primary road with limited access
- Primary road
- Secondary with parking / road
- Local road
- Road (color and line categories, whether Ferry crossing)
- County Boundary (DEP-Regulatory District)
- Water Management District
- Other Outstanding Florida Waters
- Special Outstanding Florida Waters
- Aquatic Preserves Listed in OFW
- Water Bodies
- Meter
- Boundary/Plants Courses (1:50,000)



Mosquito Lagoon Aquatic Preserve



 Aquatic Preserve
 City limits

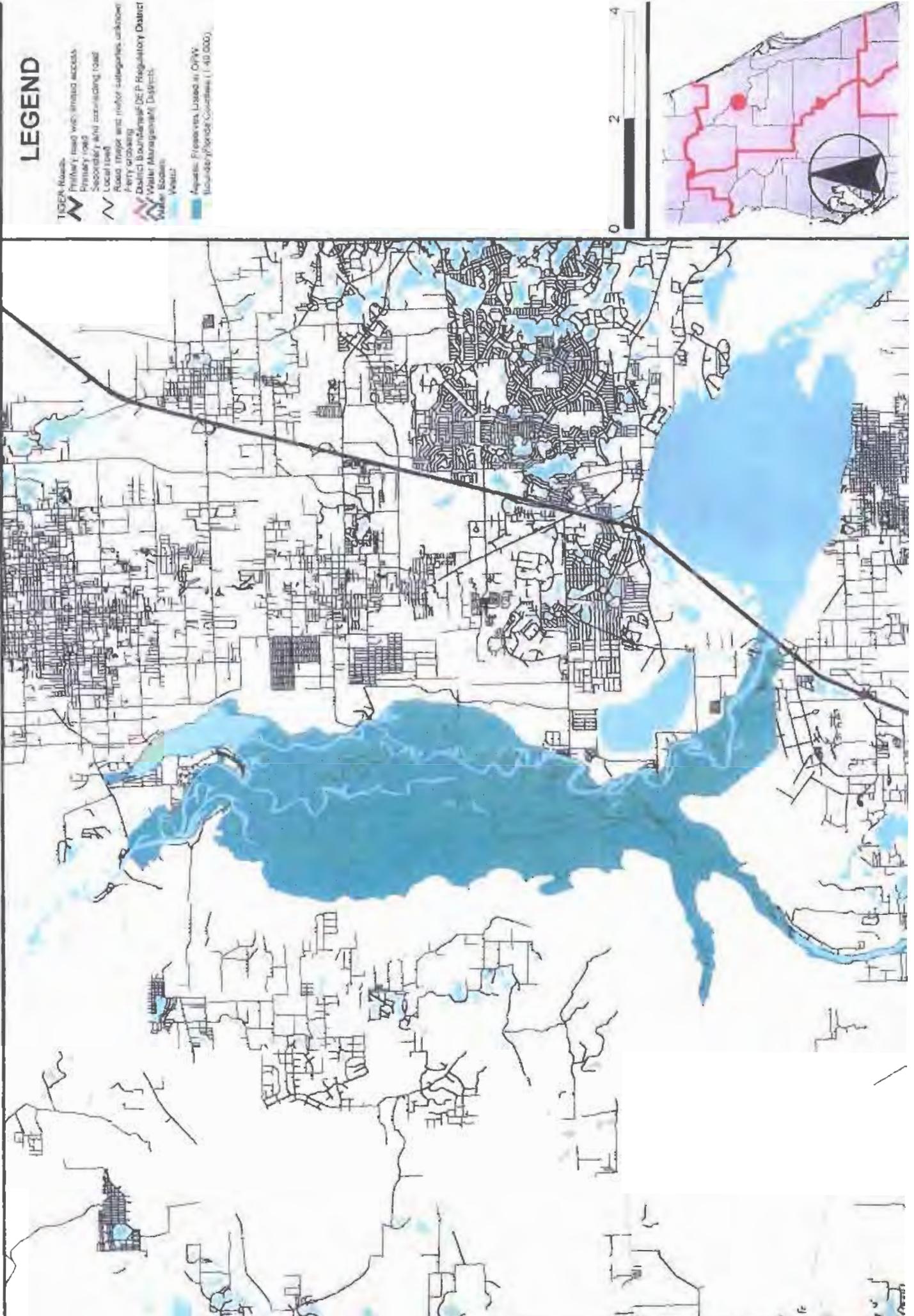


CAMA Map
Created March, 2000

Projection Albers
Datum NAD HPGN
Aquatic preserve boundary created by:
Florida Marine Research Institute
Verified by:
Office of Coastal and Aquatic Managed Areas

St. Johns River Aquatic Preserve

I-4 to SR 44, including Lake Beresford



Wekiva River Aquatic Preserve

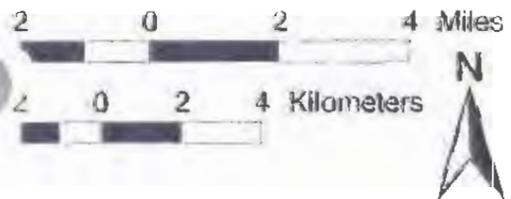
Lake County

Orange County



Apopka

 Aquatic Preserve
 City limits



Lake County
 Volusia County
 Seminole County
 Orange County

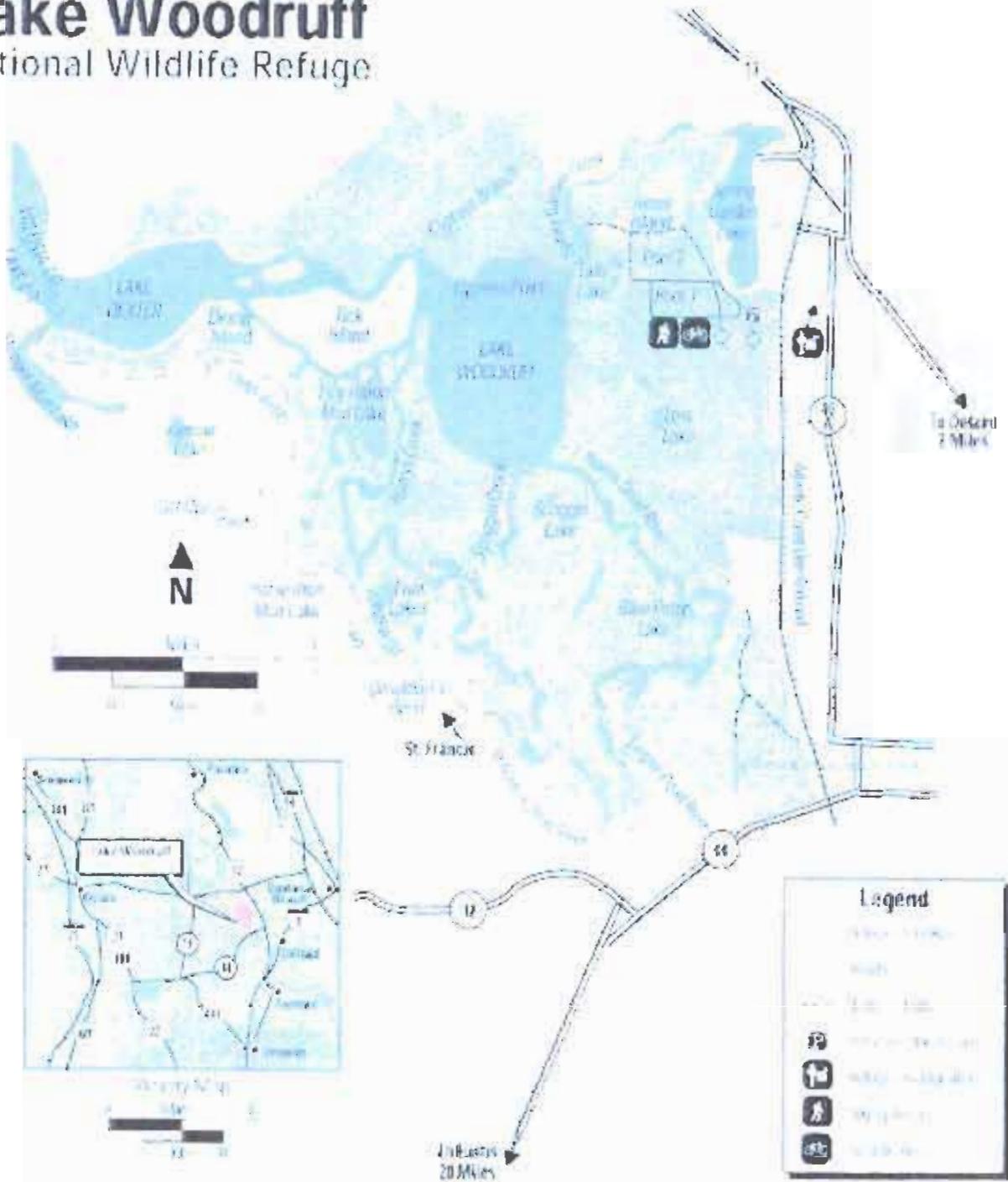


CAMA Map
 Created March, 2000

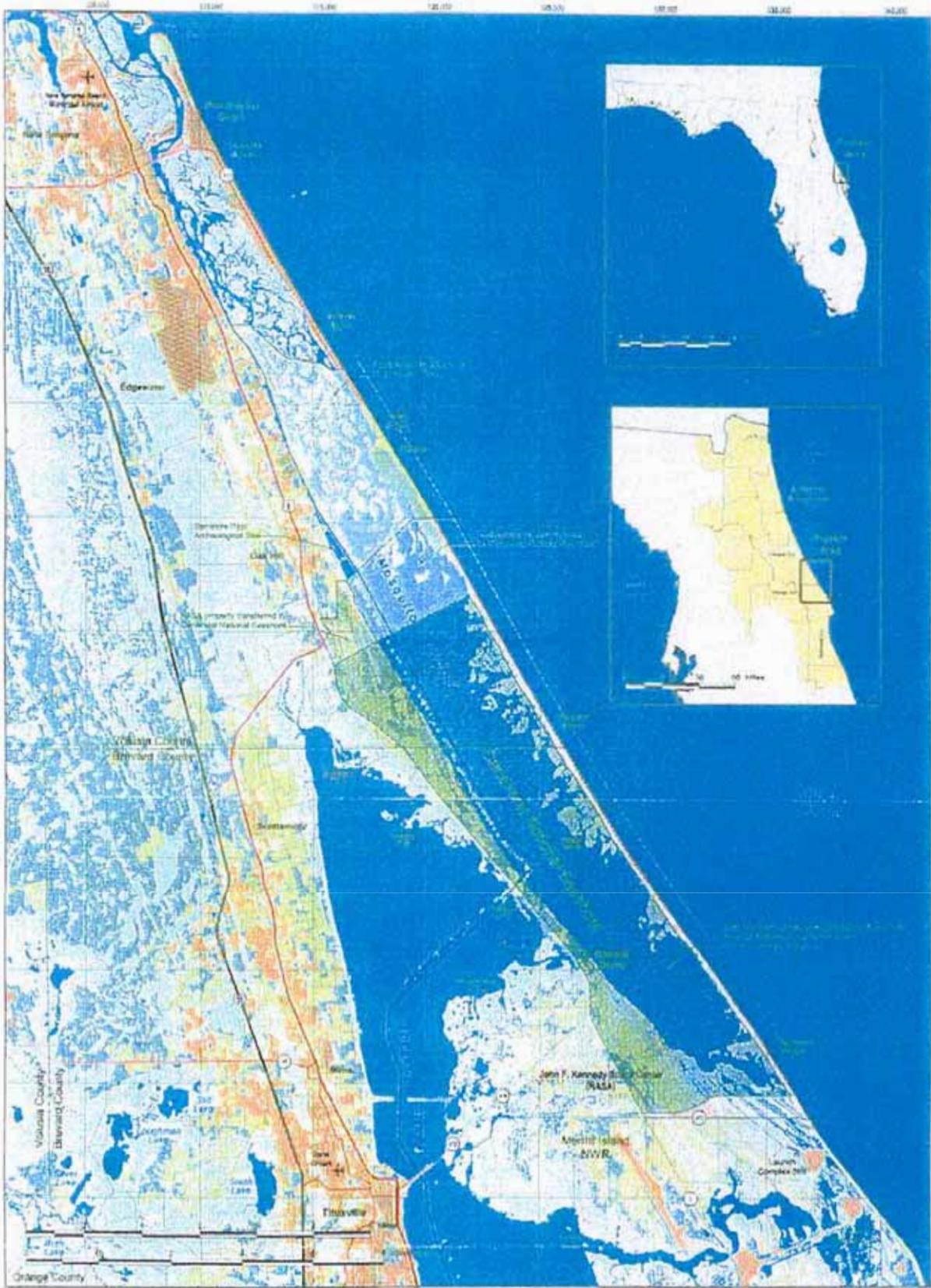
Projection Albers
 Datum NAD HPGN
 Aquatic preserve boundary created by:
 Florida Marine Research Institute
 Verified by:
 Office of Coastal and Aquatic Managed Areas

