



MARINE PROTECTED AREAS in the Gulf of Mexico: *A SURVEY*

STEPHANIE SHOWALTER
Mississippi-ALABAMA SEA GRANT LEGAL PROGRAM

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In 2000, recognizing the growing importance of Marine Protected Areas (MPAs), President Clinton signed Executive Order 13,158 calling for the expansion and protection of MPAs in the United States. In the wake of the E.O. 13,158, the Mississippi-Alabama Sea Grant Legal Program received a grant to conduct a review of MPAs in the Gulf of Mexico; analyzing enabling legislation, agency jurisdiction, and regulations. *Marine Protected Areas in the Gulf of Mexico: A Survey* is the result of that research.

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Introduction

Any area of the marine environment that has been reserved by Federal, State, territorial, tribal, or local laws or regulations to provide lasting protection for part or all of the natural and cultural resources therein.¹

Marine Protected Areas: An Overview

The popularity of Marine Protected Areas (MPAs) has grown significantly in recent years. There are approximately 300 marine protected areas in the U.S.² MPAs should not be confused with “marine reserves,” which are just one type of MPA. “Marine reserves are areas in which no extractive use of any resource - living, fossil, or mineral - nor any habitat destruction is allowed.”³ The categories of MPAs can range from strictly protected wilderness areas to multiple-use areas.⁴ In the middle are “no-take marine reserves” – areas of the marine environment where fishing, both commercial and recreational, is prohibited by law, but other recreational activities are permitted.

The establishment of MPAs, especially marine reserves, is often controversial. There is strong resistance in many sectors to placing restrictions on a traditionally public resource, the ocean. Commercial fishermen fear the loss of income and a way of life. Recreational users, fishermen, divers, and boaters worry about the loss of access. Despite the fact that oceans cover 71 percent of the Earth’s surface, only 1 percent of the oceans are set aside as marine protected areas, and only 1 percent of the marine areas under U.S. jurisdiction have been designated.⁵ Even when an area is designated an MPA, fishing prohibitions are unlikely. Although 5 percent of Florida Keys National Marine Sanctuary (NMS) and approximately 10 percent of the Channel Islands NMS in California are designated no-take marine reserves, it is not a common management technique even within the National Marine Sanctuary System.

MPAs are designed to achieve a variety of goals generally falling within six categories: conservation of biodiversity and habitat, fishery management, research and education, enhancement of recreation and tourism, maintenance of marine ecosystems, and protection of cultural heritage.⁶ MPAs help maintain essential ecological processes and life support systems, preserve genetic diversity, and ensure the sustainable utilization of species and ecosystems.⁷ MPAs are often proposed as components of fisheries management to enhance the long-term sustainable exploitation of fisheries resources or rebuild depleted stocks and to protect particularly delicate areas or previously exploited areas.

Evidence is mounting that MPAs are an effective management tool to preserve habitat, improve fish stocks, and protect resources. Anecdotal evidence suggest marine reserves have a “spillover effect” on surrounding waters, increasing population densities and fish size outside the reserve.⁸ Restrictions on trawling protect seabeds and benthic communities. Increasing diversity and restoring habitat can lead to improved visitor experience. Designation of cultural heritage MPAs, such as the Thunder Bay National Marine Sanctuary in Lake Huron and Midway National Wildlife Refuge on Midway Atoll, can prevent the removal and damage of historical artifacts.

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1. Exec. Order No. 13,158, 65 Fed. Reg. 34,909, 34,909 (May 26, 2000).
 2. NOAA, TURNING TO THE SEA: AMERICA’S OCEAN FUTURE 44 (1999) (available at <http://www.publicaffairs.noaa.gov/oceanreport/marineareas.html>).
 3. STEPHEN PALUMBI, PEW OCEANS COMMISSION, MARINE RESERVES: A TOOL FOR ECOSYSTEM MANAGEMENT AND CONSERVATION 2 (2002).
 4. GUIDELINES FOR MARINE PROTECTED AREAS, IUCN xviii (Graeme Kelleher ed. 1999)
 5. NOAA, *supra* note 2, at 44.
 6. NATIONAL RESEARCH COUNCIL, MARINE PROTECTED AREAS: TOOLS FOR SUSTAINING THE OCEANS 21-29 (2001).
 7. GUIDELINES FOR MARINE PROTECTED AREAS, IUCN vii (Graeme Kelleher ed. 1999)
 8. NATIONAL RESEARCH COUNCIL, *supra* note 6, at 75.

The world's oceans are currently under attack from all sides. Pollution affects water quality and species health, overfishing causes wide-spread economic hardship and ecological damage, and habitat destruction further reduces populations of marine species. A global network of Marine Protected Areas may be humanity's best management option to stem the tide of destruction. The United States took the first step towards such a network in 2000.

MPA Executive Order

In May 2000, President Clinton signed Executive Order 13,158.⁹ Executive Order 13,158 seeks to strengthen the management, protection, and conservation of existing MPAs, establish new MPAs, and develop a comprehensive national system of MPAs. This National MPA Initiative has five main components: (1) establishment of an MPA Center within the Department of Commerce, (2) development of an MPA website, (3) creation of an MPA Advisory Committee, (4) development and maintenance of a nationwide list of MPAs, and (5) the directive that Federal agencies whose action may damage the marine and cultural resources of an MPA must take steps to avoid causing harm to protected resources.

As a first step towards the development of the nationwide list of MPAs, the National MPA Center is developing a National Marine Managed Areas (MMA) Inventory to provide baseline information on existing marine managed areas. To be included in the Inventory, sites must meet the Executive Order's definition of "marine protected area." The site must be an "area of the marine environment that has been reserved by Federal, State, territorial, tribal, or local laws or regulations to provide lasting protection for part or all of the natural and cultural resources therein."¹⁰ More specifically, the area must:

- (1) have defined boundaries and underlying submerged or intertidal lands;
- (2) be an area of ocean or coastal waters or the Great Lakes;
- (3) be established by or currently subject to regulation;
- (4) provide year-to-year protection for at least three months of the year with an expectation of permanence; and
- (5) have existing regulations designed to afford the site increased protection for natural and submerged culture resources for the purpose of maintaining and enhancing the long-term conservation of those resources.¹¹

Marine Protected Areas can be established in a variety of ways. Congress and state legislatures can establish MPAs by legislative action. Legislation may also empower federal and state agencies to designate areas. Additionally, some federal and state commissions have the authority to create MPAs. In general, federal MPAs fall into five categories: (1) marine sanctuaries, (2) national seashores, (3) wildlife refuges, (4) National Estuarine Research Reserves, and (5) National Estuary Programs.

National Marine Sanctuaries

The National Marine Sanctuaries Act (NMSA)¹² authorizes the Secretary of Commerce to designate marine areas of national significance, due to "conservation, recreational, ecological, historical, scientific,

9. Exec. Order No. 13,158, 65 Fed. Reg. 34,909, 34,909 (May 26, 2000).

10. *Id.*

11. Definitions of MPA and MMA Working Criteria, *available at* http://www.mpa.gov/mpaservices/sup_criteria.html. It is important to note that while the National Sea Grant Law Center is assisting the National MPA Center with the compilation of legal information for the Gulf states for the MMA Inventory, the Mississippi-Alabama Sea Grant Legal Program's survey was not constrained by similar criteria. The authors of *Marine Protected Areas in the Gulf of Mexico: A Survey* chose to include all areas, inland and offshore, which receive heightened protection under federal or state law to provide the public with a comprehensive guide to significant ecological sites along the Gulf Coast. Any difference between our list and the National MMA Inventory is the result of this difference in criteria.

12. 16 U.S.C. §§ 1431-1445c-1 (2003).

cultural, archaeological, educational, or esthetic qualities,"¹³ as national marine sanctuaries. The NMSA requires comprehensive and coordinated conservation and management of the sanctuaries, the enhancement of public awareness of the marine environment, and the facilitation of all public and private uses of resources not prohibited pursuant to other authorities.¹⁴ To designate a sanctuary, the Secretary must consider present and potential uses of the area that depend on maintenance of the area's resources, including commercial and recreational fishing and other activities, research, and education.¹⁵ In addition, the Secretary should consider the public benefits to be derived from sanctuary status, with emphasis on the benefits of long-term protection of nationally significant resources, vital habitats, and resources which generate tourism.¹⁶

National Seashores

Of the 201 national parks in coastal areas, over thirty contain significant marine areas.¹⁷ National Seashores are designated individually by Congressional act and managed by the National Park Service pursuant to the National Parks Organic Act of 1916.¹⁸ Under the Act, the Service must manage the parks to "conserve the scenery and the natural and historic objects and the wild life therein and to provide for the enjoyment of the same in such manner and by such means as will leave them unimpaired for the enjoyment of future generations."¹⁹

National Wildlife Refuges

The National Wildlife Refuge System is a national network of lands and waters which is administered by the U.S. Fish and Wildlife Service "for the conservation, management, and where appropriate, restoration of the fish, wildlife, and plant resources and their habitats within the United States for the benefit of future generations of Americans."²⁰ National Wildlife Refuges may be established by Congress and authorized federal agencies. The removal or destruction of the property of the U.S., including natural growth, from any part of the System is prohibited, as well as the taking or possession of fish, birds, or other animals.²¹ However, the Secretary of Interior may authorize the use of a Refuge for recreational activities, such as hunting, fishing, and camping, if compatible with the purposes for which the Refuge was established.²² A comprehensive conservation plan must be developed for each Refuge, which should be consistent with the fish and wildlife conservation plans of the state in which the Refuge is located.²³ Nothing in the National Wildlife Refuge System Administration Act affects the authority of the States to regulate fish and wildlife within the Refuge pursuant to State law.²⁴ Federal regulations permitting hunting and fishing should be consistent, to the extent practicable, with state laws.²⁵

Some National Wildlife Refuges are designated by the Migratory Bird Conservation Commission. The Migratory Bird Conservation Act²⁶ established the Migratory Bird Conservation Commission (Commission), whose membership consists of the Secretaries of Interior and Agriculture, the Administrator of the Environmental Protection Agency (EPA), two members of the Senate, selected by

13. 16 U.S.C. § 1433(a)(2)(A) (2003).

