

Sanibel-Captiva Conservation Foundation, SCCF
Sanibel River Corridor Habitat Restoration

AGENCY: Sanibel-Captiva Conservation Foundation
Habitat Management Program

CONTACT: David W. Ceilley, Restoration Ecologist
Sanibel-Captiva Conservation Foundation
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Phone: (941) 472-2329

STATUS: Partially completed and ongoing.

OBJECTIVE: Acquisition and Restoration of the Sanibel River Corridor. Between 1990 and 1995 approximately 230 acres adjacent to the Sanibel River have been completely restored by the removal and control of invasive exotic plants and by increasing water levels to near historic conditions. Approximately 58 additional acres has just been cleared of exotics, primarily Brazilian pepper, and is being monitored for plant re-establishment.

APPROACH: Water levels were restored by the installation of two control structures on downstream reaches of the river, increasing storage and restoring wet season hydroperiods. Several techniques are employed to eradicate exotic plants, including root rakes, mower decks, selective herbiciding and hand removal. Maintenance/management includes prescribed burning and control of non-native and nuisance vegetation. Ongoing research is conducted to document fish and wildlife utilization of restored and unrestored sites. On several sites (in various stages of restoration), monitoring includes qualitative and semi-quantitative assessments of the plant, macroinvertebrate, fish, amphibian, reptile and bird communities.

SAMPLE

SELECTION: Monitoring of flora and fauna is conducted at representative locations in different treatment areas. Fixed quadrats and line transects are currently being used to track vegetation communities. Dip nets, seines and Breder traps are used to sample fish and macroinvertebrates while drift fences with funnel traps and pits are used for amphibians and reptiles. Audible and visual surveys are also conducted for anurans and birds. Sherman traps are being used to monitor small mammals on SCCF land.

**SAMPLING
EFFORT:**

Sampling effort is limited due to limited resources for biological monitoring. However, recently restored sites are being monitored at least seasonally or twice per year. Color photographs are taken at each stage of restoration, baseline, time-zero and semi-annually for the first year.

OTHER

**Charlotte County
Public Boating Access - GIS**

AGENCY: Charlotte County Planning Department/ Florida Sea Grant

CONTACT: Elliot Kampert
Charlotte County Planning Department
18500 Murdock Circle
Port Charlotte, FL 33948
Phone: (941) 743-1266

Gustavo Antonini
University of Florida
Phone 904-392-6233 or 941-575-3095

STATUS: Completed.

OBJECTIVE: To determine county-wide marine, land and water use siting for boating.

APPROACH: A geographical information system study was undertaken in 1991. This study also addressed the need to provide for adequate future public access to the shore and water, maintenance of existing navigation, land-side infrastructure and zoning to support marine uses, and adequate standards for public boat ramp access, marina wet slips and dry storage. The study results provide Charlotte County with a planning instrument that specifies the type, quantity and location of public shore access and boating facilities (marinas, ramps, docks) needed to meet anticipated demand through the year 2010.

**SAMPLE
SELECTION:**

A regional assessment of boating infrastructure and marine resources divides Charlotte County into five areas: Zone 1 (Lemon Bay to Gasparilla Sound, 12 percent of salt-water parcels); Zone 2 (South Gulf Cove and El Jobean, 24 percent); Zone 3 (Port Charlotte West of US 41, 19 percent); Zone 4 - (Peace River upstream from the US 41 bridge to DeSoto County boundary, 19 percent); and Zone 5 - (Punta Gorda Isles, Alligator Creek and Pirate Harbor, 26 percent).

**SAMPLING
EFFORT:**

Specific study elements include: (a) a profile of supply-demand characteristics of boaters; (b) an inventory and mapping of current land-side infrastructure and water access; (c) a suitability evaluation of potential sites to expand marinas, ramps and docks to meet anticipated boater demands; (d) identification of regulatory policies that affect development, use and protection of the county's marine resources, and assessment of current regulatory limits to permit water-dependent and water-related uses; (e) an evaluation of preferred taxation strategies to provide public access to bay waters; and (f) recommendations of changes to the county comprehensive plan to accommodate water-dependent and water-related uses. The results, summarized below, should assist Charlotte County in determining: (1) how to achieve sustainable coastal development; (2) how to guide future uses along its shoreline; and (3) how to prioritize water-dependent and water-related activities in marine use areas

**Lee County Public Works Department
Pilot Program to Quantify Shoreline Changes in Lee County**

AGENCY: Lee County Public Works Department
Environmental Services Division
Natural Resources Management

CONTACT: Roland Ottolini
Lee County Public Works Department
Natural Resources Management
Post Office Box 398
Ft. Myers, Florida 33902-0398
Phone: (941) 479-8127

STATUS: Ongoing Study.