Lake Woodruff

National Wildlife Refuge

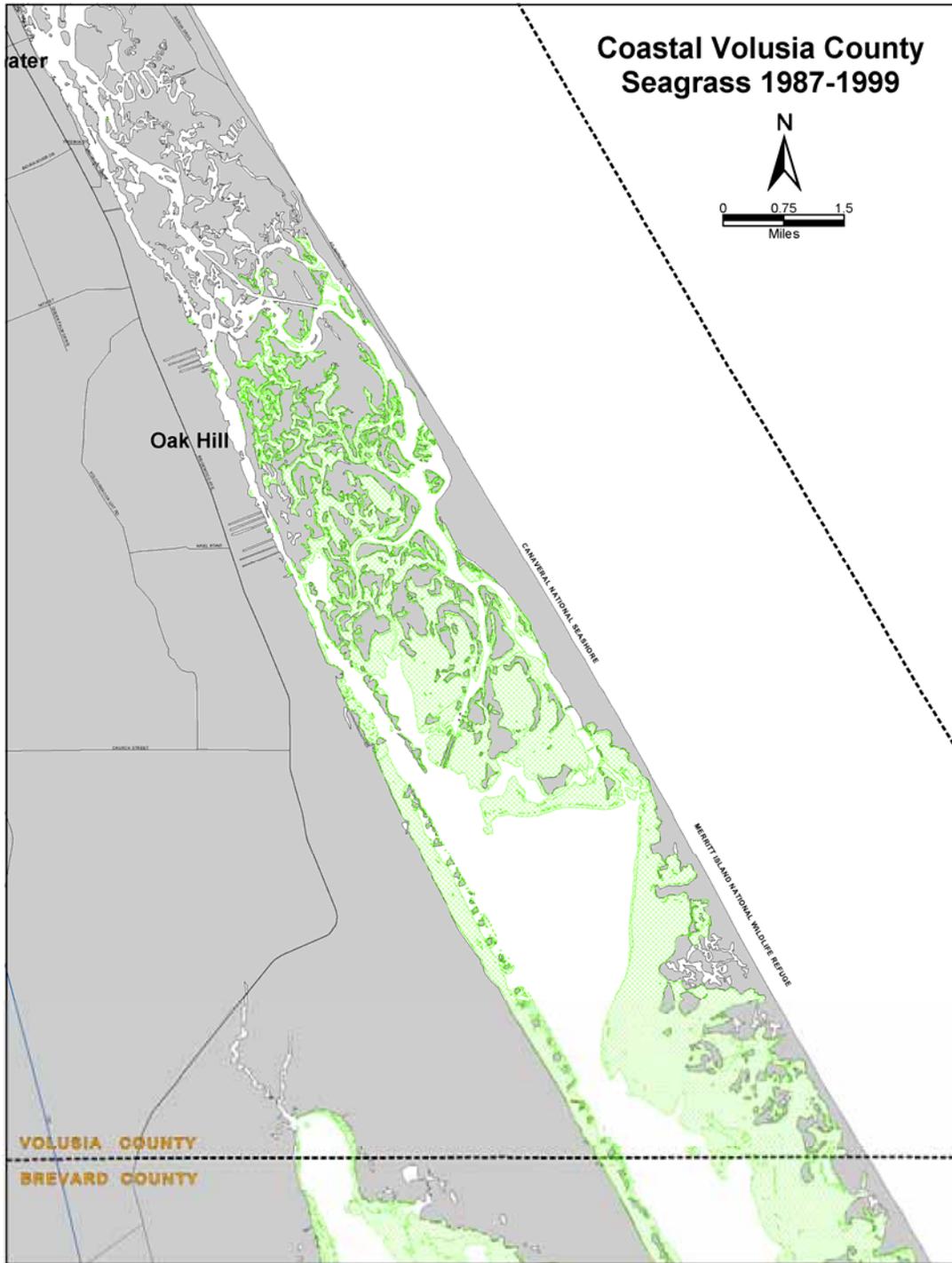


The refuge is located 25 miles west of Daytona Beach; 1 block west of U.S. Highway 17 in DeLeon Springs, FL.



<p>National Park Service Capeverde National Seashore</p> <p>St. Johns River Water Management District</p> <p>UCF University of Central Florida</p> <p>Florida Center for Environmental Studies</p>	<h3 style="text-align: center;">BOUNDARIES</h3> <p>Legend</p> <ul style="list-style-type: none"> NASA property administered by Capeverde National Seashore NASA property partly administered by Capeverde National Seashore and Merritt Island National Wildlife Refuge Land owned by Capeverde National Seashore NASA property transferred to Capeverde National Seashore Non state Jeep trail Local road State road US highway County boundaries CNS boundaries Submerged Waterway 	<p>Digitized from Capeverde National Seashore Master Plan maps (Page 2.2)</p> <p>UTM Zone 17 5,000 meter grid</p> <p>Scale</p> <table border="1"> <tr> <td>Date</td> <td>Date</td> </tr> <tr> <td>11/2000</td> <td>1/195,000</td> </tr> </table>	Date	Date	11/2000	1/195,000
Date	Date					
11/2000	1/195,000					

Attachment L: Seagrass Bed Map



Attachment M: Volusia County Conservation Lands

Volusia County Conservation Lands



Attachment N: Boating Activity Study Update

Boating Activity Study Update

Background

A total of 47 marine facilities located along the Intracoastal Waterway (ICW) and the county's eastern shoreline, including the Halifax and Indian Rivers, the Tomoka River, Spruce Creek and tributaries were surveyed. Along the St. Johns River (SJR) and tributaries, 31 boat related facilities were surveyed. These included facilities which were located outside of Volusia County, but which could contribute to the boating traffic in the waterway. The total number of surveyed facilities came to 78, and is represented in the "Marinas Surveyed in Volusia County 2001" chart on the following pages.

However, for the purposes of this study update we have chosen to limit the facilities under consideration to those that are located within the Volusia County borders. To accurately calculate the present marine facility supply for Volusia County, facilities that are not located within the county's geographical boundaries were excluded. This study area is reflected in the charts labeled "Volusia County Study Area Marina Capacity."

Present Marina Supply

After eliminating marina facilities outside county boundaries the study area was reduced to 66 total facilities, 44 on the ICW and 22 on the SJR. The 66 marinas have a total of 3,265 wet slips and 921 dry slips. The ICW has 2,139 wet slips and 726 dry slips while the SJR has 1,126 wet slips and 195 dry slips. In total, Volusia County has a wet and dry slip supply of 4,186.

Marina Slip Occupancy

The current marina occupancy rate for facilities located in Volusia County is 80%. Marina occupancy was determined by totaling the number of wet and dry slips occupied on the ICW and SJR and dividing that number by the total number of available wet and dry slips. The ICW has an occupancy rate of 88% and the SJR has an occupancy rate of 63%.

Water Body Percentage

Water body percentages were calculated for the ICW and SJR to determine how much of the actual demand is placed on each individual waterway. The percentages were calculated by dividing the number of occupied wet and dry slips for the ICW and SJR combined (3,364). The water body percentage is 75% (2,528/3,364) for the ICW and 25% (836/3,364) for the SJR. These figures will be useful when predicting future slip demand for each waterway.

Marina Slip Demand

The marina slip occupancy rates of 88% for the ICW and 63% for the SJR translate into a slip demand. The ICW has a demand of 1,832 wet slips and 696 dry slips. And the SJR has a demand of 721 wet slips and 115 dry slips. Volusia County's wet slip demand is 2,553 and its dry slip demand is 811, yielding a total marina slip demand of 3,364. Comparing the supply listed previously, to the demand yields a surplus of 822 wet and dry slips. A further breakdown illustrates a surplus of 307 wet slips and 30 dry slips on the ICW and a surplus of 405 wet slips and 80 dry slips on the SJR.

Dividing Volusia County's total marina slip demand of 3,354 by the number of registered Volusia County boaters in 1999/2000 (24,202) yields a marina demand rate of 13.8%. It should be noted that 2000/2001 registration figures were not readily available and also that the 24,202 figure, due to a change in tabulation methods by the state, is a projected value.

Marina Slip Projections

Utilizing the 13.8% marina demand noted earlier and the projected growth rate of registered boaters in Volusia County of 2.7%, total slip demand can be determined. The Volusia County registered boater growth rate was determined by finding the percentage increases for existing registration figures (1996 – 1999) and calculating their average. We have illustrated the projected slip demand on Volusia County through the year 2015, in total, and by water body. The 75% ICW and 25% SJR water body percentages were used in predicting future slip demand for each individual waterway.

Conclusion

As can be seen in the chart, there is a surplus of marina slips on the ICW until the year 2005. By the year 2005, 2 additional slips will be required, and by the year 2010, 404 additional slips will be required. On the SJR there is a surplus of marina slips until the year 2020, by which time 92 additional slips will be required. These projections prove to be consistent with the present marina occupancy rates for each water body. As noted previously the ICW has an occupancy rate of 88% and the SJR has an occupancy rate of 63%. The ICW's greater occupancy rate explains the larger future slip demand for the ICW than for the SJR.