14. *Id.* § 1431(b).

15. *Id.* § 1433(b)(1)(C).

16. *Id.* § 1433(b)(1)(G).

17. NATIONAL RESEARCH COUNCIL, *supra* note 6, at 154.

18. 16 U.S.C. §§ 1 - 459b-6 (2003)

19. 16 U.S.C. § 1 (2003).

20. 16 U.S.C. § 668dd(a)(2) (2003).

21. *Id.* § 668dd(c).

22. *Id.* § 668dd(d)(1)(A).

23. *Id.* § 668dd(e)(1).

24. *Id.* § 668dd(m).

25. *Id.*

26. 16 USC §§ 715 – 715(s) (2003).

the President of the Senate, and two members of the House of Representatives, selected by the Speaker of the House.²⁷ The Commission approves the purchase or rental of lands and waters recommended by the Secretary of the Interior, which are necessary for the conservation of migratory birds.²⁸ The recommended lands are generally purchased with Migratory Bird Conservation funds, such as revenues derived from the sale of Duck Stamps.

National Estuary Research Reserves

Established under the Coastal Zone Management Act²⁹, the National Estuarine Research Reserve (NERR) System contains areas, representative of a particular estuarine ecosystem, suitable for long-term research.³⁰ For an area to become a NERR, its designation must “serve to enhance public awareness and understanding of estuarine areas and provide suitable opportunities for public education and interpretation.”³¹ The NERR System also provides a framework through which management approaches, research results, and techniques for estuarine education and interpretation can be shared with other programs.³²

National Estuary Program

The National Estuary Program was established in 1987 as an amendment to the Clean Water Act. When the Administrator of the EPA determines, on his own initiative or upon a state nomination, that the attainment or maintenance of water quality in an estuary “requires the control of point and nonpoint sources of pollution to supplement existing controls of pollution in more than one State,” the EPA shall convene a management conference for that estuary.³³ The purpose of the management conference is to assess trends in water quality, collect data on toxins, nutrients, and natural resources, and develop a comprehensive conservation and management plan.³⁴ The National Estuary Program has no regulatory authority. Rather, the programs are implemented by the appropriate state entities designated in the plans.

Each of the above categories of MPAs is managed by a different federal agency. Although the regulatory authorities of various federal agencies often overlap with regard to the marine environment, there are only a few key players.

NOAA Fisheries

According to the National Oceanic and Atmospheric Agency’s website, the mission of NOAA Fisheries, better known as the National Marine Fisheries Service, is to rebuild and maintain sustainable fisheries, promote the recovery of protected species, and protect and maintain the health of coastal marine habitats.³⁵ NOAA Fisheries’ four regulatory program offices have a wide range of responsibilities. The Office of Sustainable Fisheries (OSF) implements the Sustainable Fisheries Act and manages domestic, highly migratory, and international fish species. OSF also administers the National Seafood Inspection Laboratory. The Office of Protected Resources implements the Marine Mammal Protection Act and the Endangered Species Act for species within NOAA Fisheries’ jurisdiction. The Office of Habitat Conservation manages and conserves habitat for protected species, fisheries, and other living marine

27. *Id.* § 715a.

28. *Id.*

29. 16 U.S.C. §§ 1451-1465 (2003).

30. 16 U.S.C. § 1461(b)(2)(A) (2003).

31. *Id.* § 1461(b)(2)(C).

32. *Id.* § 1461(c).

33. 33 U.S.C. § 1330(a) (2003).

34. *Id.* § 1330(b).

35. NOAA, *WHAT WE DO*, available at <http://www.nmfs.noaa.gov/what.htm> (last visited on October 28, 2003).

resources. The Office of Science and Technology oversees NOAA Fisheries scientific research and development activities. NOAA Fisheries also has its own Office of Law Enforcement.

Fish and Wildlife Service

Officially established in 1940, the Fish and Wildlife Service (FWS), an agency within the Department of Interior, works to conserve, protect, and enhance freshwater fish and terrestrial wildlife and plants and their habitats. The FWS's key functions include the protection of endangered species and migratory birds, the enforcement of wildlife laws, restoration of fisheries, and habitat conservation. The FWS implements numerous statutes, including the Endangered Species Act, the Migratory Bird Conservation Act, and the Lacey Act, and administers the National Wildlife Refuge System and the National Fish Hatchery Program. The FWS maintains the National Wetlands Inventory which provides information on the characteristics and status of U.S. wetlands and deepwater habitats. The agency also works with other countries to implement international treaties such as Convention on the International Trade in Endangered Species of Wild Flora and Fauna (CITES). The FWS's Division of Law Enforcement utilizes a network of special agents to enforce wildlife laws and international treaties.

National Park Service

The National Park Service also sits within the Department of the Interior. Its mission is "to conserve the scenery and the natural and historic objects and the wild life therein and to provide for the enjoyment of the same in such manner and by such means as will leave them unimpaired for the enjoyment of future generations."³⁶ The National Park Service administers the National Park System, which includes the national monuments and seashores.

Environmental Protection Agency

The EPA is an independent governmental agency that administers the nation's pollution control programs. The EPA implements and enforces, among others, the Clean Air Act, the Clean Water Act, the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), the Resource Recovery and Conservation Act, and the Oil Pollution Act. The EPA also funds research activities and environmental education programs throughout the country.

National Ocean Service

The National Ocean Service, a NOAA office, is a scientific and technical organization composed of ten program offices. The National Marine Sanctuary Program implements the National Marine Sanctuaries Act and manages thirteen designated sanctuaries. The Office of Ocean and Coastal Resource Management implements the Coastal Zone Management Act. The Center for Operational Oceanographic Products and Services assists maritime commerce by providing oceanographic observations and predictions and the National Geodetic Survey maintains the national system of positioning data. The National Centers for Coastal Ocean Science support and conduct coastal ecosystem research and the Coastal Services Center provides information and technical support to state and local coastal resource managers. The Office of Response and Restoration is the nation's primary responder to oil spills and hazardous releases, the Office of Coast Survey makes nautical charts, and the International Program Office coordinates NOS's international activities.

36. 16 U.S.C. § 1 (2003).

The Coast Guard

Originally part of the Department of Commerce, the Coast Guard moved to the Department of Homeland Security during the governmental reorganization following September 11th. The Coast Guard may have one of the most multi-faceted missions in the entire U.S. government. In addition to maritime mobility, safety, and security, the Coast Guard also has national defense duties and mandates requiring it to protect natural resources. With regard to national resources, the Coast Guard has programs in maritime pollution education, prevention, response, and enforcement; foreign vessel inspection; living marine resource law enforcement; and marine and environmental science. NOAA heavily relies on the Coast Guard to enforce U.S. fisheries and marine protection laws on the open seas.

The U.S. legal regime for the ocean and coasts is a complicated matrix of overlapping statutes and regulations. In addition to the enabling legislation detailed above, MPAs are protected by general environmental legislation and agency regulations, both general and site-specific.

National Environmental Policy Act

Under the regulations implementing NEPA, an environmental document called an Environmental Assessment (EA) is used to determine whether a federal action rises to the level of a “major federal action significantly affecting the quality of the human environment,” thus triggering the requirement of an Environmental Impact Statement (EIS). Based on the EA, if an action does not rise to that level, a finding of no significant impact (FONSI) is made, and the analysis is complete.

For every major federal action significantly affecting the quality of the human environment, the National Environmental Policy Act (NEPA)³⁷ requires the relevant federal agency prepare an EIS detailing: (1) the environmental impact of the proposed agency action, (2) any adverse environmental effects that cannot be avoided, (3) alternatives to the action, and (4) any irreversible and irretrievable commitments of resources that would be involved.³⁸

Endangered Species Act

The Endangered Species Act (ESA)³⁹ provides a program for the conservation of endangered and threatened species by establishing a list and providing various protections for listed species and their habitats. Under the ESA, a species is endangered when it is “in danger of extinction throughout all or a significant portion of its range.”⁴⁰ A threatened species is “any species which is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range.”⁴¹ The ESA prohibits the taking of an endangered species, which is defined broadly and includes harassment, harm, pursuit, hunting, shooting, wounding, killing, trapping, capturing, collecting, or attempting to engage in any of these activities.⁴²

Once the Secretaries of Interior and Commerce determine that a species is endangered or threatened, critical habitat must be designated and a recovery plan developed and implemented. Federal agencies are required to insure that any action authorized, funded, or carried out by such agency will not jeopardize the continued existence of any endangered or threatened species or result in the destruction or adverse modification of critical habitat.

37. 42 U.S.C. §§ 4321-4370f (2003).

38. 42 U.S.C. § 4332(1)(C) (2003).

39. 16 U.S.C. §§ 1531-1544 (2003).

40. 16 U.S.C. § 1532(6) (2003).

41. 16 U.S.C. § 1532(20) (2003).

42. 16 U.S.C. § 1532(19) (2003).

Clean Water Act

The Clean Water Act (CWA)⁴³ establishes the basic framework for restoring and maintaining the chemical, physical, and biological integrity of the nation's waters through the regulation of discharges. The primary mechanism in the CWA for regulating the discharge of pollutants is the National Pollutant Discharge Elimination System (NPDES), administered by the EPA. Under the NPDES program, a permit is required from the EPA or an authorized state agency for the discharge of any pollutant from a point source into the waters of the United States. States must also develop programs to address non-point source pollution, including the identification of best management practices and measures.

In general, the discharge of oil and hazardous substances into coastal and ocean waters is also prohibited. The U.S. Coast Guard, with the cooperation of the EPA, investigates and responds to discharges of oil and hazardous substances in ocean and coastal waters, in accordance with the National Contingency Plan.

The CWA also established the National Estuary Program, which strives to protect and restore U.S. estuaries through a consensus-based approach. Currently, twenty-eight estuaries are part of the program.

