Appendix B

Environment

Sarasota County Comprehensive Plan

Sarasota County
Planning & Development Services
1660 Ringling Boulevard 1st Floor
Sarasota, FL 34236
Contact Telephone: 941-861-5140
Web Address: scgov.net
Fax Number: 941-861-5593
Email Address: **planner@scgov.net**

Table of Contents

Environment

Section 1: Charlotte Harbor Comprehensive Conservation and Management Plan 5

Section 2: The Sarasota Bay Comprehensive Conservation and Management Plan 8

Section 3: Water Quality Assessment - Sarasota County Drainage Basins 17

Section 4: Water-Dependent/Water Related Facilities 31

Section 5: Endangered, Threatened, And Species of Special 40

Section 6: Native Habitat Cross-Reference 46

THIS PAGE INTENTIONALLY BLANK

Environment

Section 1: Charlotte Harbor Comprehensive Conservation and Management Plan

It shall be the goal of Sarasota County, as a member of the Charlotte Harbor study area, to maintain and improve the functional and structural integrity of the natural estuarine ecosystems and related coastal components through coordinated management of human impacts in surrounding uplands and freshwater systems, and further, to identify and address the impacts of growth so as to minimize or eliminate any adverse effects on the Charlotte Harbor area. Sarasota County is represented on the Management Committee and the Policy Committee of the Charlotte Harbor National Estuary Program (CHNEP) established in 1995. The goals of the Program are as follows:

1. Improve the environmental integrity of the Charlotte Harbor study area;
2. Preserve, restore, and enhance sea grass beds, coastal wetlands, barrier beaches, and functionally related uplands;
3. Reduce point and non point sources of pollution to attain desired uses of the estuary;
4. Provide the proper freshwater inflow to the estuary to ensure a balanced and productive ecosystem;
5. Develop and implement a strategy for public participation and education; and
6. Develop and implement a formal Charlotte Harbor management plan with a specified structure and process for achieving goals for the estuary.

The sixth goal of developing a management plan has been completed. The Charlotte Harbor Comprehensive Conservation and Management Plan (CCMP) was developed and subsequently adopted on April 13, 2000. Its adoption has allowed the CHNEP to move forward with its implementation to restore and protect the estuary and its watershed.

The CCMP identifies and focuses on three priority problems that must be addressed for long-term management of the Harbor's resources and quality of life. These priority problems are as follows:

1. Hydrologic Alterations: Adverse changes to amounts, locations, and timing of freshwater flows; the hydrologic function of floodplain systems; and natural river flows
2. Water Quality Degradation: Sources include, but are not limited to, pollution from agricultural and urban runoff; point source discharges; septic tank system loadings; atmospheric deposition; and groundwater.

3. Fish and Wildlife Habitat Loss: Degradation and elimination of headwater streams and other habitats caused by development; conversion of natural shorelines; cumulative impacts of docks and boats; invasion of exotic species; and cumulative and future impacts.

A series of practical and technically defensible quantifiable objectives were developed to address specific problems associated with each of the three priority problems and the Program goals. The development of these quantifiable objectives supports the goals for preservation, restoration, and enhancement of the natural resources of the Charlotte Harbor NEP study area. The quantifiable objectives for each of the priority problems are listed below:

Hydraulic Alterations (HA)

HA-1: Establish values for minimum seasonal flows beginning with the Myakka River at State Road 72 and for Big Slough; the Peace River at Bartow, Zolfo Springs, and Arcadia; for the tributaries Horse Creek, Joshua Creek, and Shell Creek; and the lower Peace River/Upper Estuary by the year 2005. Achieve these minimum seasonal flows by the year 2020.

HA-2: Identify, establish, and maintain a more natural seasonal variation (annual hydrograph) in freshwater flows by the year 2010 for the Caloosahatchee River; the Upper Peace River and its tributaries from Tenoroc to Zolfo Springs; and the upper Myakka River (with special attention to Flatford Swamp).

HA-3: Restore, enhance, and improve where practical historic sub-basin boundaries And natural hydrology for basins within the CHNEP study area, with special attention to Outstanding Florida Waters (OFWs), Class I water bodies, and tributaries to Estero Bay by the year 2020.

HA-4: Enhance and improve by the year 2020 to more natural hydrologic conditions water bodies affected by artificially created structures throughout the CHNEP study area beginning with: the Sanibel Causeway; the Myakka River at the weir below Upper Myakka Lake; at the crossings below Lower Myakka Lake; and at Down's Dam; the causeway between Lover's Key State Recreation Area and Bonita Beach; the water control structure on the south end of Lake Hancock; the structure on Coral Creek; and the Gator Slough Canal collector system (Lee and Charlotte Counties).

Water Quality Degradation (WQ)

WQ-1: Identify those water bodies that do not meet their designated water quality standards and develop a plan during the year 2000 to meet those standards.

WQ-2: Develop Total Maximum Daily Loads (TMDLs) for the basins in the CHNEP study area by the year 2005.

WQ-3: Identify specific actions and develop timetables for achieving TMDLs by the year 2010.

WQ-4: Achieve water quality that will meet shellfish harvesting standards throughout the Class II waters of the CHNEP study area by the year 2015.

WQ-5: Restore and maintain Lake Hancock to Class III water quality standards (or better) and improve the Trophic State Index (TSI) value for the water exiting the lake from "poor" to "good" by the year 2010.

WQ-6: Meet or exceed designated water quality standards throughout basins of the CHNEP study area by the year 2015, with possible exceptions for natural and/or site-specific conditions.

WQ-7: Identify water bodies in the CHNEP study area that should be designated as OFWs and support the establishment of that designation during the year 2000.

Fish and Wildlife Habitat Loss (FW)

FW-1: Achieve a 25% increase in conservation, preservation, and stewardship lands within the boundaries of the CHNEP study area by the year 2018.

FW-2: Meet the stated objectives for the target extent, location, and quality of the following habitats in the CHNEP study area:

a) Native submerged aquatic vegetation (SAV) should be maintained and restored at a total extent and quality no less than caused by natural variation;

b) Maintain the existing extent and location with range of natural variability of inter-tidal un-vegetated habitats (especially mud flats and salt terns) and improve the habitat quality.

c) Manage natural mangrove habitats to their historic extent (1980) to enhance and improve their ecological functions and, where feasible, restore mangrove habitats in urban areas.

d) Restore and maintain saltwater marsh habitats where feasible (e.g. public lands or undeveloped areas) and prevent loss or conversion of existing salt marsh habitats.

e) Restore, maintain, and manage freshwater wetland systems in current extents and to a quality capable of maintaining all natural functions within the range of natural variability;

f) Restore, manage, and improve the habitat quality of oyster bars in the CHNEP study area based on the existing historic data; and

g) Protect, enhance, and restore native upland communities vital to the ecological function of the CHNEP study area.

FW-3: Reduce propeller damage to seagrass beds, identified from the 1992-1993 baseline data, within the CNHEP study area by the year 2010. Reduce all severely scarred areas to light scarring and reduce 70% or more of the moderately scarred areas to light scarring.

FW-4: On conservation, preservation, stewardship, and other public lands achieve controllable levels of invasive exotic plants as defined by the Florida Exotic Pest Council by the year 2020. Encourage and support the removal and management of invasive exotic plants on private lands.

The quantifiable objectives for each of the priority problems were used to develop priority actions that define the necessary management activities to attain those objectives. Projects to carry out the quantifiable objectives and priority actions to fulfill the goals of the CCMP have been developed and are being conducted by more than 40 organizations (Federal, State, County, and Municipal Agencies; Private Agencies, Not-for-Profit Organizations; and Volunteer Organizations). The success in carrying out each of the priority actions is being measured and tracked. To achieve complete implementation of these actions, more projections, in addition to the ones listed, will be needed. The region's management activities will require consistent measurement and evaluation as the benefits are realized and projects are completed. The implementation progress for the CCMP is being measured every two years and as the program proceeds, technical and financial capacities are being extended to address the region's issues.

Section 2: The Sarasota Bay Comprehensive Conservation and Management Plan

The Sarasota Bay Comprehensive Conservation and Management Plan (CCMP) presents resource management strategies derived from technical, early action, and public outreach projects conducted between 1989 and 1995. The Sarasota Bay Estuary Program (SBEP) was initially responsible for characterizing the environmental condition of the Sarasota Bay region, and formulating and implementing the CCMP, which was completed in November 1995. The SBEP became an independent state agency in 2004. Sarasota County is represented on the Management Committee and Policy Committee of the SBEP.

As reported in the SBEP's Framework for Action (1993) and CCMP, five major problem areas were identified: stormwater, wastewater, fisheries, recreation, and habitat loss. In brief, nutrient loads in Sarasota Bay in 1988 were approximately 400% of that expected from a pristine, undeveloped watershed; metals contamination was also identified as a significant issue in tributary areas. Approximately 39% of tidal wetlands and 30% of the seagrass coverage has been lost throughout the Bay region. The goals, policies and objectives of the Sarasota Bay CCMP are as follows.

Wastewater Treatment and Reclamation (WW)

Action Plan Goal: Improve water transparency

Environmental Quality Objective: Reduce total pollutant (nitrogen) loads to Sarasota Bay by 16 percent Baywide (NB: Between 1988 and 1995, a 25 percent load reduction was achieved through wastewater treatment improvements)

Policies: 1) All wastewater in the Sarasota Bay watershed should be treated to meet or exceed Advanced Wastewater Treatment (AWT) standards by the time effluent reaches the Bay or its tributaries; 2) Treated wastewater should be reclaimed for reuse.