Marinas Surveyed in Volusia County 2001						
Halifax and Indian Rivers						
Marina	Wet Slips	Wet Slips Occ.	Dry Slips	Dry Slips Occ.	% Wet Occ.	% Dry Occ.
Adventure Yacht Club	150	150	0	0	100.0%	0.0%
Aloha Marina *	0	0	0	0	0.0%	0.0%
Angler's Yacht Club	17	12	10	8	70.5%	80.0%
Aunt Catfish **	10	7	0	0	70.0%	0.0%
Bouchelle Island Condo **	85	31	30	18	36.4%	60.0%
Brigadoon Fish Camp *	0	0	0	0	0.0%	0.0%
Cameron's Marina	42	35	0	0	83.3%	0.0%
Captain's Quarters Condo	4	4	0	0	100.0%	0.0%
Causeway Marina	40	40	70	70	100.0%	100.0%
City of New Smyrna Beach Marina	40	40	0	0	100.0%	0.0%
Critter Fleet	10	7	0	0	70.0%	0.0%
Daytona Beach Riverhouse **	10	10	0	0	100.0%	0.0%
Daytona Marine and Boat Works	300	270	0	0	90.0%	0.0%
Diamond Head Point Condo **	35	35	0	0	100.0%	0.0%
Edgewater Landing **	0	0	134	134	0.0%	100.0%
English Jim's Marina	85	60	0	0	70.5%	0.0%
Fishin' Cove	15	15	90	90	100.0%	100.0%
Gerry's Marina	15	15	0	0	100.0%	0.0%
Goodrich Seafood *	0	0	0	0	0.0%	0.0%
Halifax Harbor Marina	560	532	49	49	95.0%	100.0%
Halifax Harbor Yacht Club	39	36	0	0	92.3%	0.0%
Howard's Bait and Tackle	7	5	0	0	71.4%	0.0%
Indian Mound Fish Camp	0	0	0	0	0.0%	0.0%
Inlet Cove	11	11	0	0	100.0%	0.0%
Inlet Harbor (95" was Ponce D.W. Landing)	45	39	230	225	86.6%	97.8%
Inlet Marina Condo **	64	64	0	0	100.0%	0.0%
J.B's Fish Camp **	8	2	0	0	25.0%	0.0%
King's Seafood **	11	11	0	0	100.0%	0.0%
Lefil's Fish Camp	25	13	0	0	52.0%	0.0%
Lighthouse Boat Yard	23	23	0	0	100.0%	0.0%
Lopez Fish Camp	49	19	0	0	38.8%	0.0%
Marina Bay Condo **	16	3	0	0	18.8%	0.0%
Marina Point Condo **	37	34	0	0	91.9%	0.0%
Marina Port Orange	40	40	20	10	100.0%	50.0%
Marker 33 **	38	24	0	0	63.2%	0.0%
Matthew's Marina (95" was Images Marine)	20	16	0	0	80.0%	0.0%
Riverplace 100 **	8	5	0	0	62.5%	0.0%
Riverview Hotel **	8	3	0	0	37.5%	0.0%
Sea Harvest **	0	0	0	0	0.0%	0.0%
Seabreeze Bridge **	60	56	0	0	93.3%	0.0%
Seven Seas Marina	40	40	68	68	100.0%	100.0%
Symrna Yacht Club	77	67	0	0	87.0%	0.0%
The Fishin' Store (95" was Seafarer Marine)	6	6	0	0	100.0%	0.0%
Thirty Eight Live Bait **	18	18	1	0	100.0%	0.0%
Tomoka Boat Club	31	14	24	24	45.2%	100.0%
Venetian Villas	28	14	0	0	50.0%	0.0%
Waterway East and West Condo	12	6	0	0	50.0%	0.0%
Totals/ICW Wet/Dry Occupancy:	2139	1832	726	696	86%	96%
* Not in operation in 2001 - see 1995 data						
** Not surveyed in 1995						
The final percentages in the % Wet Occ. and % Dry Occ. columns were arrived at by using the final totals for numbers of wet and dry slips.						

Volusia County Study Area Marina Capacity 2 2001						
Halifax and Indian Rivers						
Marina	Wet Slips	Wet Slips Occ.	Dry Slips	Dry Slips Occ.	% Wet Occ.	% Dry Occ.
Adventure Yacht Club	150	150	0	0	100.0%	0.0%
Aloha Marina *	0	0	0	0	0.0%	0.0%
Angler's Yacht Club	17	12	10	8	70.5%	80.0%
Aunt Catfish **	10	7	0	0	70.0%	0.0%
Bouchelle Island Condo **	85	31	30	18	36.4%	60.0%
Brigadoon Fish Camp *	0	0	0	0	0.0%	0.0%
Cameroon's Marina	42	35	0	0	83.3%	0.0%
Captain's Quarter Condo	4	4	0	0	100.0%	0.0%
Causeway Marina	40	40	70	70	100.0%	100.0%
City of New Smyrna Beach Marina	40	40	0	0	100.0%	0.0%
Critter Fleet	10	7	0	0	70.0%	0.0%
Daytona Beach Riverhouse **	10	10	0	0	100.0%	0.0%
Daytona Marine and Boat Works	300	270	0	0	90.0%	0.0%
Diamond Head Point Condo **	35	35	0	0	100.0%	0.0%
Edgewater Landing **	0	0	134	134	0.0%	100.0%
English Jim's Marina	85	60	0	0	70.5%	0.0%
Fishin' Cove	15	15	90	90	100.0%	100.0%
Gerry's Marina	15	15	0	0	100.0%	0.0%
Goodrich Seafood *	0	0	0	0	0.0%	0.0%
Halifax Harbor Marina	560	532	49	49	95.0%	100.0%
Halifax Harbor Yacht Club	39	36	0	0	92.3%	0.0%
Howard's Bait and Tackle	7	5	0	0	71.4%	0.0%
Indian Mound Fish Camp	0	0	0	0	0.0%	0.0%
Inlet Cove	11	11	0	0	100.0%	0.0%
Inlet Harbor (95" was Ponce D.W. Landing)	45	39	230	225	86.6%	97.8%
Inlet Marina Condo **	64	64	0	0	100.0%	0.0%
J.B's Fish Camp **	8	2	0	0	25.0%	0.0%
King's Seafood **	11	11	0	0	100.0%	0.0%
Lefil's	25	13	0	0	52.0%	0.0%
Lighthouse Boat Yard	23	23	0	0	100.0%	0.0%
Lopez Fish Camp	49	19	0	0	38.8%	0.0%
Marina Bay Condo **	16	3	0	0	18.8%	0.0%
Marina Point Condo **	37	34	0	0	91.9%	0.0%
Marina Port Orange	40	40	20	10	100.0%	50.0%
Marker 33 **	38	24	0	0	63.2%	0.0%
Matthew's Marina (95" was Images Marine)	20	16	0	0	80.0%	0.0%
Riverplace 100 **	8	5	0	0	62.5%	0.0%
Riverview Hotel **	8	3	0	0	37.5%	0.0%
Sea Harvest **	0	0	0	0	0.0%	0.0%
Seabreeze Bridge **	60	56	0	0	93.3%	0.0%
Seven Seas Marina	40	40	68	68	100.0%	100.0%
Symrna Yacht Club	77	67	0	0	87.0%	0.0%
The Fishin' Store (95" was Seafarer Marine)	6	6	0	0	100.0%	0.0%
Thirty Eight Live Bait **	18	18	1	0	100.0%	0.0%
Tomoka Boat Club	31	14	24	24	45.2%	100.0%
Venetian Villas	28	14	0	0	50.0%	0.0%
Waterway East and West Condo	12	6	0	0	50.0%	0.0%
Totals/ICW Wet/Dry Occupancy:	2139	1832	726	696	86%	96%
* Not in operation in 2001 - see 1995 data						
** Not surveyed in 1995						
<i>The final percentages in the % Wet Occ. and % Dry Occ. columns were arrived at by using the final totals for numbers of wet and dry slips.</i>						

ICW And St. Johns Combined Totals And Slip Occupancy Rate 2001

Area Of Focus	Wet and Dry Supply	Wet and Dry Demand	Slip Occupancy Rate
Marinas Surveyed Halifax/Indian Rivers	2865	2528	88%
Marinas Surveyed St. Johns River	2889	2098	73%
Combined	5754	4626	80%
Study Area Halifax/Indian Rivers	2865	2528	88%
Study Area St. Johns River	1321	836	63%
Combined	4186	3364	80%

Volusia County Boater Registration Projections 2000 - 2020

Year	Registered Boats	%	SJR Demand	ICW Demand	Projected Demand	2001 Supply	Surplus Deficit
2000	24,202	13.8	835	2,505	3,340	4,176	836
2005	27,604	13.8	952	2,857	3,809	4,176	367
2010	31,484	13.8	1,086	3,259	4,345	4,176	-169
2015	35,909	13.8	1,239	3,717	4,955	4,176	-779
2020	40,956	13.8	1,413	4,239	5,652	4,176	-1,476

* The above table represents projected values. Actual 2000 figures are as follows: SJR demand is 836, the ICW is 2,518. Wet and dry demand is 3,354. 2000 supply is 4,176, and surplus is 822.

Marina Supply and Demand ICW

Year	Projected Demand	2000 supply	Surplus Deficit
2000	2505	2855	350
2005	2857	2855	-2
2010	3259	2855	-404
2015	3717	2855	-862
2020	4239	2855	-1384

Marina Supply and Demand SJR

Year	Projected Demand	2000 Supply	Surplus Deficit
2000	835	1,321	486
2005	952	1,321	369
2010	1,086	1,321	235
2015	1,239	1,321	82
2020	1,413	1,321	-92

Available Marina Facilities In Volusia County 1995 - Table 19

ICW			
Marina Name	Wet Slips	Dry Slips	
Adventure Yacht Harbor	137	0	
Aloha Marine	13	80	
Angler's Yacht Club	41	20	
Aunt Catfish Restaurant	10	0	
Brigadoon's Fish Camp	10	0	
Cameron's Marina	30	6	
Causeway Marina	36	80	
City of New Smyrna Beach Marina	42	0	
Daytona Beach Marina and Boat Works	100	0	
Dixie Queen Landing	67	0	
English Jim's Marina	80	20	
Fishin' Cove Marina	15	80	
Gerry's Marina	14	0	
Halifax Harbor Marina	522	0	
Halifax River Yacht Club	33	0	
Howard's Bait and Tackle	7	0	
Images Marina	25	0	
Inlet Cove Marina	10	0	
Lighthouse Boat Yard	21	12	
Lopez Fish Camp/ RV Park	34	0	
Marina Port Orange	40	0	
Ponce Deepwater Landing	54	225	
Red's Bait and Tackle	12	0	
Seven Seas Marina	40	100	
Smyrna Yacht Club	54	0	
Tomoka Boat Club	33	10	
Totals:	1480	633	
SJR			
Marina Name	Wet Slips	Dry Slips	
Blair's Jungle Den	20	0	
Boat Show Marina	175	60	
Hall's Lodge	65	0	
Highbanks Marina	72	25	
Highland Park Fish Camp	89	76	
Holly Bluff Marina	55	10	
Hontoon Landing Marina	52	0	
Kyp's Fish Camp	20	0	
Lake Beresford Yacht Club	49	0	
North Shell Fish Camp	11	0	
Paramore's Campground	34	0	
Pine Island Marina	26	0	
Riviera Resort and Marina	120	0	
South Moon Fish Camp	30	0	
Sunrise Fish Camp	41	0	
Tedder's Fish Camp	15	0	
Tropical Apartments and Marina	51	4	
Volusia Bar Fish Camp	45	0	
Totals:	970	175	
Grand Totals:	2450	808	