OBJECTIVE: To develop an objective and cost effective method to track changes in the position of the mean high water line (MHWL) along Lee County beaches.

APPROACH: Computer aided analysis of aerial photography. Multiple analyses are conducted to develop automated technique to determine MHWL via tonal differences while minimizing errors associated with roll, scale, tidal variation and horizontal control, and providing cost effective coverage of large areas.

SAMPLE SELECTION: Samples are represented by the photograph(s) of the shoreline being analyzed.

SAMPLING EFFORT: Preliminary work conducted along entire Lee County shoreline. Ongoing work to focus on Captiva Island and Lover's Key.

Florida Game and Fresh Water Fish Commission
Land Cover Maps

AGENCY: Florida Game and Fresh Water Fish Commission (GFC)

CONTACT: Randy S. Kautz
Office of Environmental Services
Florida Game and Fresh Water Fish Commission
620 South Meridian Street
Tallahassee, Florida 32399
Phone: (800) 282-8002

STATUS: Ongoing.

OBJECTIVE: To maintain a landcover map for the State of Florida including wildlife habitats.

APPROACH: Data collected by GFC, Florida Department of Transportation, and the University of Florida and placed in GIS in an ArcInfo format. Initial mapping is from LANDSAT photography. Ground truthing is performed by GFC and University of Florida.

SAMPLE SELECTION: Ground truthing sites are both preselected and collected as opportunity provides. Quality control includes review by GFC wildlife biologists.

SAMPLING EFFORT: Every ten (10) years if funding is available. Current update is in progress but ground truthing is not completed.

**South Florida Water Management District
Habitat-Related GIS Coverages**

AGENCY: South Florida Water Management District

CONTACT: Joe Chapa
South Florida Water Management District
GIS Sciences, Information Resources Division
3301 Gun Club Road
West Palm Beach, FL 33416-4680
(561) 686-8800 ext. 6056

STATUS: A land use/land cover GIS coverage (1:24,000 scale) for the entire District was developed through photo-interpretation of color IR aerial photographs taken during 1988. The coverage is currently being updated based on 1995 aerial photos. Additional habitat-related GIS coverages include:

- State and public lands (scale varies),
- National Wetlands Inventory (1:24,000 scale), and
- National Resources Conservation Service (NRCS) detained soils maps (1:24,000 scale).

OBJECTIVE: To provide a consistent GIS coverage of land use/land cover and other habitat-related information for the District.

APPROACH: Color IR photographs were interpreted and digitized to develop the District-wide land use coverage in ArcInfo format. Limited ground truthing was completed. The soil coverage was digitized from NRCS Soil Survey Maps. State and public lands were delineated from tax roll maps. National Wetlands Inventory data were obtained from the National Biological Survey.

SAMPLE

SELECTION: Ground truthing sites for land use are pre-selected or collected as opportunity provides. Quality control includes review by District staff.

SAMPLING

EFFORT: Update of land use coverage based on new aerial photographs is in progress. The soils and National Wetlands Inventory coverages are not scheduled for updates. District-owned lands coverage is updated as new lands are acquired.

**Southwest Florida Water Management District
Habitat-Related GIS Coverages**

AGENCY: Southwest Florida Water Management District

CONTACT: Steven Dicks or Diana Burdick
Southwest Florida Water Management District
Mapping and GIS Section
2379 Broad Street
Brooksville, FL 34609-6899
(352) 796-7211

STATUS: A land use/land cover GIS coverage for the entire District was developed through photo-interpretation of color IR aerial photographs taken during 1989-1990. The coverage is currently being updated based on 1994-1995 digital orthophotos. Additional habitat-related GIS coverages include:

- District-owned lands,
- 1982, 1988, 1992, and 1994 seagrass inventory coverages, and a coverage of changes between each inventory, and
- National Resources Conservation Service (NRCS) detained soils maps.