WW1.0: Wastewater treatment and reclamation policies should be consistent throughout the region.

WW1.1: Local governments in the Sarasota Bay region should require by local ordinance – and appropriate monitoring and enforcement - the wastewater treatment policies in the Sarasota Bay comprehensive restoration plan.

WW1.2: Educate the public about the need for consistent policies on wastewater treatment and reclamation.

WW2.0: Use the excess capacity of the City of Sarasota wastewater treatment facility to provide sewer service to areas with inefficient package treatment plants and chronic septic-system failures. Although the City's treated wastewater discharge to Whitaker Bayou would increase, net nitrogen loadings to Phillippi Creek, Whitaker Bayou and Sarasota Bay would decrease.

WW2.1: Modify the wastewater treatment permit of the City of Sarasota to allow the city's plant to provide additional service.

WW2.2: Develop an agreement between the City of Sarasota and Sarasota County to allow for treatment and reuse of wastewater in selected portions of northern Sarasota County.

WW2.3: Sarasota County should adopt an ordinance requiring residents to hook up to central treatment when it becomes available, pursuant to state regulation.

WW2.4: Provide sewer service to areas now served by small wastewater treatment plants in the Whitaker Bayou watershed.

WW2.5: Using the wholesale treatment agreement previously adopted, expand the City of Sarasota's waste treatment service to approximately 6,400 households in the Philippi Creek watershed in areas with chronic septic system failures as identified by Sarasota County.

WW3.0: Provide centralized wastewater treatment (with reuse) in priority areas in northern Sarasota County.

WW3.1: Sarasota County should work with private utility owners/operators to develop infrastructure in the Phillippi Creek watershed to facilitate advanced treatment of wastewater (with reuse) in areas where effluent now percolates or is discharged within 900 feet of Sarasota Bay or its tributaries. Such effluent may originate from septic systems and/or package treatment plant percolation ponds and drain fields.

WW3.1.1: The County should work with private utility owners/operators to develop and implement appropriate funding mechanisms to pay for infrastructure, such as public-private partnerships or special assessment districts.

WW4.0: Privately owned utilities should upgrade to meet the Wastewater Treatment and Reclamation policies in this Action Plan.

WW4.1: Evaluate opportunities to expand privately owned treatment plants to serve priority areas. Focus evaluation on larger, efficient utilities and consider expanding these plants to meet the Policies stated above.

WW4.2: The County shall work with the Private sector to develop and implement appropriate funding mechanisms to pay for plant expansion or improvements, such as appropriate rate structures, public-private partnerships or special assessment districts.

WW5.0: In areas where central service is unlikely to become available in the foreseeable future, particularly within 900 feet of Sarasota Bay or its tributaries, investigate replacement of standard septic systems with systems that remove nitrogen.

WW5.1: Sarasota County, the Florida Dept. of Health & Rehabilitative Services (HRS), Florida Dept. of Environmental Protection (DEP) and U.S. Environmental Protection Agency (EPA) should investigate the appropriateness of available nutrient-removal septic systems for the Sarasota Bay watershed.

WW5.2: If nutrient-removal septic systems are deemed appropriate for certain areas of the watershed, Sarasota County should adopt an ordinance requiring their use.

WW6.0: Develop a multi-county wastewater reclamation program to minimize discharge of treated wastewater to Sarasota Bay.

WW6.1: Manatee County, Sarasota County, the City of Sarasota and other appropriate parties should work with SWFWMD to develop a regional program to reclaim treated wastewater in the Southern Water Use Caution Area.

Stormwater (SW)

Action Plan Goal: Reduce the quantity and improve the quality of stormwater runoff to Sarasota Bay.

Environmental Quality Objectives: Implementing this Action Plan will reduce contaminant loads, i.e., lead, by 27 percent and total nitrogen loads by seven percent Baywide. Additional nitrogen load reductions will be achieved by modifying residential landscape design and maintenance.

Policies: 1) Promote basin-wide pollution prevention, water conservation and stormwater treatment techniques to significantly reduce nitrogen, sediment and toxic substance loadings to Sarasota Bay; 2) Replicate, to the extent possible, the quality, quantity and timing of freshwater flows for natural conditions of the Sarasota Bay region.

SW1.0: Promote pollution prevention through improved landscape design and maintenance in residential areas.

SW1.1: Implement the Florida Yards & Neighborhoods Program, which emphasizes reductions in use of pesticides and water and encourages broader use of slow-release nitrogen fertilizers.

SW 1.2: Coordinate the Florida Yards & Neighborhoods Program with state, regional and local water conservation education programs and policies for integrated pest management.

SW 2.0: Reduce sediment and contaminant loadings, i.e., lead, in priority watersheds. Reduce total nitrogen loadings by seven percent baywide.

SW 2.1: Develop and implement a stormwater management master plan for the Sarasota Bay region, with priority placed on tributaries where the highest levels of contaminants were found: Phillippi Creek, Bowlees Creek, Cedar Hammock Creek, Hudson Bayou, and Whitaker Bayou.

SW 2.1.2: Implement a stormwater utility with appropriate rate structure and related public education in Manatee County.

SW 2.1.3: Focus stormwater master plans on reducing toxins, sediment and nitrogen loads to the Bay while also controlling flooding.

SW 2.1.4: Review stormwater utility rate structures and other funding sources in Manatee and Sarasota counties for adequacy to implement master drainage plans.

SW 2.1.5: Research, develop and utilize stormwater treatment technologies to achieve the greatest possible nutrient removal.

SW 3.0: Maintain stormwater management and treatment systems for maximum efficiency in reducing pollutant loads to the Bay.

SW 3.1: Stormwater Environmental Utilities in Manatee and Sarasota counties must continue to educate stormwater management staff and the public on appropriate stormwater runoff maintenance techniques.

SW 3.2: Stormwater Environmental Utilities in Manatee and Sarasota counties, or other responsible and appropriate governmental entities, will maintain treatment structures. Local governments must encourage appropriate staffing to provide for routine inspection of treatment structures and enforcement of any violations.

SW 4.0: Reduce or mitigate the impact of future development on stormwater loadings to Sarasota Bay.

SW 4.1: Through comprehensive land-use plans and land-development regulations, reduce the amount of existing impervious surface in the watershed and seek alternatives for reducing hardened surfaces in future development.

SW 4.1.2: Where development occurs, encourage cluster development to provide more open space to reduce stormwater contaminants to the receiving stream.

SW 4.1.3: Provide incentives or credits (financial or otherwise) for removal of existing hardened surfaces or enhancement of existing stormwater treatment systems that reduce stormwater loadings.

SW 4.1.4: Amend permitting requirements for paving to allow more porous surfaces.

Wetlands (WL)

Action Plan Goal: Restore shoreline habitats and eliminate further losses.

Environmental Quality Objective: Annually restore or create 18 acres of intertidal wetlands and 11 acres of non-forested, freshwater wetlands. Increase the quantity, improve the quality and protect the diversity of freshwater and saltwater wetlands in the Sarasota Bay watershed.

Policy: Implement comprehensive wetland protection and restoration.

WL 1.1: Manage wetlands by watershed so that historic hydroperiods are restored and maintained.

WL 1.2: Enhance, restore and create wetlands throughout the Bay region.

WL 1.3: Include wetland protection in local comprehensive plans, ordinances and land-development regulations. Incorporate wetlands and open space concepts in road, bridge, stormwater, wastewater and other infrastructure projects.

WL 1.4: Recognize the importance of adjacent upland areas as buffers in restoring, creating or protecting wetlands.

WL 1.5: Integrate reviews of development proposals among all appropriate governmental agencies and jurisdictions when wetlands are an issue.

WL 1.6: Develop priorities and protect wetlands through public ownership or private conservation arrangements.

WL 1.7: Remove exotic plants from wetlands.

WL 1.8: Coordinate wetlands activities with the Sarasota Bay Program, citizen organizations and existing citizen advisory committees of local governments.

WL 1.9: Develop and implement policies that are consistent across jurisdictions regarding shoreline alterations such as docks, seawalls or other shoreline protection alternatives.

WL 1.10: Provide proactive, cooperative consultations to the private and public sectors on development proposals and regulatory issues that impact wetlands.

WL 1.11: Provide technical information to programs providing public education and citizen involvement in wetlands issues.

WL 1.12: Require that compensation for permittable damage be applied to wetland restoration and creation activities in the Sarasota Bay region.

WL 2.0: Provide opportunities for citizen involvement in wetlands protection, enhancement and acquisition.

WL 2.1: Support an ongoing education program on mangrove protection and care.

WL 2.2: Encourage citizen groups to "adopt" restored or protected wetlands for trash and exotic-plant removal.

WL 2.3: Promote neighborhood wetlands protection and homeowner shoreline management through the Florida Yards & Neighbor-hoods Program.

Fisheries and Other Living Resources (FL)

Action Plan Goal: Restore and sustain fish and other living resources in Sarasota Bay.

Environmental Quality Objective: Increase the overall productivity of Sarasota Bay through improved water quality and habitat, thus enhancing finfish and shellfish populations.

Policies: 1) Increase and protect fishery habitat, particularly for juveniles of recreationally and commercially important species; 2) Protect existing fish populations.

FL 1.0: Increase available habitat for juvenile fish in Sarasota Bay.

FL 1.1: Educate the public on the need for improved fishery habitat.

FL 1.2: Restore, enhance and protect the value of saltwater wetlands as fishery habitats.

FL 1.3: Improve Sarasota Bay tributaries to restore the value of fishery habitats.

FL 1.4: Install seawall habitat modules along seawalls and under docks where appropriate.