Available Boat Ramp Facilities In 2001 Halifax/Indian River Study Area								
All Ramps Surveyed	#Ramps	#Lanes	Public Ramps Surveyed	#Ramps	#Lanes	Private Ramps Surveyed	#Ramps	#Lanes
Bethune Point	1	2	Bethune Point	1	2	Bouchelle Island	1	1
Bisset Bay	1	1	Bisset Bay	1	1	Edgewater Landing	1	1
Bouchelle Island	1	1	Cameron's Marina	1	1	Hacienda Del Rio	1	1
Cameron's Marina	1	1	Canaveral National Seashore **	1	2	Marina Port Orange **	1	1
Canaveral National Seashore **	1	2	City Island Park	1	1	Saw Grass Subdivision	1	1
City Island Park	1	1	Goodrich Seafood *	1	1	Tomoka View **	1	1
Edgewater Landing	1	1	Granada Bridge	2	4	Tierra Mar **	1	1
Goodrich Seafood *	1	1	Halifax Harbor Marina	1	8	Unnamed Ramp - private	1	1
Granada Bridge	2	4	Highbridge	1	2	Totals:	8	8
Hacienda Del Rio	1	1	Indian Mound	1	1			
Halifax Harbor Marina	1	8	Inlet Harbor ***	1	1			
Highbridge	1	2	J.B's Fish Camp *	1	1			
Indian Mound	1	1	Kennedy Memorial Park	1	6			
Inlet Harbor ***	1	1	Lighthouse Park	1	2			
J.B's Fish Camp *	1	1	Lefill's Fish Camp **	1	1			
Kennedy Memorial Park	1	6	Lopez Fish Camp	1	1			
Lighthouse Park	1	2	Menard May Park	1	2			
Lefill's Fish Camp	1	1	N. Causeway Park	2	8			
Lopez Fish Camp	1	1	Port Orange Causeway I	3	6			
Marina Port Orange **	1	1	Port Orange Causeway II	1	1			
Menard May Park	1	2	River Breeze Park **	1	4			
N. Causeway Park	2	8	River Front Veterans Park	1	2			
Port Orange Causeway I	3	6	Sanchez Park	1	2			
Port Orange Causeway II	1	1	Seabreeze Bridge **	5	5			
River Breeze Park **	1	4	Sunrise Park	1	1			
River Front Veterans Park	1	2	Tomoka Estates	1	1			
Sanchez Park	1	2	Tomoka State Park	1	1			
Saw Grass Subdivision	1	1	Turtle Mound *	1	1			
Seabreeze Bridge **	5	5	Unnamed Dirt Ramp **	1	1			
Sunrise Park	1	1	Totals:	37	70			
Tierra Mar	1	1						
Tomoka Estates	1	1						
Tomoka State Park	1	1						
Tomoka View **	1	1						
Turtle Mound *	1	1						
Unnamed Dirt Ramp **	1	1						
Unnamed Ramp - private **	1	1						
Totals:	45	78						
								Riptide Bait & Tackle

* Ramp not operational

** Not surveyed in 1995

*** Previous property of Ponce Deepwater Landing - now Inlet Harbor and

Available Boat Ramp Facilities in 2001 St. Johns River Study Area								
All Ramps Surveyed	#Ramps	#Lanes	Public Ramps Surveyed	#Ramps	#Lanes	Private Ramps Surveyed	#Ramps	#Lanes
Blair's Jungle Den *	1	1	Blair's Jungle Den *	1	1	Lakeview Terrace	1	1
Boat Show Marina *	2	2	Boat Show Marina *	2	2	Meadowlea on the River ***	1	1
DeLeon Springs State Park	1	1	DeLeon Springs State Park	1	1	River Oaks Estates ***	1	1
Ed Stone Park	1	6	Ed Stone Park	1	6	Stone Island Ramp	1	1
Florida Power & Light Ramp	1	1	Florida Power & Light Ramp	1	1	Totals:	4	4
French Avenue Ramp	1	1	French Avenue Ramp	1	1			
Hall's Lodge *	1	1	Hall's Lodge *	1	1			
Highland Park Fish Camp *	1	2	Highland Park Fish Camp *	1	2			
Highland Park Remote	1	1	Highland Park Remote	1	1			
Highbank's Ramp	1	1	Highbank's Ramp	1	1			
Holly Bluff Marina *	1	1	Holly Bluff Marina *	1	1			
Hontoon Landing Marina *	1	1	Hontoon Landing Marina *	1	1			
Kyp's Fish Camp **	1	1	Kyp's Fish Camp **	1	1			
Lake Beresford Yacht Club	1	1	Lake Beresford Yacht Club	1	1			
Lake Monroe Park	2	4	Lake Monroe Park	2	4			
Lake Monroe Wayside Ramp	1	2	Lake Monroe Wayside Ramp	1	2			
Lakeview Terrace	1	1	Lemon Bluff Ramp	1	2			
Lemon Bluff Ramp	1	2	Mariner's Cove Park	1	1			
Mariner's Cove Park	1	1	Nine Mile Ramp	1	1			
Meadowlea on the River ***	1	1	North Shell Fish Camp *	1	1			
Nine Mile Ramp	1	1	Paramore's Campground *	1	1			
North Shell Fish Camp *	1	1	Pine Island Marina	1	1			
Paramore's Campground *	1	1	Riverfront Park ***	1	1			
Pine Island Marina	1	1	Riviera Resort & Marina	1	1			
Riverfront Park ***	1	1	Shady Oak Fish Camp	1	1			
River Oaks Estates ***	1	1	Shell Harbor Ramp	1	1			
Riviera Resort & Marina	1	1	South Moon Fish Camp	1	1			
Shady Oak Fish Camp	1	1	Sunrise Fish Camp	1	1			
Shell Harbor Ramp	1	1	Tedder's Fish Camp	1	1			
South Moon Fish Camp	1	1	Tropical Apts. & Marina	1	1			
Stone Island Ramp	1	1	Volusia Bar Fish Camp	1	1			
Sunrise Fish Camp	1	1	Totals:	33	43			
Tedder's Fish Camp	1	1						
Tropical Apts. & Marina	1	1						
Volusia Bar Fish Camp	1	1						
Totals:	37	47						

*Data collected by 2001 marina surveys

** Ramp not operational in 2001

*** New ramp not surveyed in 1995

The following is excerpted from the Volusia County Boating Activity Study, Final Report, July 1996.

Mosquito Lagoon was the most popular boating destination on the ICW. The majority of the boats in this area are Class A and Class I power boats engaged in recreational fishing. The data to support this was gathered primarily from the aerial surveys and from ramp interviews at two ramps: Haulover Canal ramp and Turtle Mound ramp. In addition, boat ramp trailer census data from the Kennedy Park ramp in Edgewater revealed heavy usage. These three ramps provide direct access to Mosquito Lagoon. The fishing takes place on the west side of the ICW channel and the vast expanse to the east of the channel. The east side of the channel is commonly referred to as the "back country." (Section 5, Intracoastal Waterway Data Analysis, 5.5 Spatial Analysis, page 110.)

The second most popular destination is Ponce Inlet. This area has several unique features that are important to boaters. First, it is the only access to the ocean for more than 60 miles north or south. All types of craft utilize the inlet to access the ocean for recreational and commercial fishing, as well as offshore sailing. The inlet area has a concentration of large, commercial fishing boats (Class 3) that engage in commercial fishing, as well as fishing charters for recreational fishermen. (Section 5, Intracoastal Waterway Data Analysis, 5.5 Spatial Analysis, page 110.)

The next most popular destination is the Tomoka River/Tomoka Basin. The basin is used primarily for recreational fishing, while the river is used for a variety of activities, such as recreational fishing and water-skiing. In addition, Tomoka State Park is located on the river and is used by boaters for picnicking and accessing the park's other features. The primary types of boats that frequent this area are Class A and Class I powerboats and pontoon boats. (Section 5, Intracoastal Waterway Data Analysis, 5.5 Spatial Analysis, page 111.)

Silver Glen Springs was the most common destination for boaters on the SJR, especially in the summer (791 observations.) Over one hundred boats have been observed in this area at one time using aerial surveys. A total of 291 boaters out of 815 who were interviewed named this site as their destination. The majority of boaters launching from the two ramps in Astor (Butler Street and Midway Marine) indicated during the interviews that their destination was Silver Glen Springs. In addition, boaters interviewed at Ed Stone Park ramp in DeLand also indicated that this was their destination. Aerial survey data supports the interview survey data that boat traffic is very heavy on weekends leading to/from Astor and Silver Glen Springs (617 observations.) The types of boats observed at Silver Glen Springs covered all categories, from Class 3 houseboats to personal watercraft. The other unique factor about this location is the number of boaters who stayed at the springs on their boats all weekend. This was the only location on either water body that had this type of boating activity. (Section 6, St. Johns River Data Analysis, 6.5 Spatial Analysis, page 120.)

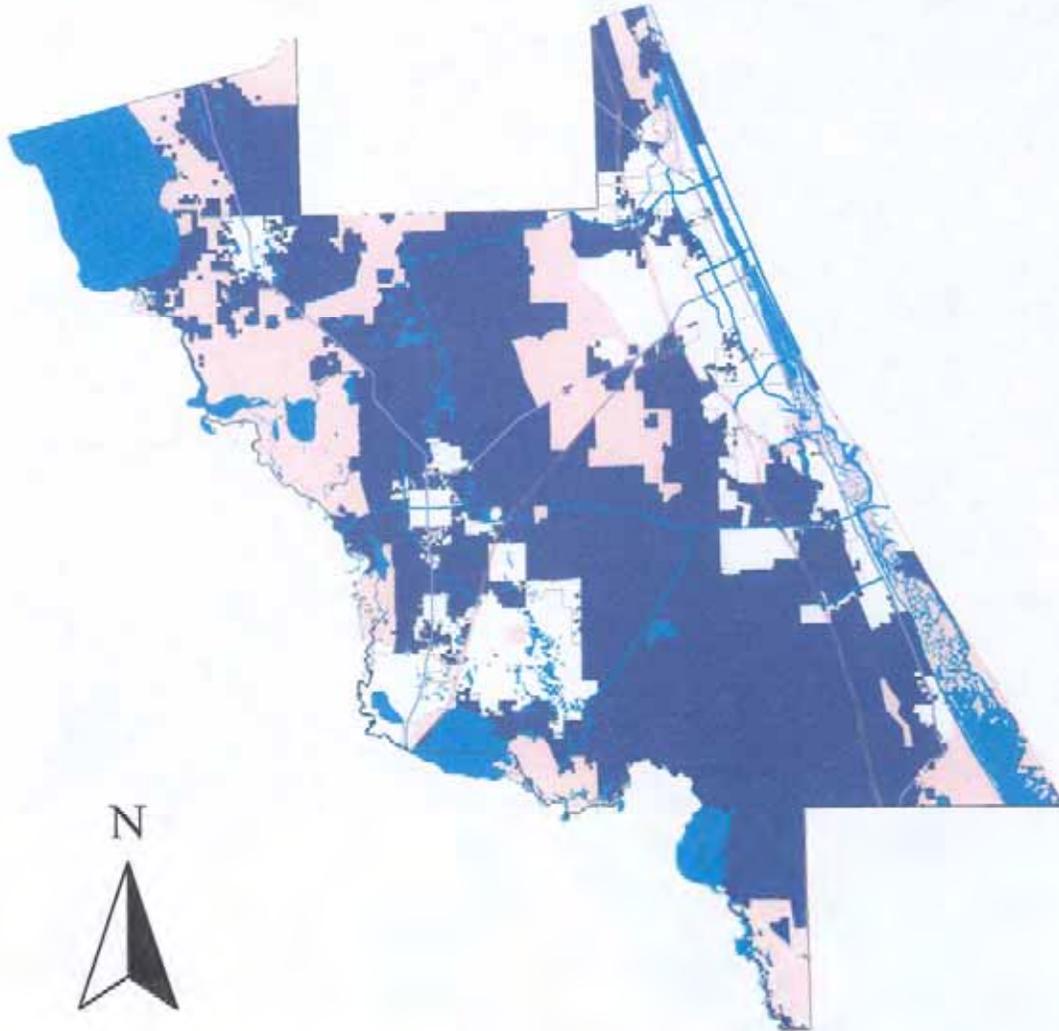
Other major destinations on the SJR included Blue Spring State Park, Hontoon Island State Park, and the Wekiva River. Blue Spring is a popular destination for picnicking and swimming in the summer and for observing manatees during the winter (159 observations.) Hontoon Island is a popular picnicking destination, and Wekiva Springs is a popular swimming and travelling destination. (Section 6, St. Johns River Data Analysis, 6.5 Spatial Analysis, page 123.)