Ocean Dumping Act

The Ocean Dumping Act (ODA)⁴⁴ prohibits the transportation of any material through U.S. waters for the purpose of dumping it into ocean waters without a permit. It also prohibits the dumping, without a permit, of any material transported from outside the U.S. into the territorial sea or the contiguous zone of the U.S., to the extent that it may affect the territorial sea or the territory of the U.S. The ocean dumping of sewage sludge, industrial waste, radiological, chemical or biological warfare agents, high-level radioactive waste, and medical waste is also prohibited. ODA permits are issued by the EPA for all materials, except dredged materials. Dredged materials are permitted by the U.S. Army Corps of Engineers, subject to EPA review. States may generally adopt and enforce requirements for ocean dumping activities that occur in their jurisdictional waters.

Each federal MPA in the Gulf of Mexico is unique, established to protect vital resources, habitat, or cultural heritage. State MPAs, however, far outnumber federal sites in the Gulf. Alabama, Florida, Mississippi, Louisiana, and Texas have all identified critical ocean and coastal sites in need of increased protection. While the level of protection for each site varies by state and by site, each site is essential to protecting the species and habitats of the Gulf coast.

The remaining chapters in this report contain a wealth of information on the Marine Protected Areas of the Gulf of Mexico. For each federal and state MPA, a short description of the site is provided, along with the site's date of designation, managing agency, management goals, enabling legislation, and pertinent regulations. Some states choose to enhance protections for particular resources, such as oysters or wetlands, through general, or baseline, legislation. In such situations, summaries of the legislation have been included in the introductory section for that state.

This report is intended to provide the general public with basic information about the MPAs in their states. The references on the following pages to statutes and regulations are not intended as legal advice and should not be relied upon during litigation. Rather, *Marine Protected Areas in the Gulf of Mexico: A Survey* presents a snapshot of the legal framework of Gulf MPAs at the end of 2003. Hopefully, this information base will assist with the development of a MPA network throughout the Gulf, the United States, and, eventually, the world.

43. 33 U.S.C. §§ 1251-1387 (2003).

44. 33 U.S.C. §§ 1401-1445 (2003).

ALABAMA

Introduction

Alabama's coastal areas are managed by the Alabama Department of Environmental Management (ADEM) through the Coastal Area Management Program. The Alabama Coastal Management Program is required to identify and evaluate the coastal resources of the state, determine the present and potential uses and conflicts of those resources, inventory and designate areas of particular concern within the coastal area, and establish guidelines on priority of uses.¹ ADEM also coordinates Alabama's activities with regard to the Gulf of Mexico GEMS program. The GEMS (Gulf Ecological Management Sites) Program is an initiative of the EPA's Gulf of Mexico Program and the five Gulf States to provide a regional framework for the recognition of unique habitats or habitats ecologically significant for the production of fish, wildlife, and other natural resources in the Gulf of Mexico. ADEM nominated eight sites for inclusion in the GEMS program: Cat Island, Bon Secour National Wildlife Refuge, Grand Bay Savanna Bioserve, Lillian Swamp, Mobile-Tensaw River Delta, Orange Beach Maritime Forest, South Mon Louis Island Salt Marsh, and Weeks Bay National Estuarine Research Reserve.

Alabama also protects portions of its coastline through the Alabama Forever Wild Land Trust. The Forever Wild Land Trust was established in 1993, through an amendment to Alabama's constitution, "for the purpose of identifying, acquiring, managing, protecting, and preserving natural lands and waters that are of environmental or recreational importance."² The Department of Conservation and Natural Resources (DCNR) serves as the lead management agency with respect to lands acquired by the state under the program. Separate management plans are developed for each acquired tract.

In addition, coastal Alabama contains two state parks. The DCNR may acquire lands which are desirable for state parks or parkways. The DCNR may make such rules and regulations for the management, administration, occupancy, and use of the acquired lands.³ In 1939, the Alabama Legislation established a Division of Parks within the DCNR. The Division of Parks is empowered to explore, survey, and issue reports concerning state parks, monuments, and historical sites.⁴

General Programs

Artificial Reefs

Pursuant to Alabama Code § 9-12-140 and a U.S. Army Corps of Engineers Permit, the Marine Resources Division of the Alabama Department of Conservation and Natural Resources manages the Alabama Artificial Reef Program to increase fishing opportunities within Alabama's inshore waters and provide nursery areas for oyster production. The first reefs were placed/constructed in 1996.

The Marine Resources Division has created thirteen artificial reefs at various locations within Bon Secour Bay, the Mississippi Sound, and Mobile Bay.⁵ The reefs were constructed out of concrete bridge materials, including pilings and rubble, crushed limestone, culvert pipes, and oyster shells.⁶ At mean low water, approximately 3.5 feet of water is above the reefs.⁷

Seven sites serve solely as artificial fishing reefs: Battles Wharf, Brookley Hole, Choctaw Pass, Dell Williamson, Shrimboat Reef, Upper Bay Barge, and Zundel's Reef. Admiral Denton Reef, Bender - AUS-

1. Ala. Code § 9-7-15 (2003).

2. Ala. Const. Amend. No. 543.

3. Ala. Code § 9-2-3 (2003).

4. Ala. Code § 9-2-100 (2003).

5. Alabama's Artificial Reef Program, http://www.conservation.alabama.gov/mr/artificial_reefs.htm

6. *Id.*

7. Mobile Bay Inshore Fishing Reefs, <http://www.conservation.alabama.gov/mr/inshore.htm>

TRAL Reef, Fish River Reef, Klondike Reef, Lynn Dent Boykin Reef, and Shellbank Reef serve a dual purpose as fishing reefs and oyster reef rehabilitation areas.⁸

The Marine Resources Division of the DCNR has regulatory authority over the placement of inshore artificial reefs. For offshore artificial reefs, a permit must be obtained from either the Marine Resources Division or the U.S. Army Corps of Engineers.⁹ Commercial fishing is permitted on the artificial reefs subject to state and federal fishing regulations. Recreational fisherman, between 16 and 65 years of age, must obtain a permit from the Marine Resources Division to fish in all saltwater areas in Alabama.¹⁰

Oyster Reefs

The Marine Resources Division of the Alabama Department of Conservation and Natural Resources protects and manages the oyster reefs of Dauphin Island Bay, Mississippi Sound, and Mobile Bay for commercial and recreational purposes.¹¹

The majority of oyster reefs in Alabama are found near the Gulf of Mexico at the southern end of Mobile Bay. A natural oyster reef is an area, greater than one acre, of "any bottom of any bay, sound, bayou, creek, inlet or other body of salt or brackish water" on which oyster grow, or have grown, naturally in sufficient quality to warrant harvesting them for a living for a period of at least five years.¹² Oysters fill an important ecological role in the estuarine environments of Mobile Bay, acting as filter feeders, forming reef structures, and providing a food source for other species. Alabama's oyster reefs were first mapped and inventoried by DCNR in 1971. In general, DCNR manages oyster population and harvest through the planting of oyster shell on public reefs.

The Marine Resources Division of the DCNR requires any person taking more than 100 oysters a day for personal consumption to obtain a Commercial Oyster Catcher's License.¹³ Gear restrictions are in place for public oyster reefs and water bottoms. Oyster may only be taken from public reefs by hand or through the use of oyster tongs. The use of seine nets is prohibited on public oyster reefs.¹⁴ Dredging is allowed on private reefs only after the purchase of an Oyster Dredge License and the posting of a \$1,000 bond.

The Alabama Department of Public Health and the DCNR jointly monitor the waters around oyster reefs for high bacterial counts. The agencies are authorized to close any oyster harvesting area for management or public health reasons.



*Bayou la Batre, Alabama
Courtesy of NOAA
Photograph by William B. Folsom, NMFS*

8. *Id.*

9. Ala. Code § 9-12-150 (2003).

10. Alabama Department of Conservation and Natural Resources, Saltwater Fishing Licenses, http://www.conservation.alabama.gov/mr/saltwater_licenses.htm

11. Ala. Code §§ 9-12-20 - 9-12-21 (2003).

12. Ala. Code § 9-12-21 (2003).

13. DCNR, Alabama Commercial/Recreational Oyster Harvest Information, *available at* <http://www.conservation.alabama.gov/mr/mrftp/oyster.pdf>.

14. Ala. Code § 9-12-26 (2003).

FEDERALLY-MANAGED AREAS

Bon Secour Wildlife Refuge

Authorizing Legislation: Pub. Law 96-267, 94 Stat. 483 (1980)

Date of Designation: Land acquired on February 23, 1979 and officially established by Congress on June 6, 1980.

Management Agency: Fish and Wildlife Service

Management Goals: To conserve the undisturbed beach dune ecosystem and the threatened and endangered species located within the Refuge and to provide public recreational opportunities.



*Bon Secour National Wildlife Refuge
Courtesy of USFWS, Photograph by George Gentry*

Site Description:

Finding that Mobile Bay contained significant habitat, supported important nurseries, was a feeding and resting ground for migratory birds, and home to several endangered species, Congress declared that the area should be preserved to ensure the well-being of these species, serve as a living laboratory, and provide public recreation. Congress authorized the Secretary of the Interior to designate the Bon Secour National Wildlife Refuge upon the acquisition of sufficient property.

The Bon Secour National Wildlife Refuge consists of approximately 6,700 acres of wildlife habitat lying directly west of Gulf Shores, Alabama on the Fort Morgan peninsula of south Alabama. The refuge was established by Congress in 1980 to serve as habitat for non-game birds migrating south in the fall and north in the spring. The migration paths from Bon Secour lead south to lower Florida, the Caribbean, Mexico, and Central America.

The refuge is home to the endangered Alabama beach mouse, which is associated with the sand dunes and sea oats. Refuge beaches serve as nesting sites for green, loggerhead, and Kemp's Ridley sea turtles. Habitats include beaches and sand dunes, scrub forest, fresh and saltwater marshes, fresh water swamps, and uplands.

More than 400 species of birds have been identified at the refuge during migratory seasons. The largest are usually ospreys and herons. At the other extreme, seven species of hummingbirds have been identified. Mammals such as red fox, wild pig, coyotes, armadillos and others are also present. A variety of rare and endangered species can be found within the Refuge including the American alligator, bald eagle, brown pelican, and piping plover.

Bon Secour National Wildlife Refuge expanded in October 2003. The Sierra Club and the Alabama Coastal Heritage Trust purchased forty acres on Little Point Clear for the Refuge.¹⁵ The new addition will preserve vital habitat for the endangered Alabama beach mouse.