FL 1.4.1: Encourage private-sector manufacturing and marketing of the most effective designs for these modules.

FL 1.4.2: Encourage voluntary installation of habitats by homeowners through education, incentives and permitting assistance.

FL 2.0: Protect existing fish populations.

FL 2.1: Establish a conservation area near Sister Keys with limited access or activity.

FL 2.2: Promote catch-and-release and other angling practices to increase conservation.

FL 2.3: Seek designation of Sarasota Bay as a test area for enhanced fisheries management measures combined with careful monitoring.

FL 3.0: Restore and enhance shellfish habitats.

FL 3.1: Reduce levels of contaminants in tributaries and restore natural stream flows to creeks and streams (see Stormwater Action Plan).

FL 3.2: Establish oyster reefs in appropriate locations in Sarasota Bay.

FL 3.3: Continue scallop seeding where water quality has improved.

FL 4.0: Protect seagrasses from scarring by boat propellers.

FL 4.1: Improve channel marking on the Intracoastal Waterway (ICW) and connector channels baywide. Use paired red and green U.S. Coast Guard-approved markers. Replace nonconforming markers and remove superfluous markers. Structural markers should be lighted where appropriate.

FL 4.1.2: Mark priority areas including but not limited to the entrance to Palma Sola Bay from the Intracoastal Waterway (ICW); the Longboat Pass connector with the ICW; Big Sarasota Bay dogleg near Sister Keys; the Big Pass connector with the ICW; and connectors between the ICW and neighborhoods Bay-wide. (This action provides a priority list for the effort described in Action 4.1 above.)

FL 4.2: Educate boaters on the need to protect seagrass beds.

FL 5.0: Maximize opportunities for re-establishing and protecting seagrass habitat throughout Sarasota Bay.

FL 5.1: Implement water-quality improvement strategies to increase productive seagrass habitat (see Wastewater and Stormwater Action Plans).

FL 5.2: Using appropriate techniques restore seagrass habitat in selected areas of disturbed Bay bottom by using dredge material to elevate the bottom to within six feet of mean sea level, pending outcome of demonstration project.

FL 5.3: Enforce boat speed limits in Little Sarasota Bay to reduce turbidity. (This action was implemented in l993 as part of the manatee protection program.)

FL 6.0: Enhance circulation in critical areas, recognizing species that will be impacted by circulation changes.

FL 6.1: Pending facilitated forums and results of additional technical work on Little Sarasota Bay by the Sarasota Bay Program, consider reopening Midnight Pass.

FL 6.2: Improve circulation in northeastern Palma Sola Bay during reconstruction of the Palma Sola Causeway.

Recreational Use (RU)

Action Plan Goal: Provide increased levels of managed access to Sarasota Bay and its resources.

Environmental Quality Objective: Recreational use of Sarasota Bay shall not adversely impact Bay resources.

Policy: Enhance recreational opportunities on Sarasota Bay while protecting Bay resources.

RU 1.0: Improve management of existing high-use areas within the Sarasota Bay region.

RU1.1: Develop management plans for the following areas, possibly including special recreational-use areas to protect Bay resources and enhance recreational enjoyment.

RU 1.1.1: Palma Sola Causeway. If the Manatee Avenue road enhancement project is completed, significant opportunities exist to improve water circulation and better manage multiple recreational uses in the Palma Sola Bay area (see Fisheries and Other Living Resources Action Plan).

RU 1.1.2: Longboat Pass, New Pass, Big Pass and Venice Inlet, the Intracoastal Waterway (ICW) "dogleg" in the northern Bay near Sister Keys and the ICW near Phillippi Creek require additional management, particularly on weekends and holidays, to make recreation safer and more enjoyable.

RU 1.2: Enforce boat speeds and no-wake zones in Sarasota Bay.

RU 2.0: Reduce recreational use impacts on fragile or threatened natural resource areas within Sarasota Bay.

RU 2.1: Improve channel marking to protect threatened marine areas, such as seagrasses (for more information on a comprehensive revision of Bay markers, see Fisheries and Other Living Re-sources Action Plan).

RU 2.2: Post markers to discourage boats from approaching bird rookeries.

RU 2.3: Discourage deliberate feeding of seabirds and marine mammals through education and/or signage.

RU 3.0: Improve recreational access to Sarasota Bay.

RU 3.1: Facilitate neighborhood-initiated improvements for visual access to the Bay through the Florida Yards & Neighborhoods Program.

RU 3.2: Enhance recreational use of publicly owned Bayfront land.

RU 3.3: Acquire undeveloped Bay shoreline as public recreation Bayfront parks or low-impact preserves.

RU 3.4: Identify Bay vista points in local comprehensive plans and consider them in landscaping, road-building and other construction.

RU 4.0: Improve education of recreational users to protect the resources of Sarasota Bay.

RU 4.1: Work with appropriate organizations to increase enrollment in boater education programs to promote better protection of Bay resources.

RU 4.2: Target youths, tourists and visitors to improve awareness and sensitivity about the Bay.

RU 5.0: Promote the Sarasota Bay region as 'Paradise Reclaimed.'

RU 5.1: Develop and market a system of integrated recreational opportunities.

RU 5.2: Promote litter prevention throughout the Sarasota Bay region.

Governance (GV)

Action Plan Goal: Establish an appropriate institutional structure to oversee implementation of Sarasota Bay Comprehensive Conservation and Management Plan.

Environmental Quality Objective: Improve Sarasota Bay to the maximum extent possible, given best-available technology and economic constraints.

Policy: Oversee and promote implementation of the Sarasota Bay restoration plan to ensure effective participation of public agencies and private citizens.

GV 1.0: Maintain the existing committee structure and appropriate support staff to ensure effective implementation of the Sarasota Bay Comprehensive Conservation and Management Plan.

GV 1.1: Implement the Comprehensive Conservation and Management Plan (CCMP).

GV 1.2: Support Clean Water Act reauthorization for continuing appropriation for Comprehensive Conservation and Management Plan implementation.

GV 1.3: Designate Sarasota Bay (in 1995) as a State of Florida Surface Water Improvement and Management program priority water body.

GV 1.4: Conduct an independent strategic assessment of program performance at intervals not to exceed three years subsequent to approval by Florida's governor and the U.S. Environmental Protection Agency administrator.

Section 3: Water Quality Assessment - Sarasota County Drainage Basins

Introduction

The qualitative assessments shown below are drawn from the 2002 305(b) Florida Water Quality Assessment Report summarizes the quality of the state's water resources, impacts to surface and ground water, and water quality trends. It reflects a transition from a historic generalized assessment based on water quality indicators to a consolidated integrated report to address water quality monitoring strategies, data quality and quantity needs, and data interpretation methodologies. The report discusses the federal water quality reporting requirements (the 305(b) report); its relationship to the 303(d) Federal requirements to identify impaired waters; presents significant water quality findings; and summarizes attainment of designated use. Current monitoring efforts are briefly discussed. Water quality trends, wetlands protection, and, finally, ground water quality are summarized. For each 305(b) report cycle since 1976, the DEP has refined and improved its ability to assess Florida's surface water quality. The 2002 report moves further toward a comprehensive assessment.

Section 305(b) of the Clean Water Act (CWA) requires states to submit biennial water quality reports to the U.S. Environmental Protection Agency (EPA). These reports must describe the extent to which waters are attaining their designated uses. Section 303(d) of the CWA requires states to identify those waters that are not attaining their designated uses (impaired waters), submit a list to the EPA, and develop Total Maximum Daily Loads (TMDLs) for them on a prioritized schedule. TMDLs establish the maximum amount of a pollutant that a water body can assimilate without causing exceedances of water quality standards. The development of TMDLs is an important step toward restoring Florida's waters to their designated uses. In order to achieve the water quality benefits intended by the CWA, it is important that TMDLs, once developed, be implemented as soon as possible. The DEP outlined the following five distinct phases of its Watershed Management Approach to TMDL development and implementation:

Phase 1: Preliminary Evaluation: The DEP will gather all existing water-quality data for each watershed, as well as existing and proposed water-quality management activities. It will then Issue a Basin Status Report, which includes the Planning List of potentially impaired waters for that basin and a Strategic Monitoring Plan to guide the collection of additional water-quality data.

Phase 2: Strategic Monitoring and Assessment. New data will be collected in accordance with the Strategic Monitoring Plan. A Basin Assessment Report (BAR, which evaluates water quality for all waters within the basin and serves as the comprehensive 305(b) water-quality report for the basin, will be produced. The Bar also includes the draft Verified List for the basin.

Phase 3: Development and Adoption of TMDLs: TMDLs will be developed for the waters on the final Verified List. Public meetings will be held on the draft TMDLs, and each final TMDL must be adopted by rule.

Phase 4: Development of TMDL Management Action Plan (MAP): The MAP will describe the allocations of allowable pollutant loading and provide an implementation schedule for the required pollutant load reductions.

Phase 5: Implementation: Begin implementation of the MAP and secure public funding as needed.

The TMDL development process will rotate through all of the state's basins over a five-year period, with each phase taking approximately one calendar year to complete.

The impairment rating of a water body was defined as the status of waters within a watershed as determined by support or nonsupport of designated use. The status of a watershed was dependent on making a determination of use support that applied to all surface water within the aerial extent of that watershed. Designated use refers to the classification or standards and criteria applied to all Florida waters. All waters are assessed by using the EPA's new Integrated Water Quality Assessment process. The process evaluates water quality data and categorizes water bodies into the following five categories:

Category 1 – Attaining all designated uses. Water bodies that meet the requirements of the state's assessment and listing methodology for all applicable designated uses and support a determination that the water quality standard is attained.