**Volusia County Boating Activity Study,
Final Report, July 1996**

Available Upon Request

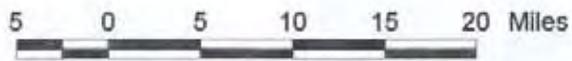
**Attachment O: Map of Unincorporated Volusia
County**

Unincorporated Volusia County



Environmental Lands

Unincorporated Volusia County 



Map is for illustrative purposes only.

**Attachment P: Recommendations to the Governor
and Cabinet, 1989**

Attachment K

MANATEE PROTECTION PLAN GUIDELINES

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

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

Necessary components of a manatee protection plan are:

An Information Base

- a. location and capacity of all marina facilities (including dry storage) in the county (proposed and existing);
- b. location of all boat ramps in the county (proposed and existing);
- c. boating activity patterns, including travel routes and major destination areas;
- d. manatee sighting information for the county;
- e. manatee mortality information for the county;
- f. any aquatic preserves, Outstanding Florida Waters or other refuge/reserve information;
- g. port facility information;

- h. location of significant habitat resources, such as grass beds, warm water discharges and fresh water sources;
- i. location of manatee protection and boating safety speed zones in the county (proposed and existing);
- j. location of manatee information displays; and
- k. other relevant data as determined by the Department of Natural Resources.

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

- a. boating expansion criteria;
- 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;
- c. a plan for marking navigation channels in currently unmarked waterways used by manatees;
- d. new or expanded speed zones, refuges or sanctuaries for the regulation of boat speeds in critical manatee areas;
- e. installation of manatee educational displays at all boating facilities;
- 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;
- g. inclusion of manatee and marine habitat educational material in the county school board's elementary, middle school and high school curricula;
- h. development of appropriate aquatic plant control methods in manatee areas;
- i. identification of land acquisition projects to increase refuges, reserves, and preserves for manatee protection; and
- j. other actions as specified by the Department of Natural Resources.

Attachment Q: Volusia County Zoning Classifications

SPECIFIC TYPES OF MARINAS

<p>Commercial/Recreational Marina: A watercraft complex on and/or adjacent to a waterway which provides services available to the general public and which provides docking for vessels of private, non-residential usage and which are not associated with a subdivision, condominium, duplex, or other multi-family development. Permitted uses may include: rental of wetslips or dry storage space and associated utilities and boat lifting and/or launching, boat rentals, sale of marine fuel and lubricants, wastewater pump-out facilities, sale of fishing bait and equipment, charter boat operations, and/or providing for minor repair services for watercraft, not involving removal of watercraft from the water or removal of inboard or outboard engines from the watercraft. Accessory service uses may include on-shore restaurants and bars, hotels or motels and may also include charter fishing, eco-tours and off-shore casino tours.</p>	<p>This would include commercial marinas, dry storage and boat launching facilities. It also includes restaurants, bars, hotels, motels, charter fishing, eco-tours, and casino tours that have boat mooring capabilities associated with them.</p>
<p>Industrial Marina: Facilities serving largely commercial interests, including commercial boat building, ship repairs or construction, and commercial seafood harvesting and processing. Permitted uses may include fueling facilities, repairs and construction, boat production, ship repairs up to 100' or 100 tons, wastewater pump-out facilities, utilities, and commercial sales of fish and farmed/harvested seafood.</p>	<p>Includes commercial boat building, ship repairs, commercial seafood harvesting, processing and sales.</p>
<p>Residential Marina: Community docks of five or more boat slips serving subdivisions, condominiums, duplexes, or other multi-family developments. No fueling or repair facilities shall be associated with these marinas. A <u>private</u> residential marina contains wet slips and/or dry slips used only as accessory to a principal multi-family development use. A <u>public/private</u> residential marina has a portion of its wet slips and/or dry slips designated for rental by the general public, with the remaining wet slips and/or dry slips used accessory to a principal multi-family development use.</p>	<p>Includes condos, subdivisions, duplexes and other multi-family developments.</p>
<p>Boat Ramp: A structural, natural or man-made feature that facilitates the launching and landing of boats into a waterbody. A lane is part of a boat ramp that allows for the launching and landing of one boat at a time. A boat ramp can have more than one lane.</p>	<p>A structural, natural or man-made feature that facilitates the launching and landing of boats into a waterbody.</p>

ZONING CLASSIFICATION MATRIX

ZONE	Commercial Marinas	Residential Marinas	Industrial Boatyard	Dry Storage	Boat Ramps	Restaurants
C					X	
RC						
FR	X	X			X	
A-1					X	
A-2					X	
A-4					X	
					X	
					X	
RA		X			X	
RE		X			X	
R-1		X			X	
R-2		X			X	
R-3		X			X	
R-4		X			X	
R-5		X			X	
R-6		X			X	
R-7		X			X	
R-8		X			X	
R-9		X			X	
RPUD		X			X	
MH-1		X			X	
MH-2		X			X	
MH-3		X			X	
MH-4		X			X	
MH-5		X			X	
MH-6		X			X	
MH-7		X			X	
MH-8		X			X	
B-1						
B-2						
B-3						X
B-4						X
B-5				X		X
B-6						
B-7	X			X	X	X
B-8						X
B-9						
BPUD	X		X	X		X
I-1						
I-2						
I-3	X		X	X	X	
I-4						
IPUD	X		X	X	X	

ZONING CLASSIFICATION SUMMARY
SHEET

This is only a summary of the zoning classifications contained within the Volusia County Zoning Ordinance. The Zoning Ordinance should be consulted for complete listing of permitted principal uses, special exception uses, and dimensional standards for each classification. The minimum lot area and minimum residence floor area for residences is provided for each classification below.

Zoning
Classifications

Purpose & Intent.

C
Conservation

This classification is to be applied to certain lands which are either owned or controlled by a government agency, but it may be applied to privately owned lands upon request of the owner. It is the purpose of this classification to protect and preserve park and recreation areas; historic and archaeological sites; fishing, wildlife, and forest management areas, and other unusual or unique features.
(no minimum lot size)

FR
Forestry Resource

This classification is to preserve land that is suited for multiple-use forest management. It is further intended that this classification may permit other compatible agricultural activities and limited personal agricultural production ancillary to the residential use of a lot. Single family residence or mobile home is a principal use.
(20 acres per lot - minimum floor area 750 sq. ft.)

RC
Resource Corridor

This classification is to provide protected, natural corridors consisting of environmentally sensitive and ecologically significant lands which connect to other protected areas such as parks and water bodies. The corridor shall provide a contiguous hydroecological pathway, where the wetlands and uplands are integrated and conducive to the maintenance and perpetuation of the system. Single family residence is a principal use.
(25 acres per lot - minimum floor area 750 sq. ft.)

A-1
Agriculture

This classification is to preserve valuable Prime agricultural land for intensive agricultural uses, and to protect land best suited for agricultural uses from the encroachment of incompatible land uses. Single family residence or mobile home is a principal use.
(10 acres per lot - minimum floor area 750 sq. ft.)

A-2
Agriculture

This classification is to preserve and protect rural areas of the county that have some agricultural value, but which are also suitable for rural estate living. A single family residence is a permitted principal use.
(5 acres per lot - minimum floor area 750 sq. ft.)

**A-3
Transitional
Agriculture**

This classification is to preserve and protect small farms for personal and limited agricultural production or to provide a transitional agricultural zone between more intensive agricultural use areas and residential areas. It is intended that this classification be applied to properties which are within a designated rural community, to preserve existing agricultural uses in urban areas as depicted by the comprehensive plan, or to properties so as to coincide with the existing character of an area in a manner consistent with the comprehensive plan. A single family residence is a principal use.

(1 acre per lot - minimum floor area 1000 sq. ft.)

**RA
Rural
Agricultural
Estate**

This classification is to provide for development, consistent with the comprehensive plan, in rural areas of the county. These lands are unsuited generally for commercial agricultural production because of odd lot configurations, undeveloped platted subdivisions, poor soil conditions, or lack of positive drainage outfall. Despite these facts there are some suitable sites for single-family dwellings and personal agricultural production. A single family residence is a principal use.

(2 1/2 acres per lot - minimum floor area 1000 sq. ft.)

**RR
Rural Residential**

This classification is to provide for development, in a manner which is consistent with the comprehensive plan, in rural areas of the county. A single family residence is a principal use.

(1 acre per lot - minimum floor area 1000 sq. ft.)

**R-1 & R-2
Urban Single-
Family
Residential**

These classifications are to provide low-density residential developments, preserving the character of existing or proposed residential neighborhoods.

A single family residence is a principal use.
(R-1, 20,000 sq. ft. lot - minimum floor area 1500 sq. ft.)

(R-2, 12,500 sq. ft. lot - minimum floor area 1200 sq. ft.)

**R-3
Urban Single-
Family
Residential**

This classification, is to provide medium-low-density residential developments, preserving the character of existing or proposed residential neighborhoods. A single family residence is a principal use.

(10,000 sq. ft. lot - minimum floor area 1000 sq. ft.)

**R-4 & R-5
Urban Single-
Family
Residential**

These classifications are to provide medium-density residential developments, preserving the character of existing or proposed residential neighborhoods. Single family residence is a principal use.

(R-4, 7,500 sq. ft. lot - minimum floor area 850 sq. ft.)

(R-5, 6,000 sq. ft. lot - minimum floor area 750 sq. ft.)

<p>R-6 Urban Two-Family Residential</p>	<p>This classification is to provide for a mixture of one- and two-unit dwellings where that mixture of land use exists or is proposed. Single and two family dwellings are principal uses; multifamily development at a maximum density of 8 units per acre is a special exception. (Single Family - 7,500 sq. ft. lot) (Two-family - 11,000 sq. ft. lot) (Minimum floor area is 600 sq. ft.)</p>
<p>R-7 Urban Multifamily Residential</p>	<p>This classification is to provide for multifamily residential living where high-density residential developments exist or are proposed. Multifamily dwellings and townhouses are principal uses. (14 units per net acre of land)</p>
<p>R-8 Multifamily Residential</p>	<p>This classification is to provide for multifamily residential projects in urban areas of the county. Multifamily dwellings and townhouses are principal uses. (20 units per net acre of land)</p>
<p>R-9 Urban Single-Family Residential</p>	<p>This classification, is to provide for continued medium density single family dwelling residential development on existing platted lots. A single family residence is a principal use. (7,500 sq. ft. lot - minimum floor area 1000 sq. ft.)</p>
<p>MH-1 Mobile Home Park</p>	<p>This classification is to provide areas for the use and development of medium density mobile home parks. Mobile homes are principal uses. (Minimum park size 10 acres with a maximum density of 7 units per net acre of land - minimum floor area 480 sq. ft.)</p>
<p>MH-2 Mobile Home Park Recreational Vehicle Park</p>	<p>This classification is to provide areas for the use and development of medium density combined or and separate mobile home parks or recreational vehicle parks. Mobile homes and RVs are principal uses. (Minimum park size 10 acres with a maximum density of 7 units per net acre - minimum floor area 480 sq. ft. for mobile homes.)</p>
<p>MH-3 Rural Mobile Home</p>	<p>This classification is to provide areas for low-density mobile home dwellings. A single family residence or mobile home is a principal use. (5 acres per lot - minimum floor area 720 sq. ft.)</p>
<p>MH-4 Rural Mobile Home</p>	<p>This classification is to provide for development, in a manner which is consistent with the comprehensive plan, in rural areas of the county and to accommodate existing areas that are predominantly a mixture of single-family and mobile home dwellings. Single family residence or mobile home is a principal use. (1 acre per lot - minimum floor area 720 sq. ft.)</p>

MH-5
Urban Mobile Home
Subdivision

This classification is to provide medium-density areas for mobile home subdivisions. Mobile home is a principal use. Single family residence is a special exception.
(6,000 sq. ft. per lot - minimum floor area 720 sq. ft.)