Regulation:

The U.S. Fish and Wildlife Service has management and enforcement authority within the Refuge. General hunting and fishing regulations can be found at 50 C.F.R. Part 32. Fresh water and saltwater fishing is allowed in certain areas. It is illegal to collect artifacts, animals, or plants from the Refuge. No overnight camping is allowed.

Primary Information Source:

Bon Secour NWR website - <http://refuges.fws.gov/profiles/index.cfm?id=43630>

15. Jean Lakeman Helms, *Bon Secour Wildlife Refuge Dedicates Parcel of Land*, MOBILE REGISTER, Oct. 5, 2003.

FEDERAL-STATE COOPERATIVES

Mobile Bay National Estuary Program

Authorizing Legislation: National Estuary Program (33 U.S.C. §1330)

Date of Designation: 1995

Management Agency: Mobile Bay NEP Program Office



*Clump of Oysters for Restoration
Courtesy of Mobile Bay National Estuary Program*

Management Goals: To promote wise stewardship of the water quality characteristics and living resource base of the Mobile Bay estuarine system.

Site Description:

The Mobile Bay Estuary is the transition zone between the Mobile Bay watershed and the Gulf of Mexico. The watershed is approximately 43,662 square miles and covers 2/3 of Alabama and portions of Georgia, Mississippi, and Texas. Mobile Bay is approximately 32 miles long, ranges from 10-23 miles wide, and is, on average, 10 feet deep. The Mobile Bay NEP Management Conference focuses on those portions of the watershed within Baldwin and Mobile counties.

A variety of habitat types are present within the Mobile Bay estuary. There are shallow open waters, beach/

dune systems, brackish and freshwater marshes, seasonal wetlands, riverine, and non-wetland forests. This wide range of habitats provides homes for a number of endangered and threatened species, including the Alabama beach mouse, Alabama canebrake pitcher-plant, Alabama red-bellied turtle, Gulf sturgeon, loggerhead sea turtle, and piping plover.

The Mobile Bay NEP's draft Comprehensive Conservation and Management Plan was released in 2001. The CCMP focuses on five issues of importance to coastal Alabama: water quality, living resources, habitat management, human uses, and education and public involvement. Working groups, made up of key stakeholders, guide the Program in each of the five areas.

Regulation:

The NEP Program Office has no regulatory authority. The policies and goals identified by the Policy and Management Committees are implemented by the Alabama agencies with authority over the various resources and sectors.

Primary Information Source:

Mobile Bay NEP's website - <http://www.mobilebaynep.com/>

Weeks Bay National Estuarine Research Reserve

Authorizing Legislation: Coastal Zone Management Act of 1972 (16 U.S.C. 1461); Notice of Designation of the Weeks Bay NERR, 51 Fed. Reg. 7985 (March 7, 1986)

Date of Designation: February 19, 1986

Management Agencies: Alabama Department of Conservation and Natural Resources, Division of States Lands; Office of Ocean and Coastal Resource Management, National Ocean Service, NOAA

Management Goal: To protect Weeks Bay for long-term research, water quality monitoring, education and coastal stewardship.

Site Description:

The 6,016 acre Weeks Bay NERR is located between Mobile, Alabama and Pensacola, Florida and includes the tidal waters of Weeks Bay. A variety of habitats are represented, including marsh, swamp, and forested wetlands. Black needlerush is the most dominate marsh species within the NERR. Bay and cypress swamps border the rivers and streams of the watershed. The forested wetlands are primarily moist pine forests, dominated by slash pine.

These lands provide critical nursery habitat for fish, crustaceans, and shellfish. Many species found within the Reserve support commercial and recreational fisheries, particularly blue crab, croaker, flounder, red drum, shrimp, and spotted sea trout. The wetlands are also important feeding and resting grounds for migratory birds. Approximately nineteen endangered or threatened species have been found in the NERR, including the Alabama shovelnose sturgeon and the Florida black bear.

The National Estuarine Research Reserve System was established to coordinate and promote estuarine research. At Weeks Bay, the research has primarily focused on the preservation of the Weeks Bay estuary and best management practices for the watershed.

Regulation:

Alabama DCNR has a detailed Management Plan for the Weeks Bay NEER. Swimming, boating, commercial and recreational fishing (except for commercial shrimping) are allowed within the NEER. Camping, hunting, fires, overnight parking, and theft or destruction of natural resources are prohibited, as well as any other activity prohibited by local, state, and federal regulations.

Primary Information Source:

Weeks Bay NERR website - <http://inlet.geol.sc.edu/WKB/>



*Brown Pelican Atop Boundary Sign of Weeks Bay NERR
Courtesy of NOAA National Estuarine Research Reserve Collection*

STATE-MANAGED AREAS

Cat Island

Authorizing Legislation: Ala. Code § 9-7-15 (2003)

Date of Designation: 1996

Management Agency: Alabama Department of Environmental Management

Management Goals: To draw attention to the Cat Island ecosystem and acquire information about the site for dissemination through the Gulf of Mexico Program's database.

Site Description:

Cat Island is an Alabama GEMS. This 13 acre island is located in the Mississippi Sound between Dauphin Island, Alabama and the mainland near Bayou La Batre. Cat Island supports a mix of habitats, including a pond and salt marshes, and is surrounded by commercially leased oyster reefs. Approximately 2,500 herons and egrets arrive yearly to nest on the Island, including the Reddish egret, identified as threatened by the state of Alabama. Cat Island also supports the largest congregation of tricolor herons in the state at the only known nesting site in Alabama. In addition, the island is an important breeding area for migratory shore and wading birds.

Regulation:

Cat Island is privately owned. However, because it lies within the boundaries of the Mobile Bay National Estuary Program, the Mobile Bay NEP Program Office closely monitors the area and the Dauphin Island Sea Lab and the Florida Department of Environmental Protection conduct vegetation restoration projects.

Primary Information Source:

Alabama GEMS Informational Pamphlet provided by Alabama DCNR



*Aerial view of Cat Island
Courtesy of Gulf Ecological
Management Site (GEMS)*

*Ghost Crab Outside it's Burrow
Courtesy of NOAA National Estuarine
Research Reserve Collection*



Gulf State Park

Authorizing Legislation: Alabama Code §§ 9-2-3, 9-2-100 (2003)

Date of Designation: 1935

Management Agency: Alabama Department of Conservation and Natural Resources

Management Goals: To manage the lands and resources of Gulf State Park for the enjoyment and benefit of the public.

Site Description:

This 6,150 acre state park has 2.5 miles of white sand beaches on four preserved stretches. In addition, there are nature trails and an inland freshwater lake for fishing, swimming, and boating. Gulf State Park also offers the visitor a resort/convention complex with a 144-room beachfront resort hotel and convention facilities for over 1,000 guests.

Regulation:

All state parks in Alabama are designated game and wildlife sanctuaries. (Ala. Admin. Code § 220-5-.12). The hunting, trapping, pursuing, catching, or killing of any wild bird or animal in a state park is prohibited by the Alabama DCLR, except in certain situations in which such activities are specifically provided for by other regulations. It is also unlawful to operate any personal watercraft on the fresh water lake in Gulf State Park. (Ala. Admin. Code §220-5-.17)

Primary Information Source:

Gulf State Park website - http://www.dcnr.state.al.us/parks/state_parks_index_1a.html



Pine Barren Tree Frog
Courtesy of USFWS

Grand Bay Savanna Bioreserve

Authorizing Legislation: Ala. Code § 9-7-15 (2003)

Date of Designation: 1996

Management Agency: Alabama Department of Environmental Management.

Management Goals: To draw attention to the Grand Bay Savanna ecosystem and acquire information about the site for dissemination through the Gulf of Mexico Program's database.

Site Description:

The Grand Bay Savanna Bioreserve is an Alabama GEMS. The Bioreserve contains approximately 12,100 acres of pine savanna ecosystems. The Grand Bay savanna and associated habitats is the largest relatively undisturbed tract of Gulf coastal savanna remaining along the Gulf. The Bioreserve supports sixteen natural communities and a wide array of plants and animals. The area is currently under consideration as a potential site for the establishment of a second flock of the endangered Mississippi sandhill crane.

On May 7, 1996, the Alabama Forever Wild Land Trust purchased 2,733.92 acres within the Grand Bay savanna ecosystem to serve as a state owned nature preserve. The tract was dedicated as such under § 12 of Alabama Constitutional Amendment No. 543. The site is primarily managed for the preservation and restoration of the unique species and communities found only in the Alabama coastal lowland habitats. An additional 662 acres of coastal marsh, maritime forest, and piney flatwoods were acquired through a grant from the U.S. Fish and Wildlife Service's National Coastal Wetlands Program. Through this program, the FWS awards matching grants "to any coastal state to carry out coastal wetlands conservation projects," with priority given to states that fund programs for the acquisition of coastal wetlands, natural areas, or open spaces. (16 U.S.C. § 3954). The FWS also gives priority to projects on barrier islands and in maritime forests.

Regulation:

Within the Forever Wild tract, hiking, fishing, and swimming are allowed. Small game hunting is also allowed, but no high-powered rifles or deer dogs may be used during the hunt. DCNR prohibits overnight camping.

Primary Information Sources:

Alabama GEMS Informational Pamphlet provided by Alabama DCNR

Forever Wild Program website -

http://www.conservation.alabama.gov/SL/Lands_web/forever_wild_program.htm

Lillian Swamp

Authorizing Legislation: Ala. Code § 9-7-15 (2003)

Date of Designation: 1996

Management Agency: Alabama Department of Environmental Management

Management Goals: To draw attention to the Lillian Swamp ecosystem and acquire information about the site for dissemination through the Gulf of Mexico Program's database.

Site Description:

Lillian Swamp is an Alabama GEMS. This 2,700 acre coastal swamp borders the Perdido River. The habitats of Lillian Swamp range from dense woody thickets to open wetlands and herb bogs. The swamp is a large contiguous freshwater wetland that is home to a variety of animal and plant species. Unfortunately, this ecosystem is rapidly disappearing due to intensive development along the Florida/Alabama border.