Category 2 – Attaining some of the designated uses. Water bodies that meet the requirements of the state's assessment and listing methodology to support a determination that some, but not all, uses are attained. Attainment status of the remaining uses is unknown because there is insufficient or no data or information.

Category 3a – No data and information to determine if any designated use is attained. The data or information consistent with the requirements of the state's assessment and listing methodology to support an attainment determination for any use is not available.

Category 3b – Some data and information but not enough to determine if any designated use is attained. The data or information consistent with the requirements of the state's assessment and listing methodology to support an attainment determination for any use is limited.

Category 3c – Enough data and information to determine if any designated use is attained pursuant to the Planning List methodology. The data or information to support an attainment determination for any use meets the thresholds for Florida's IWR-based Planning List.

Category 3d – Enough data and information to determine if any designated use is attained pursuant to the Verified Screening List methodology. The data or information to support an attainment determination for any use meets the thresholds for Florida's IR-based Verified List. However, the data have not yet been evaluated and the waters have not been verified as being impaired.

Category 4 – Impaired for one or more designated uses but does not require the development of a TMDL.

a) The TMD: has not been completed.

b) The impairment is not caused by a pollutant.

c) A pollution control measure that provides reasonable assurance that the water will attain standards in the future has been instituted.

Category 5 – The water quality standard is not attained. The water body is impaired for one or more designated uses by a pollutant(s) that requires a TMDL.

According to Chapter 62-302, Florida Administrative Code, the surface waters are classified according to designated use as follows:

Class I Potable Water Supplies

Class II Shellfish Propagation or Harvesting

Class III Recreation, Propagation, and Maintenance of a Healthy, Well-balanced Population of Fish and Wildlife

Class IV Agricultural Water Supplies

Class V Navigation, Utility, and Industrial Use.

Primary causes of water bodies not fully supporting use varied by water body type. For rivers, significant causes may include high organic matter levels or mercury contamination. A preliminary assessment of lakes and estuaries indicates the nutrients and subsequent eutrophication may be the major causes of impairment.

Protection of surface and ground water is critical to public health and welfare and to our economy. The Natural Resources Department contracted with a consultant in 1994 to have water quality tested monthly at 30 sites in Sarasota Bay and Lemon Bay and 10 sites in the Myakka River. Water quality testing has been conducted by the Department for approximately 20 years, but was temporarily discontinued when the County laboratory was closed. The new testing is being done according to methods recommended by the National Estuary Program, and is designed so that trend analysis and comparative analysis with other regions can be conducted.

BASIN: HUDSON WHITAKER BAYOUS

Development Status: urbanized Most of the basin lies within the City of Sarasota. The upper reaches of Whitaker Bayou extend into Sarasota and Manatee Counties).

Water Quality Data:

The Hudson Bayou Basin drains that portion of the City of Sarasota south of 10th Street to Hyde Park Street. The City of Sarasota Advanced Domestic Wastewater Treatment Plant (AWWTP) serves the area.

Impairment Rating: Not Rated – Lack of Data.

Water Quality Index: Not Rated – Lack of Data.

Nonpoint Source Categories: Urban

Water Quality Indicators: Turbidity, and Coliform Bacteria.

Pollutants/Problems: Erosion/Sediment/Siltation/Debris/Solid Waste, and Habitat Alteration. Hardened Shorelines/Seawalls are prevalent.

Flood Potential: The entire length of Hudson Bayou lies within the 100-year floodplain.

The Whitaker Bayou Basin drains that portion of the City of Sarasota just north of University Parkway south to 10th Street. The City of Sarasota AWWTP and septic tanks serve the area.

Impairment Rating: Impaired by Biology.

Water Quality Index: 38-52 (good - fair).

Nonpoint Source Categories: Urban and Septic Tanks

Water Quality Indicators: Turbidity, Coliform Bacteria, and Nutrients.

Pollutants/Problems: Erosion/Sediment/Siltation, Debris, Oxygen Depletion, and Habitat Alteration. Hardened Shorelines/Seawalls are prevalent.

Flood Potential: The mouth of the Bayou lies within the 100-year floodplain.

Additional Factor(s): Whitaker Bayou received advanced treated wastewater effluent near US 41 from the City of Sarasota SWWTP.

Receiving Water Body of Hudson Bayou and Whitaker Bayou: Sarasota Bay.

Impairment Rating: Not Rated – Lack of Data.

Water Quality Index: 56 (fair).

Nonpoint Source Categories: Urban and Septic Tanks.

Water Quality Indicators: Turbidity, Coliform Bacteria, and Nutrients (Nitrogen – primary pollutant).

Pollutants/Problems: Erosion/Sediment/Siltation and Algal Blooms,

Impacts: Decline in seagrass acreage; Decline in saltwater wetlands; Decline in fishing resources; Decline in scallop population; Occasional closures of shellfish harvesting waters; and Occasional no-swim beach advisories for Bird Key Park.

Additional Factor(s): Sarasota Bay receives brine effluent from the City of Sarasota Water Plant reverse osmosis (R.O.) system.

BASIN: BRADEN RIVER (Includes Cooper Creek in Sarasota County)

Development Status: Extractive (agricultural), improved pasture, some low-density single and multi-family residential, and commercial. Urbanizing.

Water Quality Data:

Impairment Rating: Not Rated – Lack of Data.

Water Quality Index: Not Rated – Lack of Data.

Nonpoint Source Categories: Agricultural, Urban, and Mining.

Flood Potential: Long Swamp and associated wetlands lie within the 100 year floodplain. Ditching west of I 75 has reduced flood potential in that part of the basin.

Impairment Rating of Direct Outfall: Braden River

Receiving Water Body: Braden River.

Impairment Rating: Not Rated – Lack of Data

Water Quality Index: Not Rated – Lack of Data.

Water Quality Indicators: Nutrients and Coliform Bacteria

Pollutants/Problems: Erosion/Sediment/Siltation, Pesticides/Herbicides, and Habitat Alteration.

BASIN: PHILLIPPI CREEK

Development Status: 90 percent urbanized –Some extreme eastern sections within the basin east of I 75 are used for agricultural purposes. The third largest drainage basin in the County, Phillippi Creek is also the most developed and most impacted from development activities such as stream channelization, coliform bacteria from septic tanks, and sedimentation from road and building construction.

Water Quality Data:

Impairment Rating: Impaired for Biology.

Water Quality Index: 10 (good).

Nonpoint Source Categories: Urban, Septic Tanks, Agriculture, Land Disposal (landfills, sprayfields), and Construction.

Water Quality Indicators: Turbidity, Coliform Bacteria, and Nutrients.

Pollutants/Problems: Erosion/Sediment/Siltation, Chemicals, Debris/Solid Waste, Oxygen Depletion, Metals, Petroleum Products, Aquatic Weeds, and Habitat Alteration.

Impacts: Decline in fishing resources; Closed for shellfish harvesting; Closed for swimming.

Additional Factor(s): Phillippi Creek receives advanced treated wastewater effluent from the Sarasota County South Gate AWWTP. The Sarasota County Bee Ridge Landfill is located within the basin. The landfill was certified closed by the Department of Environmental Protection (DEP) in March of 2000.

Flood Potential: The length of the Creek, Main A, Main B, and Main C canals are in the 100 year flood area.

Receiving Water Body: Roberts Bay.

Impairment Rating: Not Rated – Lack of Data.

Water Quality Index: 51 (fair).

Nonpoint Source Categories: Urban, Septic Tanks, Agriculture, Construction.

Water Quality Indicators: Turbidity and Nutrients.

Pollutants/Problems: Erosion/Sediment/Siltation, Decline in fishing resources, and Habitat Alteration.

Additional Factor(s): Roberts Bay receives advanced treated wastewater effluent from Siesta Key Utilities (SKUA) Advanced Wastewater Treatment Plant.

BASIN: ELLIGRAW BAYOU (includes Matheny Creek and Clower Creek)

Development Status: Urbanized and Urbanizing.

Water Quality Data:

Matheny Creek drains the Gulf Gate area and generally all of the area south of Clark Road to approximately Sandalwood Drive and US 41 in Coral Cove.

Impairment Rating: Not Rated – Lack of Data.

Water Quality Index: 12 (good).

Nonpoint Source Categories: Urban and Septic Tanks.

Water Quality Indicators: Turbidity, Coliform Bacteria, and Nutrients.

Pollutants/Problems: Erosion/Sediment/Siltation, Debris/Solid Waste, Oxygen Depletion, and Habitat Alteration.

Additional Factor(s): Matheny Creek receives advanced waste treatment effluent near US 41 from the Sarasota County Gulf Gate AWWTP.

Clower Creek drains the general area of Westfield Shopping Mall (aka Sarasota Square) and Pelican Cove Condominium, and US 41 at Beneva and Vamo Roads.

Impairment Rating: Not Rated – Lack of Data.

Water Quality Index: 53 (fair).

Nonpoint Source Categories: Urban and Septic Tanks.

Surface Water Traits: Turbidity, Coliform Bacteria, and Nutrients..

Pollutants/Problems: Erosion/Sediment/Siltation, Oxygen Depletion, and Habitat Alteration.

Flood Potential: A small strip along Little Sarasota Bay lies within the 100-year floodplain. Elligraw Bayou drains a very small area and is a small, low-flow creek until it joins an estuarine section just west of US 41 at Southpointe Drive.

Impairment Rating: Impaired for Biology.

Water Quality Index: Not Rated – Lack of Data.

Nonpoint Source Category: Urban.

Water Quality Indicators: Turbidity and Nutrients.