MH-6
Urban Mobile Home
Subdivision

This classification is to provide areas for low-medium mobile home subdivisions. Mobile home is a principal use.
(10,000 sq. ft. per lot - minimum floor area 720 sq. ft.)

MH-7
Mobile Home Park

This classification is to provide areas for the use and development of low-medium mobile home parks. (Minimum park size 10 acres with a maximum density of 4 units per net acre of land - minimum floor area 720 sq. ft.)

MH-8
Rural Mobile
Home Estate

This classification is to provide for development, consistent with the comprehensive plan, in rural areas of the county. These lands are unsuited generally for commercial agricultural production because of odd lot configurations, undeveloped but platted subdivisions, poor soil conditions, or lack of positive drainage outfall. Despite these facts there are some suitable sites for single-family dwellings and personal agricultural production. Single family residence or mobile home is a principal use.
(2 1/2 acres per lot - minimum floor area 750 sq. ft.)

B-1
Office,
Hospital-Medical

This classification is to provide areas for General professional and medical uses.
(minimum lot size - 20,000 sq. ft.)

B-2
Neighborhood
Commercial

This classification is to provide a limited commercial convenience facility, servicing nearby residential neighborhoods, planned and developed as an integral unit.
(minimum lot size - 20,000 sq. ft.)

B-3
Shopping
Center

This classification is to provide shopping centers where compatible business establishments will be planned, organized and grouped in a unified arrangement. Such centers should be designed of sufficient dimension to satisfy all off-street parking needs, and be located along major arterial streets, where the traffic generated can be accommodated in a manner consistent with the public health, welfare and safety.
(minimum project size - 10 acres)

B-4
General
Commercial

This classification is to encourage the development of intensive commercial areas providing a wide range of goods and services, and located adjoining at least one major collector or arterial road. The B-4 classification is intended to be applied to existing or developing strip retail areas which, because of the

	nature of existing development, are not appropriate for inclusion in the B-3 Shopping Center classification. (minimum lot size - 15,000 sq. ft.)
B-5 Heavy Commercial	This classification is to provide areas for commercial uses and structures that are not generally compatible with B-4 uses and structures. (minimum lot size 15,000 sq. ft.)
B-6 Highway Interchange Commercial	This classification is to provide a specialized classification for hotels, motels and tourist-related retail facilities near major highway interchanges. (minimum lot size 20,000 sq. ft.)
B-7 Commercial other Marina	This classification is to provide appropriate locations for pleasure or commercial boats and water-oriented facilities. Its application is primarily intended along the Halifax, Indian and St. Johns Rivers and other water bodies or watercourses. (minimum lot size 20,000 sq. ft.)
B-8 Tourist Classification	This classification is to provide areas for tourist-related uses and accommodations. The classification is a specialized one, designed to protect and enhance the tourist economy of the county. (minimum lot size 7,500 sq. ft.)
B-9 General Office	This classification is to provide areas for general office use. It is intended that this classification apply to suitable properties which are situated in urban areas to provide a transitional area between residential development and more intensive land uses. (minimum lot size 20,000 sq. ft.)
I-1 Light Industrial	This classification is to provide sufficient space in appropriate locations for industrial operations engaged in the fabricating, repair or storage of manufactured goods of such a nature that objectionable by-products of the activity (such as odors, smoke, dust, refuse, electro-magnetic interference, noise in excess of that customary to loading, unloading and handling of goods and materials) are not nuisances beyond the lot on which the facility is located. (minimum lot size 20,000 sq. ft.)
I-2 Heavy Industrial	This classification is to provide for industrial operations of all types, provided they meet the minimum performance standards of the zoning ordinance. (minimum lot size 20,000 sq. ft.)
I-3 Waterfront Industrial	This classification is to provide for and preserve land in appropriate locations for industrial uses which require or are particularly suited to a water location. (minimum lot size 20,000 sq. ft.)

**I-4
Industrial
Park**

This classification is to provide sites for planned industrial development which are capable of being operated under high standards as to location and appearance of buildings, and to provide opportunities for employment closer to places of residence.
(minimum park size - 10 acres)
(minimum lot size - 20,000 sq. ft.)

**PUD
Planned Unit
Development**

**R
Residential**

**B
Business**

**I
Industrial**

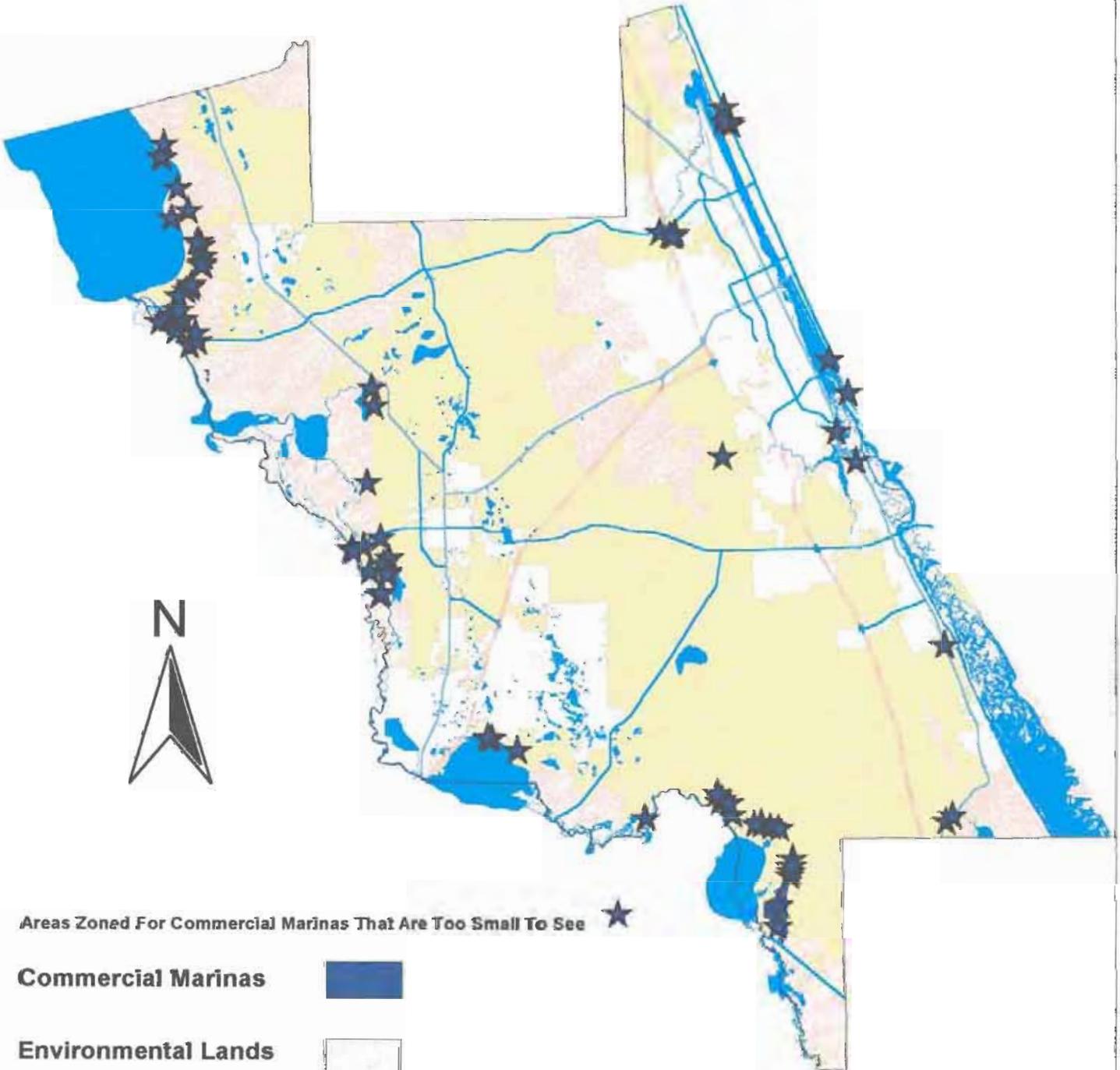
**M
Mixed Use**

This classification is to provide for integrated developments, which are consistent with the comprehensive plan, so as to promote a mixture of housing costs and types of economical and orderly development consisting of a single or a mixture of compatible land uses. Further, it is intended that a proposed development be sensitive to existing adjacent and future land uses as depicted by the future land use map of the comprehensive plan, the natural environment and the impact upon supporting public infrastructure through such mechanisms as, but not limited to, the establishment of appropriate buffer areas between land uses, limitations upon the types of permissible uses and structures which are to be permitted in the development.

The PUD Planned Unit Development Classification has been divided into four sub classifications. These sub-classifications are Residential, Business, Industrial and Mixed Use. Uses in each PUD must be listed in the Development Agreement and approved by the County Council.

(RPUD minimum parcel size - 5 acres)
(BPUD minimum parcel size - 20,000 sq. ft.)
(I or M minimum parcel size - 1 acre)

Unincorporated Volusia County Areas Zoned for Commercial Marinas



Areas Zoned For Commercial Marinas That Are Too Small To See ★

Commercial Marinas 

Environmental Lands 

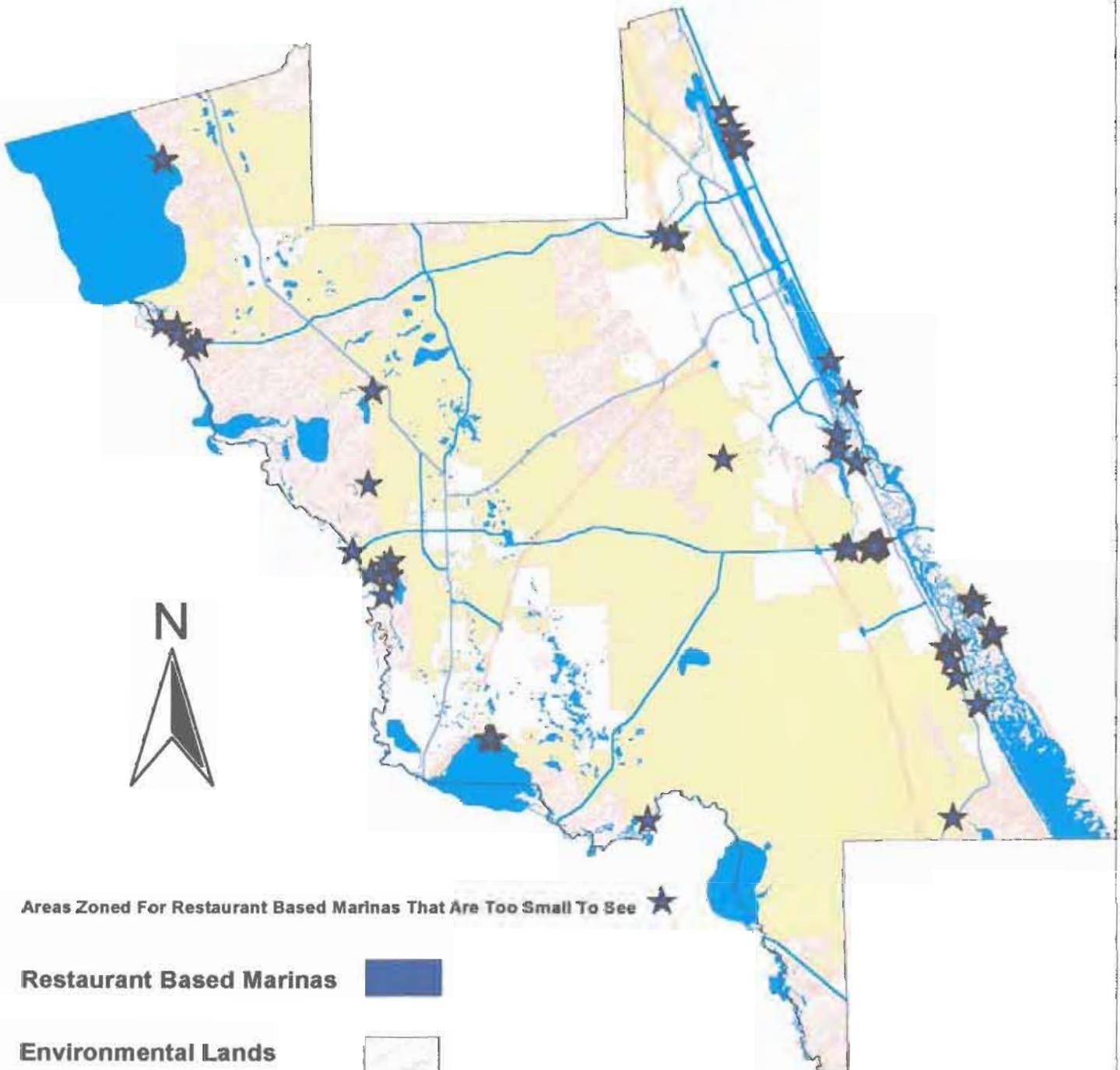
Incorporated Areas 



Map is for illustrative purposes only.
Actual zoning categories apply.