OBJECTIVE: To provide a consistent GIS coverage of land use/land cover and other habitat-related information for the District.

APPROACH: Color IR photographs were interpreted and digitized to develop the District-wide land use coverage in ArcInfo format. Seagrasses were digitized from natural color aerial photography. Limited ground truthing was completed. The soil coverage was digitized from NRCS Soil Survey Maps. District-owned lands were delineated from tax roll maps.

SAMPLE SELECTION: Ground truthing sites for land use and seagrass coverages are pre-selected or collected as opportunity provides. Quality control includes review by District staff.

SAMPLING EFFORT: Update of land use coverage based on new aerial photographs is scheduled for every five (5) years. Current update is in progress. Seagrass coverage is scheduled for update every two (2) years. The soil coverage is not scheduled for an update. District-owned lands coverage is updated as new lands are acquired.

**U.S. Fish and Wildlife Service
Exotic Plants in Management Area**

- AGENCY:** U.S. Fish and Wildlife Service (FWS)
- CONTACT:** Jim Krakowski
Refuge Manager
Florida Panther National Wildlife Refuge
3860 Tollgate Blvd., Suite 30
Naples, FL 34114
Phone: (941) 353-8442
- STATUS:** Annual survey of management areas in Collier, Lee and Charlotte Counties.
- OBJECTIVE:** To assess the extent of the invasive exotic plant problem in southwest Florida; identify new invaders and the extent of their spread; and assess the various control techniques used on management areas and disseminate the information.
- APPROACH:** Each year a survey form is mailed to land managers within this region. Land managers are asked to list: exotic species present, coverages, habitat type and control techniques employed. The FWS compiles this information, has it presented at an annual workshop, and provides a written report to those agencies participating.
- SAMPLE SELECTION:** Agencies with land management responsibilities are chosen.
- SAMPLING EFFORT:** Three agencies within the Charlotte Harbor Watershed have participated: J.N. Ding Darling NWR; Charlotte Harbor and Estero Bay Department of Environmental Protection, Aquatic Preserves.

**Florida Department of Environmental Protection
Southwest Florida Anchorage Monitoring
Estero Bay & Charlotte Aquatic Preserves**

- AGENCY:** Florida Department of Environmental Protection (FDEP)
Estero Bay & Charlotte Harbor Aquatic Preserves
- CONTACT:** Heather Stafford, Environmental Specialist II
700-1 Fisherman's Wart
Fort Myers Beach, FL 33931
(941) 334-3680: (941) 463-3240
Fax: (941) 463-3634
- STATUS:** On-going.
- OBJECTIVE:** To monitor baseline and long term boater suitability and environmental and social impacts of anchorages in Aquatic Preserves, as identified in the "Guide to Anchorages in Southwest Florida" book.
- APPROACH:** The monitoring design and implementation is a joint project between Florida Department of Environmental Protection and the University of Florida Sea Grant Program. Initial, baseline monitoring of water depths, sediment types, seagrasses, signage, shoreline land uses, boater services, and boat numbers, locations and transient/liveaboard status is collected. Water depths, sediment types and seagrasses are monitored by conducting series of transects across the anchorages towing a snorkeler behind the boat. Signage and boat numbers/locations/status are made by visual observation. Data are recording using a Trimble GPS unit & data logger. Shoreline land use and boater services are made using aerial photography and field observations. Additional environmental and boater related parameters may be added in the future. Data are downloaded into a personal computer. Graphics may be printed out and are available to agencies, institutions & the public and will be incorporated into revisions Of the guide book.
- SAMPLE SELECTION:** The 20 anchorages being monitored are those included in the guide book. Initial baseline data has been collected for Matanzas Pass, Roosevelt Channel and Boca Grande Bayou.
- SAMPLING EFFORT:** Initial baseline data for Matanzas Pass, Roosevelt Channel and Boca Grande Bayou was collected in the later half of 1996. Semi-regular, long-term monitoring of boat usage of the 20 anchorages began in summer 1996.