Pollutants/Problems: Erosion/Sediment/Siltation, Oxygen Depletion, Fish Kills, and Habitat Alteration. The upper reaches are ditched.

Receiving Water Body: Little Sarasota Bay.

Impairment Rating: Not Rated – Lack of Data Water Quality Index: 39 (good).

Nonpoint Source Categories: Urban, Septic Tanks, and Agriculture.

Water Quality Indicators: Turbidity, Coliform Bacteria, and Nutrients

Pollutants/Problems: Erosion/Sediment/Siltation, Oxygen Depletion, Algae Blooms, Fish Kills, Decline in fishing resources, Odor, and Habitat Alterations.

BASIN: CATFISH CREEK

Development Status: Urbanizing

Water Quality Data:

The low-flow Catfish Creek Basin drains the area between Clower Creek and North Creek.

Impairment Rating: Not Rated – Lack of Data.

Water Quality Index: 35-40 (good).

Nonpoint Source Categories: Urban and Agriculture.

* symptoms of surface water are turbidity/siltation.

Water Quality Indicators: Turbidity, Coliform Bacteria, and Nutrients.

Pollutants/Problems: Erosion/Sediment/Siltation, Oxygen Depletion, and Habitat Alteration.

Flood Potential: The mouth of Catfish Creek lies within the 100-year floodplain.

Receiving Water Body: Little Sarasota Bay.

BASIN: NORTH CREEK

Development Status Urban. The majority of the basin lies within the Palmer Ranch and Oaks developments.

Water Quality Data:

The North Creek Basin drains a small area that is primarily low-density residential and golf course developments. The creek crosses US 41 just north of Osprey near Cordes Street. The estuarine area is a small salt marsh located at the junction of North Creek and Catfish Creek.

Impairment Rating: Not Rated – Lack of Data

Water Quality Index: 80 (poor).

Nonpoint Source Category: Urban.

Water Quality Indicators: Turbidity, Coliform Bacteria, and Nutrients

Flood Potential: Most of North Creek lies within the 100-year floodplain.

Receiving Water Body: Little Sarasota Bay.

BASIN: SOUTH CREEK

Development Status: Urbanizing.

Water Quality Data:

Impairment Rating: Not Rated – Lack of Data.

Water Quality Index: 25 (good).

Nonpoint Source Categories: Urban and Agriculture

Water Quality Indicators: Turbidity, and Nutrients.

Pollutants/Problems: Erosion/Sediment/Siltation,Agricultural Runoff, and Oxygen Depletion.

Flood Potential: The mouth of South Creek lies within the 100-year floodplain.

Receiving Water Body: Dryman Bay.

Impairment Rating: Not Rated – Lack of Data.

Water Quality Index: 34 (good).

Nonpoint Source Category: Urban.

Water Quality Indicators: Turbidity.

Pollutants/Problems: Erosion/Sediment/Siltation.

BASIN: LAUREL SUB BASIN

Development Status: Urbanized

Flood Potential: The basin lies almost entirely within the 100-year floodplain.

Receiving Water Bodies: Lyon's Bay and Blackburn Bay.

Lyons Bay:

Impairment Rating: Not Rated – Lack of Data.

Water Quality Index: Not Rated – Lack of Data.

Nonpoint Source Categories: Urban and Septic Tanks.

Water Quality Indicators: Turbidity.

Pollutants/Problems: Erosion/Sediment/Siltation. Hardened shorelines/Seawalls are prevalent.

Blackburn Bay:

Impairment Rating: Not Rated – Lack of Data.

Water Quality Index: 25 (good).

Nonpoint Source Category: Urban

Water Quality Indicators: Turbidity.

Pollutants/Problems: Erosion/Sediment/Siltation, Habitat Alteration, and Hardened Shorelines/Seawalls.

BASIN: SHAKETT CREEK (Includes Cow Pen Slough)

Development Status: Primarily undeveloped with agriculture and pasturelands predominant. Urbanized with medium-density residential development at the southern end near Venice. Low-density residential development at the northern end.

The Shackett Creek Basin includes Cow Pen Slough, one of the largest drainage basins in the County. Cow Pen Slough originates just north of the Sarasota/Manatee County and drains approximately 42,000 acres through the central part of the County. Shackett Creek drains a small area from Laurel Road and I-75 to US 41 just south of Albee Road, and it is mostly estuarine in nature. The basin also includes Fox Creek and Salt Creek.

Water Quality Data:

Cow Pen Slough:

Impairment Rating: Not Rated – Lack of Data.

Water Quality Index: Not Rated – Lack of Data

Nonpoint Source Category: Urgan, Agriculture, and Septic Tanks.

Water Quality Indicators: Turbidity, Coliform Bacteria, and Nutrients.

Pollutants/Problems: Erosion/Sediment/Siltation (from channelized flow), Aquatic Weeds, Oxygen Depletion, Agrucultural Runoff, and Habitat Alteration.

Flood Potential: Cow Pen Slough and Shackett Creek lie within the 100-year floodplain.

Additional Factors: Possible surface runoff from Venice Landfill Transfer Station. The Central County Solid Waste Disposal Complex is located within the Basin.

Receiving Water Body: Dona Bay

Impairment Rating: Not Rated – Lack of Data.

Water Quality Index: 38-42 (good, but approaching fair).

Nonpoint Source Category: Urban and Agriculture.

Water Quality Indicators: Turbidity, and Nutrients.

Pollutants/Problems: Erosion/Sediment/Siltation, and Habitat Alteration

Additional Factor(s): Heavy siltation has occurred as a result of channelized flow and development adjacent to Cow Pen Slough.

BASIN: CURRY CREEK

Development Status: Urbanized and Urbanizing.

Water Quality Data:

The Curry Creek Basin drains the area directly east of Roberts Bay.

Impairment Rating: Not Rated – Lack of Data.

Water Quality Index: 38-42 (good).

Nonpoint Source Categories: Urban and Septic Tanks.

Water Quality Indicators: Turbidity, Coliform Bacteria, and Nutrients.

Pollutants/Problems: Erosion/Sediment/Siltation, and Oxygen Depletion.

Flood Potential: The mouth of Curry Creek lies within the 100-year floodplain.

Additional Factor(s): The City of Venice Landfill (closed) and the Sarasota County Landfill Transfer Stations lie within the basin. Curry Creek receives advanced treated wastewater effluent from the City of Venice Eastside AWWTP.

Receiving Water Body: Roberts Bay.

Impairment Rating: Not Rated – Lack of Data.

Water Quality Index: Not Rated – Lack of Data.

Nonpoint Source Categories: Urban and Septic Tanks.

Water Quality Indicators: Turbidity.

Pollutants/Problems: Erosion/Sediment/Siltation.

Additional Factor(s): The City of Venice Landfill and Aging Septic Systems.

BASIN: HATCHETT CREEK

Development Status: Urbanized and Urbanizing.

Hatchett Creek drains a small heavily developed portion of the City of Venice from the northern junction of the Venice Bypass and US 41 to the Intercoastal Waterway (ICW) at Business 41.

Water Quality Data

Impairment Rating: Not Rated – Lack of Data.

Water Quality Index: Not Rated – Lack of Data.

Nonpoint Source Category: Urban.

Water Quality Indicators: Turbidity, Coliform Bacteria, and Nutrients.

Pollutant/Problems: Erosion/Sediment/Siltation, Oxygen Depletion, and Habitat Alteration

Flood Potential: The length of Hatchett Creek and the ICW lie within the 100-year floodplain.

Additional Factor(s): Heavy siltation during rain events, Channelization, and Hardened Shorelines/Seawalls.

Receiving Water Body: Roberts Bay

BASIN: ALLIGATOR CREEK

Development Status: Urbanized and Urbanizing.

The Alligator Creek Basin drains the area south of Center Road to US 41 and SR 775. The western area of the basin has developed rapidly.

Water Quality Data

Impairment Rating: Impaired for Dissolved Oxygen and Fecal Coliform Bacteria.

Water Quality Index: Not Rated – Lack of Data.

Nonpoint Source Category: Urban.

Water Quality Indicators: Turbidity and Coliform Bacteria

Pollutants/Problems: Erosion/Sediment/Siltation, Oxygen Depletion, and Habitat Alteration.

Flood Potential: Areas along the creek and the area surrounding the mouth lie within the 100-year flood plain.

Additional Factor(s): Dredge and fill impacts.

Receiving Water Body: Lemon Bay.

Impairment Rating: Impaired for Nutrients and Bacteria (in shellfish).

Water Quality Index: 40 (good, but approaching fair).

Nonpoint Source Categories: Urban and Septic Tanks.

Water Quality Indicators: Coliform Bacteria, Chlorophyll, and Nutrients.

Pollutants/Problems: Oxygen Depletion, Decline in seagrass acreage.

BASIN: FORKED CREEK

Development Status Primarily agricultural. Urbanized from the mouth of the Creek to Englewood Road.

The Forked Creek Basin drains an area north of Englewood from the junction of US 41 and SR 775 south to Englewood Road and SR 755.

Water Quality Data:

Impairment Rating: Not Rated – Lack of Data.

Water Quality Index: Not Rated – Lack of Data.

Nonpoint Source Category: Urban.

Water Quality Indicators: Turbidity, Coliform Bacteria, and Nutrients.

Pollutants/Problems: Erosion/Sediment/Siltation, Coliform Bacteria, Oxygen Depletion, and Habitat Alteration.

Flood Potential: The lower creek lies within the 100-year floodplain.

Receiving Water Body: Lemon Bay

BASIN: GOTTFRIEDCREEK (DEER CREEK)

Development Status: Primarily agricultural. Urbanized in Englewood along the lower creek.