Unincorporated Volusia County

Areas Zoned for Restaurant Based Marinas



Areas Zoned For Restaurant Based Marinas That Are Too Small To See ★

Restaurant Based Marinas 

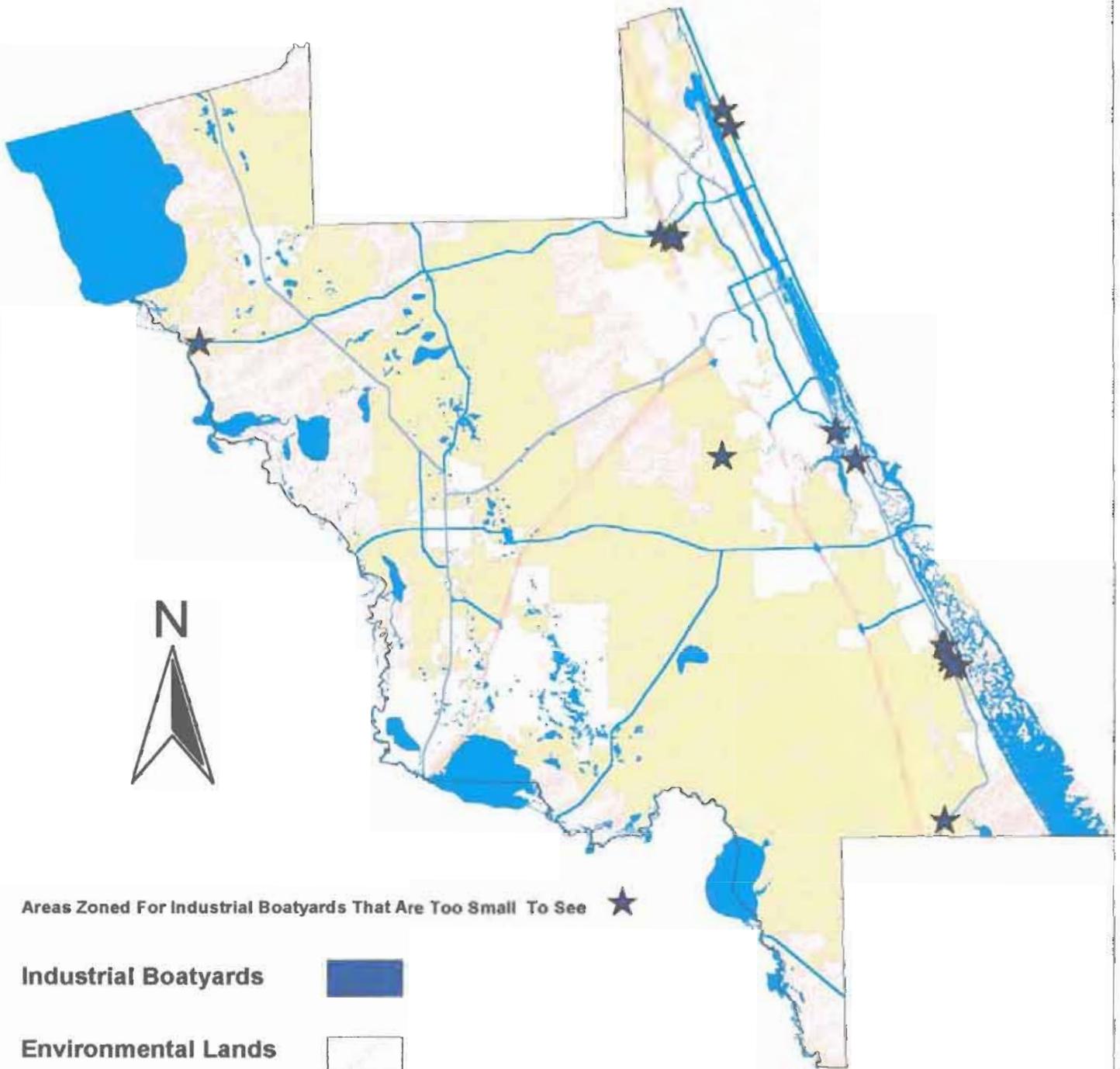
Environmental Lands 

Incorporated Areas 

5 0 5 10 15 Miles 

Map is for illustrative purposes only. Actual zoning categories apply.

Unincorporated Volusia County Areas Zoned for Industrial Boatyards



Areas Zoned For Industrial Boatyards That Are Too Small To See ★

Industrial Boatyards 

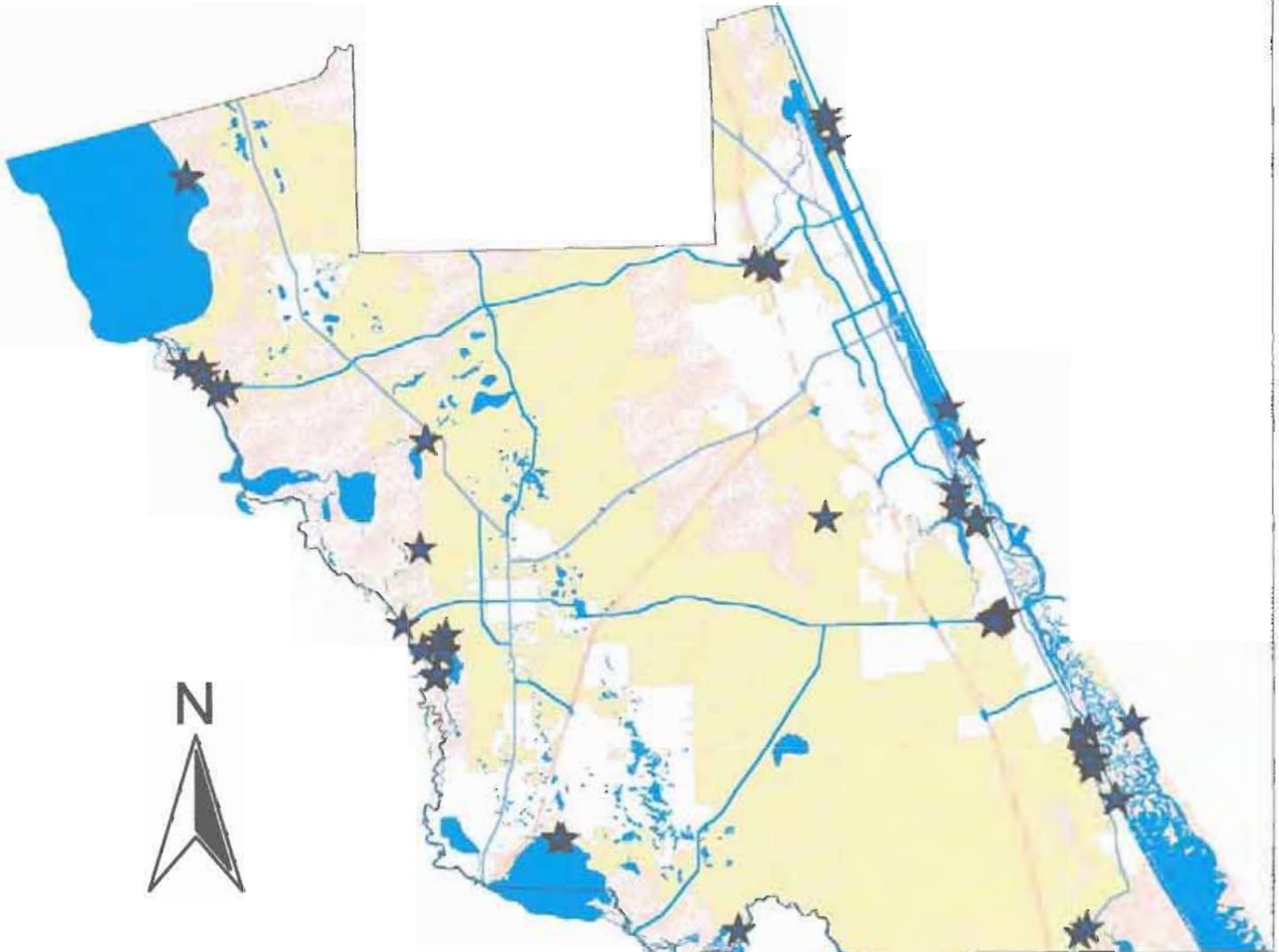
Environmental Lands 

Incorporated Areas 



Map is for illustrative purposes only.
Actual zoning categories apply.