Regulation:

No state agency has regulatory authority within Lillian Swamp, as the area does not currently lie within a state management area.

Primary Information Source:

Alabama GEMS Informational Pamphlet provided by Alabama DCNR



Buttonbush
Courtesy of USFWS
Photograph by Elise Smith

Fishing from Pier
Courtesy of USFWS
Photograph by Kenneth O. Butts



Meaher State Park

Authorizing Legislation: Alabama Code §§ 9-2-3, 9-2-100 (2003).

Date of Designation: Land acquired in 1952; formally became a park in early 1990s

Management Agency: Alabama Department of Conservation and Natural Resources

Management Goals: To manage the lands and resources of Meaher State Park for the enjoyment and benefit of the public.

Site Description:

This 1,327 acre park is situated in the wetlands of Mobile Bay, two miles east of the USS Alabama Battleship Memorial Park on Battleship Parkway. This is a primarily day-use park, offering two nature trails with boardwalks over the Mobile Delta, picnic areas, primitive camping, and fishing from a 500-foot pier.

Regulation:

All state parks in Alabama are designated game and wildlife sanctuaries. (Ala. Admin. Code § 220-5-.12). The hunting, trapping, pursuing, catching, or killing of any wild bird or animal in a state park is prohibited by the Alabama DCNR, except in certain situations in which such activities are specifically provided for by other regulations. For instance, fishing is permitted in Meaher State Park.

Primary Information Source:

Meaher State Park website - http://www.dcnr.state.al.us/parks/state_parks_index_1a.html

Mobile-Tensaw River Delta

Authorizing Legislation: Ala. Code §§ 9-7-15, 9-11-300 (2003); Ala. Admin. Code r. 335- 8-1-.04 (2003)

Date of Designation: 1996

Management Agency: Alabama Department of Conservation and Natural Resources and Alabama Department of Environmental Management

Management Goals: To draw attention to and preserve the extensive wetlands of the Mobile-Tensaw River Delta.

Site Description:

The Mobile-Tensaw River Delta contains approximately 260,000 acres of wetland habitats. Submerged grasses, cypress swamps, and bottomland hardwoods are all present within the Delta. The Delta is one of the most extensive and significant wetlands in the entire United States, containing mesic flood plains, freshwater swamps, and brackish marshes. Numerous plants and animals make their homes in the delta, including several rare and endangered species.

The Mobile-Tensaw River Delta is managed and protected by a variety of state and federal regulatory regimes. In May 1974, the National Park Service designated the Mobile-Tensaw Delta Bottomlands a National Natural Landmark. The designated area extends from Mobile Bay north for 35 miles into Mobile and Washington Counties. The National Natural Landmarks Program was established in 1962 under the authority provided to the Park Service by the Historic Sites Act of 1935 (16 U.S.C. §§ 461-467). The agency's regulations for the program are located at 36 C.F.R. Part 62. The National Natural Landmark Program encourages the preservation of significant geological and ecological sites to enhance the scientific and education value, strengthen public appreciation, and foster greater concern for the sites and the nation's natural history. Landmark designation does not affect the existing management of the site. It merely serves to draw attention to the site in the hopes that future planning activities will account for the importance of the area.

The Alabama Department of Environmental Management has designated the Mobile-River Delta a Special Management Area. Within the Mobile-Tensaw River Delta Geographic Area of Particular Concern (GAPC), uses that preserve, enhance, or protect the natural function of wetlands located in the delta are permissible. (Ala. Admin. Code r. 335-8-1-.04). However, uses, other than those uses of regional benefit, which are determined by ADEM to degrade the integrity and natural functions of the wetlands in the delta may be denied. "Uses of regional benefit" are defined as those uses which are not local in nature and produce benefits to citizens of more than one unit of local government or are in the national interest." (Ala. Admin. Code r. 335-8-1-.02(mmm)). Some of the "uses of regional benefit" recognized by ADEM include regional public recreational facilities, major highways, commercial ports, and major energy or wastewater treatment facilities.

A portion of the Delta is managed as a Wildlife Management Area (WMA) by the Alabama Department of Conservation and Natural Resources (Ala. Admin Code r. 220-2-.22) pursuant to its authority under Ala. Code § 9-11-300. The WMA includes 58,321 acres of marsh and over 15,000 acres of shallow water. It is permissible to hunt and trap in the WMA within the dates, areas, and under the conditions promulgated by the DCNR. The general regulations for WMAs are located at Ala. Admin. Code r. 220-2-55.

Several Forever Wild tracts are located within the Mobile-Tensaw River Delta. 420 acres (Blakeley Addition Tract) in Baldwin County were purchased on January 28, 1998 to provide recreational and educational opportunities and to protect natural communities and archeological and historic resources. The

Mobile-Tensaw Delta Tract, 35,795 acres, was acquired in 1999 and is managed as part of the Upper Delta WMA by the DCNR. This tract's diverse natural communities, including bottomland hardwoods, cypress swamps, marshes, and wetlands, provides recreational, research, and educational opportunities. The area also provides habitat for a variety of rare and endangered species. In addition, DCNR owns 1,933 acres (Bayou Canot Tract) and 1,764 acres (Salco and Middle River Tract) of unique wetland habitats in the west-central portion of the Delta. A \$1,000,000 grant from the North American Wetlands Conservation Program facilitated the purchase of an additional 640 acres (Mobile-Tensaw Delta-McMillan 1, 2, & 3 Tracts) in Baldwin county dominated by flood prone hardwood timber for avian conservation and endangered species protection.

Regulation:

A variety of agencies regulate activities within the Mobile-Tensaw River Delta. The Alabama DCNR is the lead agency and manages the majority of the area for wildlife conservation. However, the ADEM does have the authority to prohibit activities which may degrade the integrity and natural functions of the wetlands.

Primary Information Sources:

South Alabama Regional Planning Commission's Mobile-Tensaw River Delta GEMS website - <http://www.sarpc.org/gems/TensawGEM2.htm>

Alabama's Forever Wild Program website -

http://www.conservation.alabama.gov/SL/Lands_web/forever_wild_program.htm



*Snowy Egret Chicks
Courtesy of USFWS
Photograph by John and Karen Hollingsworth*

Pine Savanna
Courtesy of USFWS, Photograph by Gary M. Stolz



Orange Beach Maritime Forest

Authorizing Legislation: Ala. Code § 9-7-15 (2003)

Date of Designation: 1996

Management Agency: Alabama Department of Conservation and Natural Resources

Management Goals: To protect the coastal wetlands and unique ecosystem of the Orange Beach maritime forest.

Site Description:

Orange Beach Maritime Forest has been designated as an Alabama GEMS by the Alabama Department of Environmental Management. The 591 acre Orange Beach maritime forest is adjacent to Gulf State Park and borders the park on the north for approximately two miles. It is owned and managed by the Alabama DCNR. DCNR purchased the property from the City of Orange Beach in June 2001 with federal funds received through a National Coastal Wetlands Conservation grant. Ownership of the property transferred to DCNR on December 17, 2001.

The state purchased the property from the City of Orange Beach to preserve Alabama's last remaining "intact" maritime forest. Wetlands, cypress swamps, and a large pitcher-plant bog are also present. A variety of threatened and endangered species can be found within the forest, including the belted kingfisher, bobcat, flying squirrel, fox squirrel, gopher tortoise, indigo snakes, jaguarundi, and red cockaded woodpecker. The property is a historic breeding ground for the endangered sandhill crane. The site is an integral part of the marsh/pine savanna ecosystem occurring within the state park.

Regulation:

The Alabama DCNR manages the Orange Beach Maritime Forest as part of Gulf State Park. Hunting is prohibited in the Park and the forest. The State Lands Division of DCNR is in the process of developing a management plan for the area.

Primary Information Source:

South Alabama Regional Planning Commission's Orange Beach Maritime Forest GEMS website - <http://www.sarpc.org/gems/OrangeBeachGEM2.htm>

South Mon Louis Island Salt Marsh

Authorizing Legislation: Ala. Code § 9-7-15 (2003)

Date of Designation: 1996

Management Agency: Alabama Department of Environmental Management

Management Goals: To draw attention to the salt marsh ecosystem and acquire information about the site for dissemination through the Gulf of Mexico Program's database.

Site Description:

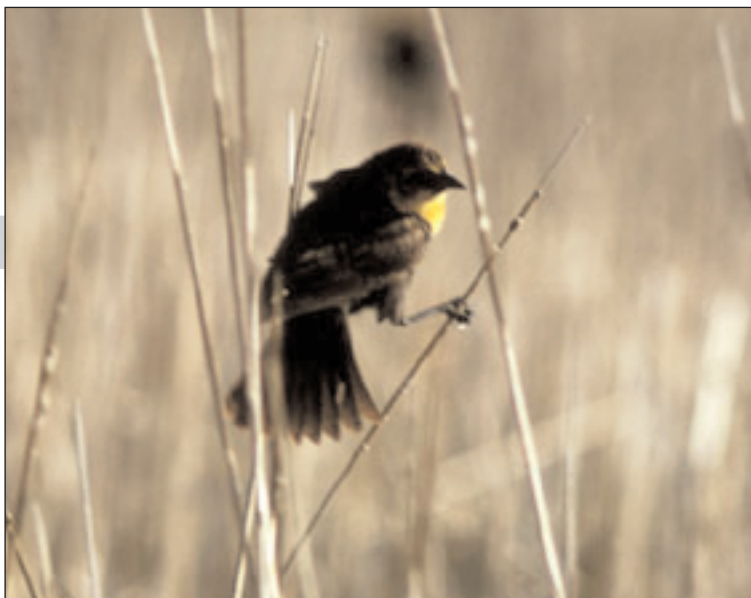
South Mon Louis Island Salt Marsh is an Alabama GEMS. This 25 square mile marsh is located in south Mobile County. The southern end of the Island is home to the largest undeveloped contiguous coastal salt marsh in Alabama, at approximately 9,000 acres. 75 percent of the Island is wetland habitat. The Mon Louis Island bog is the most threatened habitat on the Island. The bog supports a diverse variety of plants, including a number of threatened and endangered species and species of special concern.