The Gottfried Creek Basin drains a section of the southern corner of the County that includes most of Englewood. The basin is moderately developed in the southwestern portion and is sparsely developed in the northern portion.

Water Quality Data

Impairment Rating: Impaired for Dissolved Oxygen.

Water Quality Index: Not Rated – Lack of Data.

Nonpoint Source Category: Urban.

Flood Potential: The area along the creek lies within the 100-year floodplain

Receiving Water Body: Lemon Bay

BASIN: MYAKKA RIVER

Development Status: few residential areas (primarily large lot); virtually entire area is agricultural/preservation. . Primarily undeveloped and agricultural with preservation areas acquired through the Environmentally Sensitive Lands Protection Program (ESLPP). Low-density residential (large lots) development in the northern portion and moderate density development in the southern quarter within the City of Northport.

The Myakka River Basin drains the eastern half of Sarasota County and includes Howard Creek, the Spring Run of Warm Mineral Springs (Springs Creek), Deer Prairie Slough, Myakkahatchee Creek, the Cocoplum Waterway, and the Myakka River.

The Myakka River is typically low-flow with high seasonal variation. Its environmental sensitivity is of prime concern as a result of its Wild and Scenic River and Outstanding Florida Waters (OFW) designations. The river flows through Port Charlotte into Charlotte Harbor to the south.

Water Quality Data

Impairment Rating: Impaired for Chlorophyll, Dissolved Oxygen, and Total Coliform.

Water Quality Index: 18-27 (good).

Nonpoint Source Categories: Agricultural and land disposal (landfills, sprayfields).

Water Quality Indicators: Nutrients, and Coliform Bacteria.

Pollutants/Problems: Oxygen Depletion.

Upper Myakka Lake:

Impairment Rating: Not Rated – Lack of Data.

Water Quality Index: 37 (good).

Lower Myakka Lake:

Impairment Rating: Not Rated – Lack of Data.

Water Quality Index: Not Rated – Lack of Data.

Nonpoint Source Category: Agricultural.

Water Quality Indicators: Nutrients.

Pollutants/Problems: Oxygen Depletion, Eutrophication, Algal Blooms, Aquatic Weeds (Hydrilla and Water Hyacinth).

Howard Creek

Impairment Rating: Impaired for Dissolved Oxygen.

Water Quality Index: 38-74 (good - poor).

Nonpoint Source Category: Agriculture.

Water Quality Indicators: Coliform Bacteria and Nutrients.

Pollutants/Problems: Agricultural Runoff and Oxygen Depletion.

Flood Potential: A wide flood basin along the Myakka River lies within the 100 year floodplain.

Receiving Water Body: Charlotte Harbor (see the Charlotte Harbor section in the Environment Chapter text).

BASIN: MYAKKAHATCHEE CREEK (BIG SLOUGH)

Development Status: Primarily agricultural. Low-density residential development from the mouth of the creek to US 41. The undeveloped portion of North Port is included in the basin.

Water Quality Data:

Impairment Rating: Not Rated – Lack of Data.

Water Quality Index: 33-56 (good – fair).

Nonpoint Source Category: Urban and agriculture

Water Quality Indicators: Turbidity and Nutrients.

Pollutants/Problems: Erosion/Sediment/Siltation and Oxygen Depletion.

Flood Potential: A wide floodplain along Myakkahatchee Creek lies within the 100-year floodplain.

Receiving Water Body: Myakka River.

Section 4: Water-Dependent/Water Related Facilities

Section 4:	Water-Dependent/Water Related Facilities In Sarasota County		
BEACH ACCESS			
Location/Access	***Length**	**Depth (ft.)**	**# Parking Spaces**
Longboat Key			
Longview (M)	75	50	70
Westfield (M)			15
Mayfield (M)			8
Triton (M)	75	50	(Potential For 20)
Neptune (M)	75	50	
Overbrook Park	103	65	
Buttonwood Drive	30	40	
Colony Beach			
Tennis Resort (X)	1100	60	
Triton Inn (X)	200	150	
Lido Key			
North Lido (C)	3000		
Lido Public Beach (C)	3000	150	400
South Lido Park	1000	50	137
Azure Tides Resort (X)	250	100	
Harley Sand Castle Resort (X)	600	75	
Gulf Beach Resort (X)	140	30	
Siesta Key			
Point of Rocks (C)	20	250	0
Avenida Messina (C)	75	150	0
Columbus Avenue (C)	80	150	0
Avenida Navarra (C)	75	150	6
Ocean Boulevard (C)	75	150	14

Section 4:	Water-Dependent/Water Related Facilities In Sarasota County		
BEACH ACCESS			
Location/Access	***Length**	**Depth (ft.)**	**# Parking Spaces**
Tenacity Lane (C)			
Calle de Invierno (C)	75	150	
Calle de Siesta (C)	75	150	10
Plaza des Las Palmas (C)	75	150	5
Plaza des Las Palmas (C)		150	5
Shell Road (C)	50	0	
Siesta Public Beach (C)	2430	200	800
Stickney Point (C)	40	140	15
Turtle Beach (C)	2575	100	230
Aloha Kai Resort (X)	200	300	
Sarasota Surf & Racquet Club (X)	317	150	
Sea Castle Motel (X)	330	720	
Gulf Beach			
Travel Trailer Park (X)	200	20	
Gulf & Bay Club (X)	650	50	
Palm Bay Club (X)	260	200	
Trivoli By the Sea (X)	100	400	
Casey Key			
Nokomis Beach (C)	1700	250	155
North Jetty Public Beach (C)	900	800	308
Palmer Point Park (C)	2700	400	
Venice			
South Jetty Park	980	150	
Venice Beach (C)	900	150	130
Brohard Public Beach (M)	8890	60	155
Caspersen Public Beach (C)	9150	50	120
Loran Park (M)	320	60	

Section 4:	Water-Dependent/Water Related Facilities In Sarasota County		
BEACH ACCESS			
Location/Access	***Length**	**Depth (ft.)**	**# Parking Spaces**
Ocala Street			8
Old USCG Site			20
Manasota Key			
Manasota Public Beach (C)	1394	150	103 170
Blind Pass Public Beach (C)	2940	50	212
Legend:			
(C) County (M) Municipal (X) Commercial *Linear feet of beach front			
Source:	Florida Department of Natural Resources, 1987; Sarasota County Natural Resources Department, 1988 and 1996: Sarasota County Parks and Recreation Department, 1996: Town of Longboat Key, Public Works Department, 1995.		

Section 4:	Water-Dependent/Water Related Facilities In Sarasota County		
BOAT RAMPS			
Location	**Access**	**# Ramps/# Lanes**	**# Parking Spaces**
Lido Key	Ken Thompson Park/City Island (M)	4/4	50 (25)
Sarasota	Hart's Landing*(X)	1/1	10
	Centennial Park Boat Ramp (M)	1/6	50 (100)
	Causeway Park (Tony Saprito Pier)(M)	---	---
	Pinecraft Park ***(C)	1/1	25
Siesta Key	Turtle Beach ** (C)	2/2	32
Casey Key	Blackburn Point Beach Boat Ramp ***(C)	1/1	20
	Nokomis Beach Boat Ramp (C)	2/4	30
Venice	Higel Marine Park (M)	1/1	22
	Rambler's Rest Resort Campground (X)	1/1	4
	Snook Haven (X)	1/1	10
	Marina Boat Ramp Park (Venice Ave)(M)	---	---
Manasota Key	Manasota Beach Boat Ramp (C)	1/1	15
Englewood	Indian Mound Park (C)	1/4	60
North Port	Marine Park	1/1	20
	Dallas White Park (M)		---

Legend:

(C) County (M) Municipal (X) Commercial * Shallow Water ** Lagoon Shoaling *** Only Serves Small Shallow Draft Boats @ High Tide () Overflow Parking

Section 4:	Water-Dependent/Water Related Facilities In Sarasota County		
SHORE (Gulf & Bay) FISHING AREAS (but not fishing areas accessible only by boat.)			
Location	**Access**	**Linear Feet**	**# Parking Spaces**
Longboat Key	Quick Point (M	300	
	New Pass Fishing Pier (M	600	40
Lido Key	North Lido Park/Lido Beach (M	3000	1228
	Ken Thompson Park/City Island (M)	2159	500
	Bird Key Park (M)	1850	45
	South Lido Park (C)	1000	290
	Causeway Park (Tony Saprito Pier) (M)	750	---
Sarasota	6th Street Pedestrian Bridge	136	
	Island Park (M)	7000	
	Centennial Park(M)	750	
	Indian Beach (M)	450	---
Siesta Key	Bay Island Park (C)	800	4
	Turtle Beach (C)	2575	302
	Siesta Beach (C)	2430	1050
	Palmer Point Beach (C)	2700	---
Casey Key	Blackburn Point Park (C)		
	Nokomis Beach (C)	1700	228
	North Jetty Public Beach (C)	900	206
Osprey/Laurel Nokomis	Shoreland Park (C)	---	4
	Osprey Fishing Pier (C)	300	---
Venice	Higel Marine Park (M)	350	15
	South Jetty Park (M)	600	50
	Brohard Beach (M)	8840	1028
	Caspersen Beach (C)	9150	654