Unincorporated Volusia County Areas Zoned for Dry Storage Facilities



Areas Zoned For Dry Storage That Are Too Small To See ★

Dry Storage Facilities 

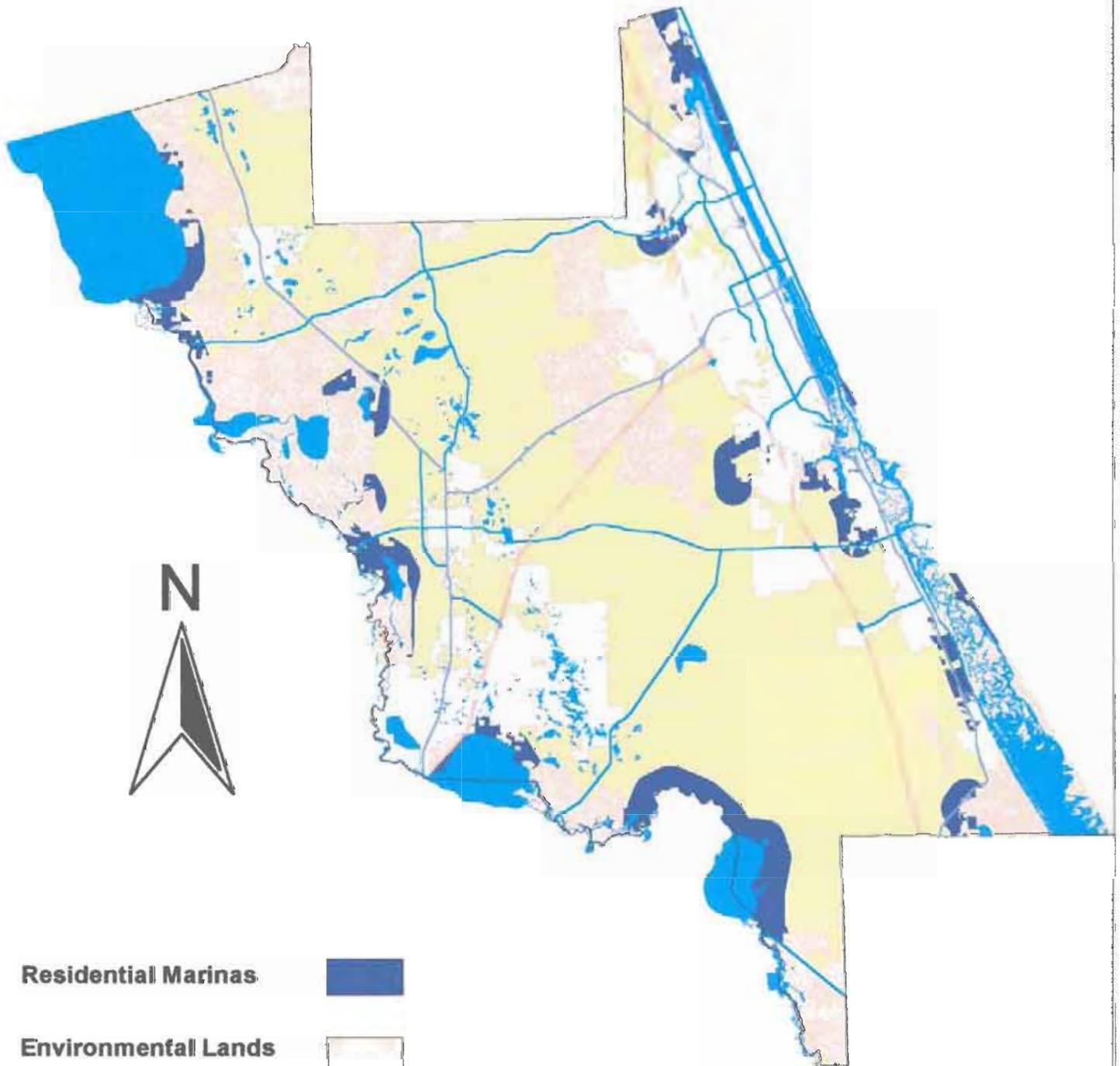
Environmental Lands 

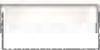
Incorporated Areas 

5 0 5 10 15 Miles


Map is for illustrative purposes only.
Actual zoning categories apply.

Unincorporated Volusia County Areas Zoned for Residential Marinas

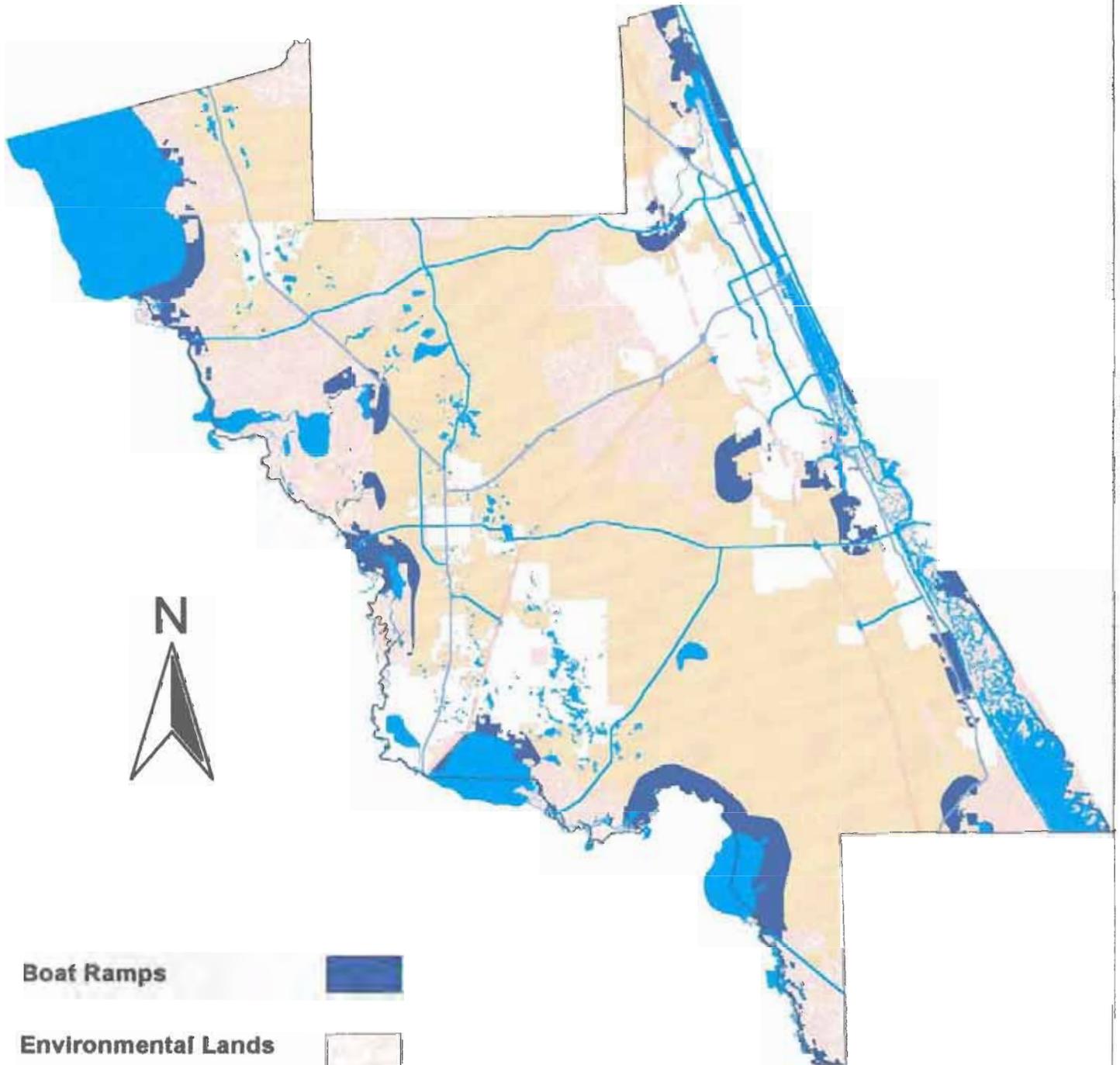


- Residential Marinas** 
- Environmental Lands** 
- Incorporated Areas** 

5 0 5 10 15 Miles



Unincorporated Volusia County Areas Zoned for Boat Ramps



Boaf Ramps 

Environmental Lands 

Incorporated Areas 

5 0 5 10 15 Miles



**Attachment R: Volusia County Project Application
Process and Flow Chart**

PROJECT APPLICATION PROCESS

This process describes the Flow Chart on the adjoining page. It is incumbent upon the applicant to follow appropriate county or city building requirements, procedures, and guidelines.

STEP 1

The applicant submits permit applications to the appropriate state and/or federal regulatory agencies. The regulatory agencies then forward these applications to the appropriate wildlife agencies for consultation on wildlife species and their habitats. The Florida Fish and Wildlife Conservation Commission (FWC) and the U.S. Fish and Wildlife Service (USFWS) provide comments on manatee impacts as a component of the environmental permitting process.

When the FWC or the USFWS receives an application for review, a letter of compliance from Volusia County Environmental Management (VCEM) will be requested from the applicant.

STEP 2

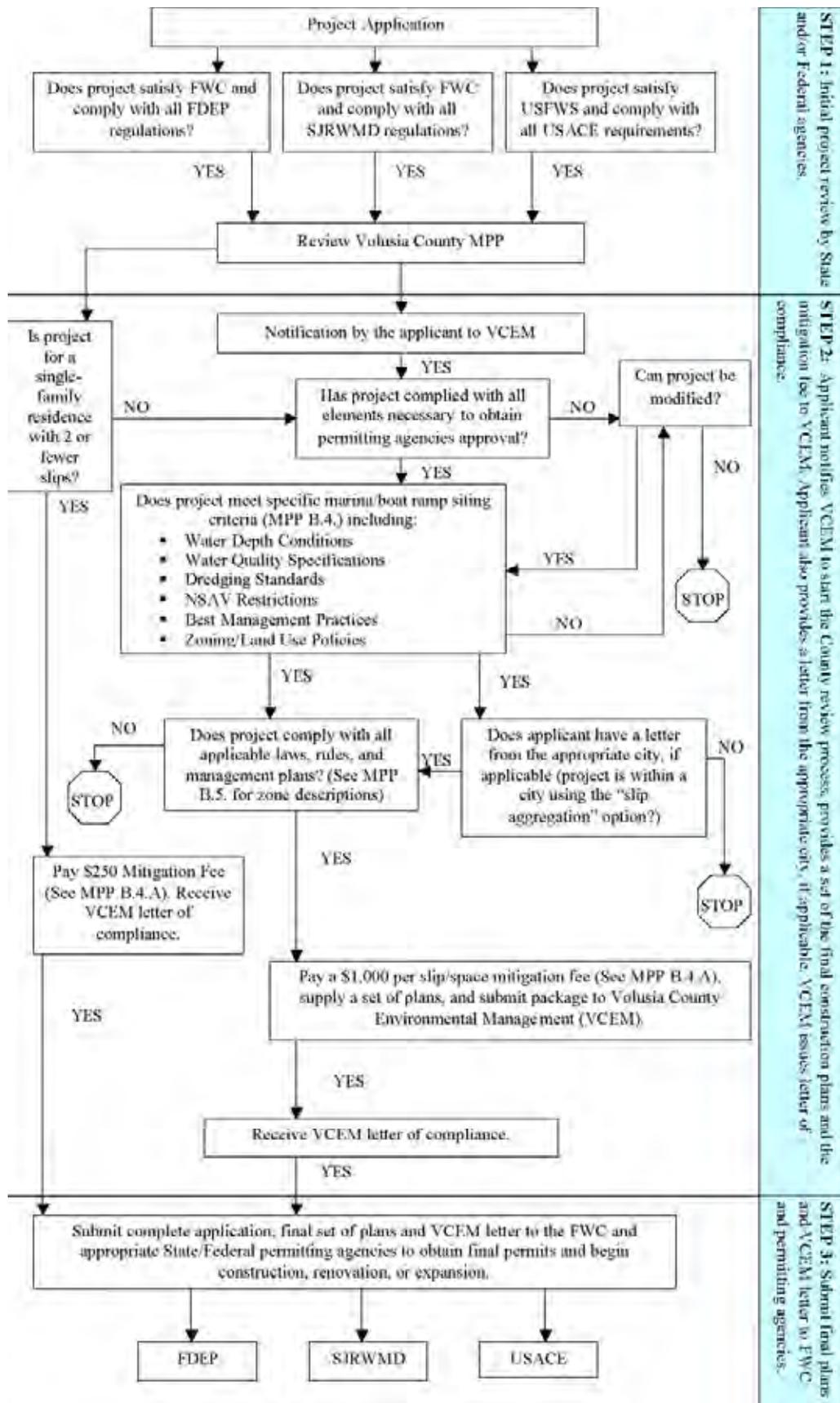
It is the applicant's responsibility to initiate contact with the county in order to start the county MPP review process. A set of construction plans (i.e. footprint, elevations and schematics), appropriate mitigation fees, and any other required city or regulatory agency documentation must be provided to VCEM by the applicant.

If a letter from a city is required (slip aggregation option) then this letter must also be provided to the county by the applicant. VCEM will then review the final set of construction plans and other documentation for compliance with the MPP requirements.

When VCEM determines that the project satisfies the MPP requirements, Volusia County will issue a letter of compliance to the applicant. It is the applicant's responsibility to then provide the letter of compliance to the appropriate state and/or federal wildlife agencies.

STEP 3

Following the evaluation of the application and any requests for additional information on the project, the FWC or USFWS may then issue their biological opinions.



Attachment S: Urban Supplement (City Specific Provisions)

Not Available