Regulation:

South Mon Louis Island is privately owned. However, because it lies within the boundaries of the Mobile Bay National Estuary Program, the Mobile Bay NEP Program Office closely monitors the area. The Island is also one of the Gulf of Mexico Program's twelve priority areas.

Primary Information Source:

Alabama GEMS Informational Pamphlet provided by Alabama DCNR



*Yellow-headed blackbird
Courtesy of USFWS
Photograph by kent Olson*

FLORIDA

Introduction

Aquatic Preserves have existed in Florida since the 1960s.¹ Estero Bay was the first waterbody in Florida to receive Aquatic Preserve designation in 1966.² In 1967, the Florida legislature passed the Randall Act, which set forth a process to regulate previously unrestricted dredging and filling on state-owned submerged lands.³ Other legislation passed in 1967 gave the Board of Trustees of the Internal Improvement Trust Fund⁴ (BOT) proprietary control over state lands.⁵ The passage of these laws led to a moratorium on the sale of submerged lands to private parties⁶ and the creation of an Interagency Advisory Committee on submerged lands management, which recommended the establishment of twenty-six Aquatic Preserves. This chain of events led to the passage of the Florida Aquatic Preserve Act⁷ (FAPA) in 1975. FAPA established the Florida Aquatic Preserve Program, the purpose of which is to create new Aquatic Preserves and to manage existing and future preserves. The intent of FAPA is to set aside for future generations "state-owned submerged lands in areas which have exceptional biological, aesthetic, and scientific value as aquatic preserves or sanctuaries."⁸ The Florida Department of Environmental Protection's Office of Coastal and Aquatic Managed Areas administers Aquatic Preserves.

The primary management objectives for aquatic preserves are to maintain and improve existing resources such as seagrasses, mangroves, aquatic plants, birds, and fish so that the public may continue to enjoy such activities as boating, swimming and fishing.⁹ Preservation of cultural resources such as campsites and debris middens left by aboriginal populations and former military forts are also priorities of the Program.¹⁰ Aquatic Preserves established under FAPA only include lands or water bottoms owned by the State.¹¹ Privately owned lands and water bottoms are specifically excluded from the program, but BOT negotiates agreements with private landowners for inclusion in the Program.¹² Title to all sovereignty lands vests in the BOT and is held in trust for use by, and benefit of, the public.¹³

Florida's State Buffer Preserve Program is an extension of the Aquatic Preserve Program. Buffer Preserves typically are upland habitats that are established and managed to protect the watersheds of, and lands adjacent to, Aquatic Preserves. Two of the main objectives of State Buffer Preserves Program are (1) to protect and preserve wetlands, the waters and natural resources of adjacent aquatic preserves, parks, and other special management areas and (2) to restore natural communities and original ecosystem functions that have been degraded.¹⁴ The Florida Department of Environmental Protection's Florida Park Service administers State Buffer Preserves.

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1. Florida Department of Environmental Protection, Florida Aquatic Preserve Program, at <http://www.dep.state.fl.us/coastal/programs/aquatic.htm> (accessed December 7, 2003).
 2. *Id.*
 3. Bureau of Submerged Lands and Preserves, Florida Department of Natural Resources (now Florida Department of Environmental Protection), Lemon Bay Aquatic Preserve Management Plan 13 (1992), available at http://www.dep.state.fl.us/coastal/downloads/management_plans/aquatic/Lemon_Bay.pdf (accessed February 2, 2004).
 4. The BOT consists of the Governor and the Governor's Cabinet.
 5. *Id.* See also FLA. STAT. ANN. Section 253.03.
 6. *Id.*
 7. FLA. STAT. ANN. Section 258.35 et seq.
 8. FLA. STAT. ANN. Section 258.36.
 9. Florida Department of Environmental Protection, Florida Aquatic Preserve Program, at <http://www.dep.state.fl.us/coastal/programs/aquatic.htm> (accessed September 7, 2003).
 10. *Id.*
 11. FLA. STAT. ANN. Section 258.40.
 12. *Id.*
 13. See FLA. STAT. ANN. Section 253.03. See also FLA. STAT. ANN. Section 253.02.
 14. FLA. ADMIN. CODE 18-23.002.

General Programs

Artificial Reef Program

Florida's Artificial Reef Program was created by statute and is administered by the Florida Fish and Wildlife Conservation Commission (FWC) to "enhance saltwater opportunities and to promote proper management of fisheries resources associated with artificial reefs for the public interest."¹⁰ Participants in the program include the FWC, coastal local governments, state universities, and nonprofit corporations. FWC provides grants and financial and technical assistance to these participants for the siting, development, monitoring, and evaluation of artificial reefs and their recreational, biological, and economic effectiveness.¹¹ The program is funded from state, federal, and private contributions.¹² FWC is authorized to accept title, on behalf of the state, of vessels for use as offshore artificial reefs, and the program may be funded from state, federal, and private contributions.¹³

Currently, Florida is in the process of revising its Artificial Reef Strategic Plan. The Revised Strategic Plan will serve as a blueprint for FWC and coastal local government programs for the next five years and to guide the program and other artificial reef-related activities state-wide.¹⁴ The Revised Artificial Reef Strategic Plan will update the 1992 Florida State Artificial Reef Plan.¹⁵ Among the goals of the 1992 Plan are: to assure long-term social, economic, and quality of life values of artificial reefs, to utilize artificial reefs in scientific research to obtain an understanding of how they function ecologically and physically, to improve intergovernmental coordination and public/private cooperation, and to foster stewardship and understanding of artificial reef issues.¹⁶

Oyster Resource Development Program

Chapter 597, Florida Statutes, directs the Department of Agriculture and Consumer Service's Division of Aquaculture (DOA) to improve, enlarge, and protect the natural oyster and clam resources of the state.¹⁷ The purpose of restoring or constructing oyster reefs in Florida's estuaries is to offset losses of reef habitat caused by sedimentation, adverse environmental conditions, catastrophic events such as hurricanes, and over-harvesting.¹⁸ Requests to restore public oyster reefs can be made by county and city governments, representatives of local oyster farmers associations, and resource managers.¹⁹ The DOA considers all requests before selecting sites for restoration. Oyster restoration and construction involve replacing substrate to form oyster reefs. Replacing loss of buried shell with new shell (i.e., cultch) provides suitable substrate to which larval oysters can attach themselves and facilitate reef development.²⁰

The DOA also conducts relaying and transplanting projects to restore shellfish resources and utilize shellfish populations that otherwise might not be used. Relaying projects use oysters located in waters where harvesting for direct-to-market sales are prohibited for public health reasons.²¹ Relaying is the operation of relocating adult shellfish from waters classified as Restricted or Conditionally Restricted to

10. FLA. STAT. ANN. § 370.25(1).

11. *Id.*

12. *Id.*

13. *Id.*

14. See Florida Fish and Wildlife Conservation Commission, State of Florida Artificial Reef Strategic Plan (November 2003), available at http://marinefisheries.org/ar/AR_agenda_summary.pdf (accessed December 11, 2003).

15. *Id.*

16. *Id.*

17. See FLA. STAT. ANN. § 597.002 (2003).

18. Florida Department of Agriculture and Consumer Services Division of Aquaculture Procedures Manual, Procedures for Restoration and Construction of Public Oyster Reefs (1999).

19. *Id.*

20. *Id.*

21. Florida Department of Agriculture and Consumer Services Division of Aquaculture Procedures Manual, Procedure for Conducting Relaying and Transplanting Projects (1999).

waters approved for shellfish harvesting.²² During this process, shellfish are harvested, transported, and replanted on public oyster reefs or clam beds, where harvesting can be prevented until the shellfish cleanse themselves of contaminants.²³ Relaying typically is done during closed harvesting seasons and is subject to strict oversight and supervision to protect the public health.²⁴ Transplanting is similar to relaying, but does not involve the same public health concerns as the relocation of oysters in relaying projects.²⁵ In transplanting projects, seed, juvenile, and adult oysters are moved from reefs located in waters that are classified as “Approved” or “Conditionally Approved,” but not conducive to oyster growth and survival to public reefs where environmental conditions are more favorable for growth and survival to marketable size.²⁶

The DOA works with local oyster farmers to identify sites where oysters will be relocated and often employs local oyster farmer associations to move oysters from areas where they may be affected by pollution to waters approved for harvesting.²⁷ Participation by local oyster farmers is critical to the success of oyster restoration and development projects.²⁸



Oyster Float

*Courtesy of NOAA National Estuarine Research Reserve Collection
Photograph by April Bahen*

22. *Id.*

23. *Id.*

24. *Id.*

25. *Id.*

26. *Id.*

27. *Id.*

28. *Id.*

FEDERALLY-MANAGED AREAS

Cedar Keys National Wildlife Refuge

Authorizing Legislation: Executive Order 5158; Refuge Recreation Act, 16 U.S.C. 460k-460k-4, as amended; and National Wildlife Refuge System Administration Act, 16 U.S.C. 668dd

Signed by President Herbert Hoover on July 16, 1929, Executive Order 5158 originally set aside the island group of Cedar Keys as a refuge and breeding ground for birds. Absent rules or regulations to the contrary, Executive Order 5158 declared it “unlawful to hunt, trap, capture, willfully disturb, or kill any wild animal or bird or take or destroy the eggs of any wild bird; to cut burn, or destroy any timber, underbrush, grass, or other natural growth; to willfully leave a fire to burn unattended or to leave a built fire without totally extinguishing it near any timber or other flammable material; and to willfully injure, molest, or destroy any property of the United States.”²⁹

As they relate to Cedar Keys National Wildlife Refuge, the Refuge Recreation Act and the National Wildlife Refuge Administration Act authorize the protection of natural resources and fish and wildlife. The Refuge Recreation Act authorizes incidental fish and wildlife-related development, protection of natural resources, and the conservation of endangered and threatened species. The National Wildlife Refuge Administration Act authorizes setting aside land for the conservation, management, and restoration of fish, wildlife, and plant resources and their habitats for the benefit of present and future generations of Americans.