Section 4:	Water-Dependent/Water Related Facilities In Sarasota County		
SHORE (Gulf & Bay) FISHING AREAS (but not fishing areas accessible only by boat.)			
Location	**Access**	**Linear Feet**	**# Parking Spaces**
	Service Club Park (M)		
	Venice Beach (M)	900	192
Manasota Key	Manasota Beach Boat Ramp (C)	160	15
	Blind Pass Beach (C)	2940	200
North Port	Marina Park (M)	---	---
Englewood	Indian Mound Park (C)	850	60
	Lemon Bay Park (C)	500	90
Legend:			
(C) County	(M) Municipal	(X) Commercial	
Source: Sarasota County Natural Resources and Parks and Recreation Departments, 1996			

MARINAS; Current marina data is included in the Sarasota County Manatee Protection Plan page 47, Table II.6

Figure 8: Artificial Reef Locations In Sarasota County									
Reef Site	**LORAN - C**		**Latitude North**		**Longitude West**		**Distance (Naut. Miles) and heading from Pass**	**Depth (feet)**	**Materials**
	7980-W	**7980-Y**							
BAY REEFS									
Deamus Hart	14181.3	44440.7	27°	22.075'	82°	34.477'	N Sarasota Bay, E of ICW	10	Concrete, FPL Insulators, Reef Balls
O.D. Miller	14176.5	44430.0	27°	20.190'	82°	34.546'	City Island Fishing Piers	9-21	Concrete Rubble
Pop Jantzen	14176.8	44421.1	27°	19.709'	82°	33.849'	NW of Bird Key Park	7	Concrete, FPL Insulators, Reef Balls
Jim Evans	14177.6	44417.9	27°	19.727'	82°	33.452'	S of Ringling Causeway	10	Concrete, FPL Insulators
Bully Powers	14174.8	44419.7	27°	18.862'	82°	34.292'	W of Otter Key	12	Concrete, FPL Insulators
Rose Coker	14176.9	44404.0	27°	18.698'	82°	32.537'	NE of Siesta Drive Bridge	7	Concrete, FPL Insulators
Jonnie Walker	14180.6	44452.6	27°	22.380'	82°	35.525'	NW of Ringling Causeway	12	Rocks, Boulders, Reef Balls
Sportfishing Anglers Club	14175.9	44446.2	27°	21.080'	82°	35.883'	NW of Ringling Causeway	12	Reef Balls
GULF REEFS									
11 - Lynn Silvertooth	14166.1	44423.6	27°	17.159'	82°	35.985'	1.8 at 177° - New Pass Buoy	30	Concrete, Rubble, Boxes, Piles
12 - Alan Fisher	14166.1	44437.4	27°	18.111'	82°	37.125'	1.3 at 227° - New Pass Buoy	30	New Pass Bridge Rubble, Concrete Rubble, Piles
13 - Donald Roehr	14169.5	44425.8	27°	18.208'	82°	35.539'	0.9 at 146° - New Pass Buoy	22	Orange Avenue Bridge Rubble
Venice Reef	14153.5	44278.7	27°	04.587'	82°	27.509'	2.3 at 164° - Venice Inlet	23	Concrete Culvert
14	14154.2	44302.6	27°	06.304'	82°	28.905'	0.7 at 236° - Venice Inlet	25	Venice Bridge and Pier

Figure 8: Artificial Reef Locations In Sarasota County									
Reef Site	**LORAN - C**		**Latitude North**		**Longitude West**		**Distance (Naut. Miles) and heading from Pass**	**Depth (feet)**	**Materials**
	7980-W	**7980-Y**							
M1	14155.8	44495.2	27°	19.172'	82°	43.164'	6.4 at 272° - New Pass Buoy	42	Steel Barge, Fiberglass Boats*, Concrete Culvert
M2	14155.1	44490.4	27°	18.745'	82°	43.001'	6.2 at 268° - New Pass Buoy	42	Concrete Culverts, Boxes, Mixer Drums
M3	14149.8	44480.5	27°	16.717'	82°	43.261'	6.9 at 254° - New Pass	43	Concrete Culverts, Boxes, Mixer Drums
M4	14145.7	44470.7	27°	15.170'	82°	43.162'	7.4 at 239° - New Pass Buoy	42	Concrete Rubble, Reef Balls
M5	14141.4	44460.5	27°	13.422'	82°	43.131'	8.5 at 228° - New Pass Buoy	43	Concrete Culverts
M6	14135.4	44451.7	27°	11.301'	82°	43.595'	10.2 at 225° - New Pass	55	Fiberglass Boats*, Concrete Culverts, Mixer Drums
M7 - Johnson	14137.8	44517.1	27°	16.281'	82°	48.043'	11.3 at 258° - New Pass	50	Boxcars, Concrete Culverts
M8	14128.1	44495.5	27°	12.528'	82°	48.121'	12.6 at 239° - New Pass Buoy	65	Five Army Tanks, Landing Craft, Boxcars
M9	14121.0	44400.0	27°	04.189'	82°	42.103'	12.8 at 259° - Venice Inlet	61	Concrete Rubble, Five Army Tanks
M10	14114.8	44391.5	27°	01.887'	82°	42.583'	13.7 at 250° - Venice Inlet		Sailboat*, Fiberglass Boats*, Steel Barge
M11	14107.0	44377.7	26°	59.045'	82°	42.797'	15.1 at 239° - Venice Inlet	70	Reef Balls
M13	14129.9	44235.9	26°	55.099'	82°	27.882'	11.5 at 178° - Venice Inlet	43	Concrete Culvert
M14	14126.3	44209.7	26°	52.236'	82°	26.441'	5.7 at 255° - Stump Pass	43	Concrete Rubble
M15	14143.6	44325.8	27°	05.001'	82°	32.524'	4.3 at 246° - Venice Inlet	38	Concrete Rubble
M16	14134.1	44345.1	27°	03.827'	82°	35.625'	7.3 at 246° - Venice Inlet	49	Concrete Culverts, Catch Basins

Figure 8: Artificial Reef Locations In Sarasota County

Reef Site	LORAN - C		Latitude North		Longitude West		Distance (Naut. Miles) and heading from Pass	Depth (feet)	Materials
	7980-W	7980-Y							
M17	14124.5	44364.6	27°	02.674'	82°	38.791'	10.4 at 246° - Venice Inlet	63	Reef Balls
MD1	14109.9	44519.1	27°	09.691'	82°	53.062'	18.0 at 240° - New Pass	80	Barge, Concrete Hopper
	14108.9	44518.8	27°	09.441'	82°	53.199'	21.6 at 276° - Venice Inlet		
D3	14091.9	44668.1	27°	15.931'	83°	07.207'	27.5 at 265° - New Pass	105	Boxcars
	14091.7	44668.4	27°	15.942'	83°	07.266'	35.0 at 286° - Venice Inlet		
D4	14090.9	44664.6	27°	15.440'	83°	07.136'	28.0 at 265° - New Pass	103	Boxcars
D6	14076.8	44579.7	27°	06.190'	83°	03.192'	25.2 at 220° - New Pass	110	Fiberglass Boats* and Molds
			26°	54.714'	82°	55.884'			
D-9	14066.1	44459.5	26°	54.719'	82°	55.893'	28.2 at 220° - New Pass	100	Steel Crane Barge, Fiberglass Boats*
All New Pass numbers taken from bell buoy									
*County no longer accepts fiberglass boats for reef construction									

Section 5: Endangered, Threatened, And Species of Special

Section 5: Endangered, Threatened, And Species of Special			
	Concern - Vertebrates and Plants		
Habitat	**Class**	**Species**	**Status**
SANDY COASTS	Birds	Peregrine Falcon	
		Falco peregrinus tendrius	(E)
		Southeastern Snowy Plover	
		Charadrius alexandrinus tenuirostris	(T)
		Piping Plover	
		Charadrius melodus	(T)
		Least Tern	
		Sterna antillarum	(T)
		Black Skimmer	
		Rynochops niger	(SSC)
		American Oyster Catcher	
		Haematopus palliatus	(SSC)
	Amphibians/	Kemp’s Ridley	
	Reptiles	Lepidochelys kempi	(E)
		Green sea turtle	
		Chelonia mydas mydas	(E)
		Leatherback sea turtle	
		Demochelys coriacea	(E)
		Atlantic Loggerhead	
		Caretta caretta caretta	(T)
	Plants	Bay Cedar	
		Suriana maritima	(E)
		Sanibel Island Lovegrass	
		Eragrostis tracyi	(T)
		Beach Creeper	

Section 5: Endangered, Threatened, And Species of Special			
	Concern - Vertebrates and Plants		
Habitat	**Class**	**Species**	**Status**
		Ernodea littoralis	(T)
		Inkberry	
		Scaevola plumieri	(T)
BARRIER BACKBONES	Plants	Florida Coontie	
		Zamia Floridana	(C)
ESTUARIES	Birds	Wood Stork	
		Mycteria americana	(E)
		Bald Eagle	
		Haliaeetus leucocephalus	(E)
		Tricolored Heron	
		Egretta tricolor	(SSC)
		Snowy Egret	
		Egretta thula	(SSC)
		Reddish Egret	
		Egretta rufescens	(SSC)
		Little Blue Heron	
		Egretta caerulea	(SSC)
		Roseate Spoonbill	
		Ajaija ajaja	(SSC)
		Eastern Brown Pelican	
		Pelecanus occidentalis	(SSC)
	Fish	Rivulus	
		Rivulus marmoratus	(SSC)
		Common Snook	
		Centropomus undecimalis	(SSC)
	Plants	West coast prickly apple	
		Cereus gracilis	(E)
BRACKISH BAY	Mammals	W. Indian Manatee	

Section 5: Endangered, Threatened, And Species of Special Concern - Vertebrates and Plants			
Habitat	**Class**	**Species**	**Status**
		Trichechus manatus latirostris	(E)
	Birds	Bald Eagle	
		Haliaeetus leucocephalus	(T)
		Eastern Brown Pelican	
		Pelecanus occidentalis	(SSC)
		American Oyster Catcher	
		Haematopus palliatus	(SSC)
COASTAL WETLANDS	Plants	Golden leather fern	
		Acrostichum aureum	(E)
ORIGINAL WATERWAYS	Mammals	W. Indian Manatee	
		Trichechus manatus latirostris	(E)
	Birds	Eastern Brown Pelican	
		Pelecanus occidentalis	(SSC)
	Amphibians/	American Alligator	
	Reptiles	Alligator mississippiensis	(SSC)
FRESHWATER WETLANDS	Birds	Wood Stork	
		Mycteria americana	(E)
		Snail Kite	
		Rostrhamus sociabilis	(E)
		Limpkin	
		Aramus guarauna	(SSC)
		Tricolored Heron	
		Egretta tricolor	(SSC)
		Snowy Egret	
		Egretta thula	(SSC)
		Reddish Egret	
		Egretta rufescens	(SSC)
		Little Blue Heron	

Section 5: Endangered, Threatened, And Species of Special Concern - Vertebrates and Plants			
Habitat	**Class**	**Species**	**Status**
		Egretta caerulea	(SSC)
	Amphibians/ Reptiles	American Alligator	
		Alligator mississipiensis	(SSC)
	Plants	Southern Red Lily	
		Lilium catesbaei	(T)
SHADY HAMMOCKS	Plants	Golden Polypody	
		Phlebodium aureum	(T)
		Dwarf Palmetto	
		Sabal minor	(T)
		Rein Orchid	
		Habenaria distans	(E)
		Tampa Vervain	
		Verbena tampensis	(E)
		Shoestring Fern	
		Vittaria lineata	(T)
PINE PRAIRIES	Mammals	Sherman’s Fox Squirrel	
		Sciurus niger shermani	(SSC)
	Birds	American Kestral	
		Falco sparverius paulus	(T)
	Amphibians/ Reptiles	Florida Pine Snake	
		Pituophis melanoleucus mugitus	(SSC)
		Blue Butterwort	
		Pinguicula caerulea	(T)
		Yellow Butterwort	
		P. lutea	(T)
		Wild Coco Orchid	
		Pteroglossapsis ecristata	(T)

Section 5: Endangered, Threatened, And Species of Special Concern - Vertebrates and Plants			
Habitat	**Class**	**Species**	**Status**
		Rain Lily	
		Zephyranthes atamasco	(T)
GRASSY DRY PRAIRIES	Birds	American Sandhill Crane	
		Grus canadensis pratensis	(T)
		Audubon's Crested Caracara	
		Polyborus plancus	(T)
		Burrowing Owl	
		Speotyto cunicularia	(SSC)
	Plants	Hand Adder's Tongue Fern	
		Ophioglossum palmatum	(E)
HIGH DRY SCRUB	Mammals	Sherman's Fox Squirrel	
	Plants	Hand Adder's Tongue Fern	
		Sciurus niger shermani	
		Florida Mouse	
		Podomys floridanus	(SSC)
	Birds	Florida Scrub-Jay	
		Aphelocoma coerulescens coerulescens	(T)
	Amphibians/ Reptiles	eastern Indigo Snake	
		Drymarchon corais couperi	(T)
		Florida Gopher Frog	
		Rana areolata	(SSC)
		Gopher Tortoise	
		Gopherus polyphemus	(SSC)
	Plants	Florida Coontie	
		Zamia Floridana	(C)
		Florida Bonamia	
		Bonamia grandiflora	(E)
		Curtiss' Milkweed	

Section 5: Endangered, Threatened, And Species of Special			
	Concern - Vertebrates and Plants		
Habitat	**Class**	**Species**	**Status**
		Asclepias curtissii	(E)

Key to Status Listings

ANIMALS

Florida Game and Freshwater Fish Commission and U.S. Fish and Wildlife Service

T = Threatened

E = Endangered

SSC = Species of Special Concern (FGFWFC)

PLANTS

Florida Department of Agriculture and Consumer Services

T = Threatened

E = Endangered

CE = Commercially Exploited

Source: Don A. Wood, Florida Game and Freshwater Fish Commission, "Florida's Endangered Species, Threatened Species and Species of Special Concern", April 29, 1996

The information provided in this list should not be considered as a final statement regarding the habitat and/or status of endangered, threatened, and species of special concern in Sarasota County. The list only recognizes primary habitat for listed species. Many species utilize more than one type of habitat. Prior to development, an on-site inspection must be conducted using recognized sampling techniques to determine the presence of endangered, threatened, and/or species of special concern. Official lists are updated periodically and should be consulted for changes.

Section 6: Native Habitat Cross-Reference

APOXSEE DESIGNATION	FLUCCS DESIGNATION	FNAI DESCRIPTION	26 ECOLOGICAL COMMUNITIES OF FLORIDA
Nearshore Gulf and Bay			
Marine and Estuarine Consolidated Substrate	730/Exposed Rock	Consolidated Substrate	Not included *
Sandy Coasts			
Beaches	710/Beaches Other Than Swimming Beaches	Beach Dune	South Florida Coastal Strand – No. 2
Dunes	322/Coastal Scrub; 720/Sand other than Beaches	Beach Dune; Coastal Grassland	South Florida Coastal Strand – No. 2
Barrier Backbones			
Coastal Hammock	322/Coastal Scrub; 425/Temperate Hardwood 426/Tropical Hardwoods; 427/Live Oak; 428/Cabbage Palm; 432/Sand Live Oak	Maritime Hammock	South Florida Coastal Strand – No. 2
Indian Mounds	425/Temperate Hardwood; 426/Tropical Hardwoods; 427/Live Oak	Shell Mound	South Florida Coastal Strand – No. 2
Estuaries			
Mangrove Swamps	612/Mangrove Swamps	Tidal Swamp	Mangrove Swamp – No. 19
Tidal Marsh	642/Saltwater Marshes; 651/Tidal Flats	Tidal Marsh	Salt Marsh – No. 18
Brackish Bays			
Seagrass Beds	911/Sea Grass	Seagrass Bed	Not included *
Oyster Bars	654/Oyster Bars	Mollusk Reef	Not included *
Bay Waters	540/Bays and Estuaries	Not included	Not included *
Original Waterways			
Coastal Streams	510/Streams and Waterways	Blackwater Stream	Not included *
The Myakka River	510/Streams and Waterways; 550 Major Springs	Blackwater Stream; Spring Run Stream	Not included *

APOXSEE DESIGNATION	FLUCCS DESIGNATION	FNAI DESCRIPTION	26 ECOLOGICAL COMMUNITIES OF FLORIDA
Freshwater Wetlands			
Swamps	613/Gum Swamp; 615/Stream and Lake Swamps (Bottomland); 616/Inland Ponds and Sloughs; 617/Mixed Wetland Hardwoods; 630/Wetland Forest Mixed	Bottomland Forest; Floodplain Forest; Floodplain Swamp; Freshwater Tidal Swamp; Hydric Hammock; Basin Swamp	Bottomland /Swamp Hardwoods – No. 20 & 21
Marshes and Sloughs	641/Freshwater Marshes; 643 Wet Prairies	Floodplain Marsh; Slough; Swale	Freshwater Marsh and Slough – No. 25 & 26
Wet Prairies	641/Freshwater Marshes; 643/Wet Prairies; 644/Emergent Aquatic Vegetation	Wet Prairie; Depression Marsh	Sloughs – No. 26 **
Heads	611/Bay Swamps; 613/Gum Swamps; 616/Inland Ponds and Sloughs; 641/Freshwater Marshes; 643/Wet Prairies; 644/Emergent Aquatic Vegetation	Baygall; Swale; Basin Marsh	Shrub Bogs – Bay Swamps – No. 22 **; Wetland Hardwood Hammocks-No. 12**
	Prairies; 644/Emergent Aquatic Vegetation		
Shady Hammocks			
Mesic Hammocks	414/Pine-Mesic Oak; 423/Oak-Pine-Hickory; 425/Temperate Hardwood; 427/Live Oak; 428/Cabbage Palm; 434/Hardwood-Conifer Mixed; 438/Mixed Hardwoods	Upland Hardwood Forest	Cabbage Palm/Upland Hardwood Hammocks– No. 11 & 13
Xeric Hammocks	421/Xeric Oak;423/Oak-Pine-Hickory; 425/Temperate Hardwood; 427/Live Oak; 432/Sand Live Oak	Xeric Hammock	Upland Hardwood Hammocks – No. 13
Pine Prairies			
Pine Flatwoods	411/Pine Flatwoods; 414/Pine-Mesic Oak; 419 Other Pines; 428/Cabage Palm	Mesic Flatwoods; Pine Flatwoods	South Florida Flatwoods – No. 6
Dry Prairies	310/Herbaceous; 321/Palmetto Prairies	Dry Prairie	South Florida Flatwoods – No. 6
High Dry Scrubs			
Sand Pine Scrub	413/Sand Pine	Scrub	Sand Scrub – No. 3
Scrubby Flatwoods	411/Pine Flatwoods	Scrubby Flatwoods	Sand Scrub – No. 3

APOXSEE DESIGNATION	FLUCCS DESIGNATION	FNAI DESCRIPTION	26 ECOLOGICAL COMMUNITIES OF FLORIDA
Turkey Oak Ridges	412/Longleaf Pine-Xeric Hammock; 421/Xeric Oak	Sandhill	Longleaf Pine-Turkey Oak Hills – No. 4