Date of Designation: 1929

Management Agency: U.S. Fish and Wildlife Service

Management Goals: (1) To manage and conserve the diversity and ecological function of the Refuge’s flora and fauna, particularly the colonial bird rookery of Seahorse Key, threatened and endangered species, and species of special concern in the state of Florida. Seahorse Key contains ones of the largest colonial bird nesting sites in north Florida; (2) to protect the refuge’s natural and cultural resources in order to ensure their integrity and to fulfill the mission of the National Wildlife Refuge System; (3) to provide opportunities for environmental education, interpretation, and wildlife-dependent recreation when compatible with the purpose, mission and vision of the refuge such that these activities will not negatively impact critical or sensitive habitats; and (4) to promote collaboration and partnerships with private citizens and other agencies to increase research and environmental education opportunities and to protect the coastal ecosystem.

Site Description:

Located 50 miles southwest of the city of Gainesville along the southern edge of the Big Bend region, Cedar Keys NWR covers an approximately 891 acre area in Levy County. The refuge contains many distinct habitats, including twelve islands ranging in size from one to sixty-five acres, maritime forests, salt marshes, mud flats, and seagrass beds. One island, Seahorse Key, was used as a military hospital in the past and also served as a detention camp for members of the Seminole tribe during the Second Seminole War (1835-1842). As trade expanded at the port of Cedar Key, a lighthouse was built on Seahorse Key in 1851. The Union Army during the Civil War later used the area as a military prison. Native Americans occupied the Cedar Keys area for at least 1,000 years from 450 to 1,800 years ago. The University of Florida currently uses the lighthouse and facilities as a Marine Science Laboratory.

29. Exec. Order 5158 (1929).

Regulation:

The primary agency responsible for regulating Cedar Keys NWR is the U.S. Fish and Wildlife Service. The Refuge Recreation Act, 16 U.S.C. 460k-460k-4, restricts public recreation use of fish and wildlife conservation areas, including National Wildlife Refuges. Section 460k lays out public uses that are allowed in the refuge, such as wildlife observation, sport fishing, commercial fishing and crabbing, nature photography, motorized and non-motorized boating, and waterfowl hunting. 50 C.F.R. 27.11-27.97 contains use restrictions. All motorized vehicles are restricted to designated roads. All-terrain vehicles, camping, littering, fires, collecting, horses, and firearms and weapons (except during refuge hunting season, if any) are also prohibited. Pursuant to 50 C.F.R. 32.28, sport fishing is allowed in saltwater areas on a year-round basis in accordance with Florida regulations subject to one condition - a buffer zone of 300 feet, beginning at mean high tide line and extending into the waters around Seahorse Key, is closed to all public entry from March 1 through June 30.

Primary Information Source: Cedar Key NWR website - <http://cedarkeys.fws.gov>



*Cottonmouth Snake
Courtesy of USFWS
Photographer Matthew Perry*

*Brown Pelican
Courtesy of NOAA
Photograph by Frank Ruopoli*



Chassahowitzka National Wildlife Refuge

Authorizing Legislation: The Migratory Bird Conservation Act, 16 U.S.C. 715-715r; Wilderness Act, 16 U.S.C. 1131 et seq., as amended; and Fish and Wildlife Act of 1956, 16 U.S.C. 742(a)-754, as amended

Date of Designation: 1941

Management Agency: U.S. Fish and Wildlife Service

Management Goals: To provide (1) habitat for migratory waterfowl and other birds; (2) habitat and protection for endangered and threatened species such as manatees, sea turtles, and bald eagles; (3) wildlife-dependent recreation; and (4) environmental education to the public.

Site Description:

Located 65 miles north of St. Petersburg, Florida, Chassahowitzka NWR covers approximately 30,842 acres in Citrus and Hernando Counties, Florida and is accessible only by boat. Pursuant to Pub. L. 94-557, 90 Stat. 2633 (1976), approximately 23,360 acres of Chassahowitzka NWR was designated as a Wilderness Area in 1976. It consists of marshlands, swamplands, shallow bays, tidal streams, and the Gulf of Mexico. The NWR provides habitat for approximately 250 species of birds, over 50 species of reptiles and amphibians, and at least 24 species of mammals.

Regulation:

The primary agency responsible for regulating Chassahowitzka NWR is the U.S. Fish and Wildlife Service. The Refuge Recreation Act, 16 U.S.C. 460k-460k-4, restricts public recreation use of fish and wildlife conservation areas, including National Wildlife Refuges. Section 460k lays out public uses that are allowed in the refuge, such as wildlife observation, sport fishing, commercial fishing and crabbing, nature photography, motorized and non-motorized boating, and waterfowl hunting. Motorized vehicles are restricted to designated roads. Pursuant to 50 C.F.R. 27.11-21.97, all-terrain vehicles, camping, littering, fires, collecting, horses, and firearms and weapons (except during hunting season) are prohibited. 50 C.F.R. 32.28 allows hunting of migratory game birds with a permit such as ducks and coots in designated areas of the NWR. Section 32.28 also allows game hunting with a permit of quail, squirrel, rabbit, armadillo, white-tailed deer, and feral hogs in designated areas of Chassahowitzka NWR. Finally, Section 32.28 allows sport fishing on a year-round basis subject to Florida regulations.

Primary Information Source: Chassahowitzka NWR website - <http://chassahowitzka.fws.gov>



Whooping Crane
Courtesy of USFWS
Photograph by Ryan Hagerty

Swallowtail Butterfly
Courtesy of USFWS
Photograph by Ron Singer



Crocodile Lake National Wildlife Refuge

Authorizing Legislation: Endangered Species Act of 1973, 16 U.S.C. 1531 et seq., as amended; Fish and Wildlife Act of 1956, 16 U.S.C. 742(a)-754, as amended

Date of Designation: 1980

Management Agency: U.S. Fish and Wildlife Service

Management Goals: (1) To provide habitat and protection for federally listed threatened and endangered species; (2) to provide habitat and protection for migratory birds; (3) to protect the globally endangered tropical hardwood hammock plant community; and (4) to provide future opportunities for environmental education and public viewing of refuge wildlife and habitats.

Site Description:

Located north of Key Largo and less than 40 miles south of Miami, Crocodile Lake NWR covers approximately 6,606 acres in Monroe County and is administered by the National Key Deer Refuge. Prior to 1997, Crocodile Lake NWR was managed as a satellite to National Key Deer Refuge. Habitat within the refuge consists of an estuary, upland hammock, mangrove forests, the Gulf of Mexico, and human-made channels. Upland portions of Crocodile Lake NWR include tropical hardwood hammock that are critical habitat to the Key Largo woodrat and cotton mouse and the only federally-listed endangered insect in the state of Florida, the Schaus swallowtail butterfly.

Regulation:

The U.S. Fish and Wildlife Service is the primary agency that regulates Crocodile Lake NWR. The refuge is administered by the Key Deer National Wildlife Refuge. The Refuge Recreation Act, 16 U.S.C. 460k-460k-4, restricts public recreation use of fish and wildlife conservation areas, including National Wildlife Refuges. Section 460k lays out public uses that are allowed in the refuge, such as wildlife observation, sport fishing, commercial fishing and crabbing, nature photography, motorized and non-motorized boating, and waterfowl hunting. Crocodile Lake NWR is small in size and contains habitats and wildlife that are sensitive to human disturbance. Therefore, pursuant to 50 C.F.R. 27.11-27.87, it is closed to the general public, and a Special Use permit is required for access to the refuge.

Primary Information Source:

Crocodile Lake NWR website - <http://southeast.fws.gov/CrocodileLake/index.html>



*Manatees
Courtesy of USFWS
Photograph by Doug Perrine*

Crystal River National Wildlife Refuge

Authorizing Legislation: Emergency Wetlands Resources Act of 1986, 16 U.S.C. 3901 et seq.; Endangered Species Act of 1973, 16 U.S.C. 1531 et seq. as amended; Refuge Recreation Act, 16 U.S.C. 460k et seq.; 1531 et seq. as amended; Refuge Recreation Act, 16 U.S.C. 460k et seq.

Date of Designation: 1983

Management Agency: U.S. Fish and Wildlife Service

Management Goals: (1) To protect the Crystal River herd of the endangered West Indian manatee and their critical wintering habitat; (2) to provide habitat and protection for other wildlife species, including wading birds, raptors, alligators, and fish; and (3) to provide wildlife-dependent recreation and environmental education to the public.

Site Description:

Located 75 miles north of St. Petersburg in the town of Crystal River in Citrus County, Crystal River NWR covers approximately 80 acres and is accessible only by boat. Crystal River NWR preserves Florida's most significant warm water refuge for the West Indian manatee and provides critical habitat for approximately twenty-five percent of the United States' endangered manatee population. Also, it includes twenty islands and small parcels of land that are surrounded by the spring-fed waters of Kings Bay. Six hundred million gallons of fresh water flow daily from the more than thirty natural springs.

Regulation:

The U.S. Fish and Wildlife Service is the primary agency that regulates Crystal River NWR. It is also administered as a satellite refuge of the Chassahowitzka National Wildlife Refuge Complex. The Refuge Recreation Act, 16 U.S.C. 460k-460k-4, restricts public recreation use of fish and wildlife conservation areas, including National Wildlife Refuges. Section 460k lays out public uses that are allowed in the refuge, such as wildlife observation, sport fishing, commercial fishing and crabbing, nature photography, motorized and non-motorized boating, and waterfowl hunting. Since Crystal River is home to the endangered West Indian manatee, there are use restrictions designed for their protection. These use restrictions include idle speed zones, slow speed zones, and "no entry" zones in manatee sanctuary areas from November 15 to March 31. In manatee sanctuary areas, swimming, boating, diving, and fishing are prohibited. Pursuant to 50 C.F.R. 27.11-27.97, ATVs, camping, littering, fires, collecting, horses, and firearms and weapons are prohibited. However, motorized vehicles are restricted to designated roads.

Primary Information Source: Crystal River NWR website - <http://crystalriver.fws.gov/>

Egmont Key National Wildlife Refuge

Authorizing Legislation: National Wildlife Refuge Administration Act, 16 U.S.C. 668dd and Pub. L. 93-341, 88 Stat. 295 (1974)

Date of Designation: 1974

Management Agency: U.S. Fish and Wildlife Service

Management Goals: (1) To provide nesting, feeding, and resting habitat for brown pelicans, terns, and other colonial nesting water birds; (2) to provide habitat and protection for endangered species such as manatees and sea turtles; (3) to preserve and protect barrier island habitat and historical structures of national significance; and (4) to provide wildlife-dependent recreation and environmental education to the public.

Site Description:

Located offshore from the city of St. Petersburg in Hillsborough County, Egmont Key NWR comprises approximately 350 acres and is accessible only by boat. The beach at the refuge is open to the public on a year-round basis to wildlife-dependent public uses, such as wildlife observation, wildlife photography, fishing, and bird watching. However, there are certain areas that are closed to the public. These closed areas have been designated Wildlife Sanctuaries to provide nesting habitat for endangered brown pelicans and other wading birds. The site on which Egmont Key NWR is located has a rich human history. Fort Dade was built in 1882 with temporary gun batteries to protect the city of Tampa during the Spanish-American War. The Spanish fleet never came, but over 70 buildings were built between 1899 and 1916, and a small town with 300 residents existed during that time.

Regulation:

The primary agency responsible for regulating Egmont Key NWR is the U.S. Fish and Wildlife Service. The refuge is also administered as a satellite refuge of the Chassahowitzka National Wildlife Refuge Complex. The Refuge Recreation Act, 16 U.S.C. 460k-460k-4, restricts public recreation use of fish and wildlife conservation areas, including National Wildlife Refuges. Section 460k lays out public uses that are allowed in the refuge, such as wildlife observation, sport fishing, commercial fishing and crabbing, nature photography, motorized and non-motorized boating, and waterfowl hunting. 50 C.F.R. 32.28 allows fishing only from sunrise to sunset on a year-round basis from refuge beaches only. Pursuant to 50 C.F.R. 27.11-27.97, ATVs, camping, littering, fires, collecting, horses, and firearms and weapons are prohibited. Motorized vehicles are allowed, but they are restricted to designated roads.

Primary Information Source: Egmont Key NWR website - <http://egmontkey.fws.gov/>

*Manatee with Nursing Calf
Courtesy of USFWS
Photograph by Gaylen Rathburn*



Gulf Islands National Seashore (Florida Portion)

Authorizing Legislation: Pub. L. 91-660, 84 Stat. 1967 (January 8, 1971) and Pub. L. 106-554, Section 1(a)(4), 114 Stat. 2763 (December 21, 2000)

Congress established Gulf Islands National Seashore in 1971 in order to “preserve for public use and enjoyment certain areas in Mississippi and Florida possessing outstanding natural, historic, and recreational values.”³⁰ The Public Law also transferred management of Horn Island and Petit Bois Island from the National Wildlife Refuge System to the National Park Service.³¹ In 2000, Congress authorized the addition of Cat Island in Mississippi as part of Gulf Islands National Seashore.³²

Date of Designation: 1971

Management Agency: National Park Service

Management Goal: To preserve for public use and enjoyment certain areas in Mississippi and Florida that possess outstanding natural, historic, and recreational values.

Site Description:

Located in an area that stretches from Ocean Springs, Mississippi to Pensacola, Florida, Gulf Islands covers approximately 160 miles from Cat Island in Mississippi to the eastern tip of Santa Rosa Island in Florida. The authorized acreage for the entire area is 135,607.15 acres. The acreage can be broken down by federal, non-federal, land area, and wilderness area designations. Federal acreage is 99,246.56, non-federal acreage is 36,360.59, land acreage is 19,445.56, and wilderness acreage is 1,800. Gulf Islands is comprised of offshore barrier islands, beaches, marshes, maritime forests, bays, historic forts and related historic structures, nature trails, and adjacent open waters. More than eighty percent of Gulf Islands is submerged lands. The barrier islands act as buffers that protect the mainland during storms. A unique feature of the barrier islands is that they are constantly moving westward as water currents erode sand from the eastern ends of the islands and deposit it on the western ends of the islands.

In the area of Gulf Islands located in Florida, over 280 species of birds, including songbirds, waterfowl, wading birds, birds of prey, marine birds, and shore birds, use the barrier islands for resting, feeding, wintering, or migratory rest stops. Santa Rosa beach mice have been seen at Santa Rosa Island and endangered Perdido Key beach mice inhabit sand dunes at Perdido Key. For resource management purposes, biologists and volunteers monitor nesting shore birds and other endangered species such as nesting sea turtles, gopher tortoises, and Perdido Key beach mice. Resource management also includes removal of non-native plant and animal species, water quality testing, planting sea oats in hurricane-impacted areas, monitoring ospreys and eagles, mapping shoreline erosion, and assisting with prescribed fires. The Florida side of Gulf Islands is also the location of four historic forts: Pickens, Barrancas, Barrancas-Advanced Redoubt, and McRhee.

Regulation:

36 C.F.R. 7.12 contains special regulations for Gulf Islands. The off-road operation of motor vehicles is allowed on designated roads and limited to oversand routes designated by the Superintendent of Gulf Islands. Also pursuant to 36 C.F.R. 7.12, the Superintendent is authorized to establish a system of recreational permits and to establish special recreation permit fees for these permits. The Gulf Islands Superintendent’s Compendium (SC)³³ is a valuable resource, as it establishes rules for the management,

30. Pub. L. 91-660, 84 Stat. 1967 (January 8, 1971).

31. *Id.*

32. Pub. L. 106-554, Section 1(a)(4), 114 Stat. 2763 (December 21, 2000).

protection, government and public use of Gulf Islands. According to Section 1.5-2 of the SC, portions of Santa Rosa Island and Perdido Key are closed to all public use and access from May 1 through September 30 of each year to protect nesting shore birds. Section 1.5-3 of the SC has closed certain locations used by nesting osprey and bald eagle to all public use and access. Section 1.5-5 prohibits roadside parking in certain areas to protect adjacent sand dunes, emerging dunes, and dune habitat from erosion. Section 2.2 of the SC (statutory authority pursuant to 16 U.S.C. 459h), waterfowl hunting is authorized in Santa Rosa Sound and Perdido Key, applicable to seasons, times, and other regulations established by the State of Florida. According to Section 2.13 of the SC, fires may be built subject to certain conditions and Sections 3.6 and 3.20 allow boating and water skiing subject to restrictions set forth by the Superintendent. Visit <http://www.nps.gov/guis/extended/Admin/mgmt.htm> for the full-text version of the SC.

Primary Information Source: Gulf Islands National Seashore website - <http://www.nps.gov/guis/>



*Gulf Islands National Seashore
Courtesy of National Park Service*



*Gulf Islands National Seashore
Courtesy of National Park Service*

33. Available at <http://www.nps.gov/guis/extended/Admin/compendium.htm>

Island Bay National Wildlife Refuge

Authorizing Legislation: Executive Order 958

Signed by President Theodore Roosevelt October 23, 1908, Executive Order 958 ordered “that all of the unsurveyed mangrove and other islands . . . reserved and set aside . . . as a preserve and breeding ground for native birds.”³⁴



Woodstork
Courtesy of USFWS
Photograph by Ryan Hagerty

Date of Designation: 1908

Management Agency: U.S. Fish and Wildlife Service

Management Goals: (1) To protect and provide suitable habitat for endangered and threatened species, including the West Indian manatee, wood stork, eastern indigo snake, American crocodile, and bald eagle; (2) to implement sound wildlife management techniques to provide feeding, nesting, and roosting habitat for shore birds, wading birds, waterfowl, raptors, and neo-tropical migratory species; and (3) to provide wildlife-oriented recreation that is compatible with the purposes for which the NWR was established.

Site Description:

Located on the north side of Charlotte Harbor in the Cape Haze area of Charlotte County, Florida, Island Bay NWR covers approximately 20 acres. It is administered as a satellite refuge of the J.N. “Ding” Darling National Wildlife Refuge Complex. Island Bay NWR is located among mangrove islands and brackish bays, consisting of six undeveloped and roadless tracts of land. However, these land tracts do not include entire islands. Instead, they occupy the higher portions of several islands and mangrove shoreline. In addition, the barrier islands protect Island Bay from the Gulf of Mexico. The bottoms of the bays support vegetation such as shoal grass, widgeon grass, and marine algae. Red and black mangroves dominate the wetland portions of the barrier islands. Also, cabbage palms dominate the higher ridges with trees such as gumbo limbo, sea grapes, and strangler fig. Wildlife population surveys and chemical and mechanical control of invasive plant species are two management tools utilized at the refuge.

Regulation:

The U.S. Fish and Wildlife Service is the primary agency that regulates Island Bay NWR. The Refuge Recreation Act, 16 U.S.C. 460k-460k-4, restricts public recreation use of fish and wildlife conservation areas, including National Wildlife Refuges. Section 460k lays out public uses that are allowed in the refuge, such as wildlife observation, sport fishing, commercial fishing and crabbing, nature photography, motorized and non-motorized boating, and waterfowl hunting. Pursuant to 50 C.F.R. 27.11-27.97, ATVs, camping, littering, fires, collecting, horses, and firearms/weapons are prohibited. However, motorized vehicles are allowed on designated roads.

Primary Information Source: Island Bay NWR website - <http://southeast.fws.gov/IslandBay/>

34. Exec. Order No. 958 (1908).

J.N. “Ding” Darling National Wildlife Refuge

Authorizing Legislation: Emergency Wetlands Resources Act, 16 U.S.C. 3901 et seq.; Fish and Wildlife Act of 1956, 16 U.S.C. 742(a)-754, as amended; Migratory Bird Conservation Act, 16 U.S.C. 715-715r; and Refuge Recreation Act, 16 U.S.C. 460k-460k-4

Date of Designation: 1945

Management Agency: U.S. Fish and Wildlife Service

Management Goals: (1) To join in partnerships with the residents of Sanibel and Captiva Islands, Lee County, and the State of Florida to protect and enhance Ding Darling NWR’s pristine subtropical habitat for the benefit of wildlife; (2) to protect and provide suitable habitat for endangered and threatened species such as the American crocodile, West Indian manatee, wood stork, eastern indigo snake, and bald eagle; (3) to implement sound wildlife management techniques to provide feeding, nesting, and roosting habitat for shore birds, wading birds, waterfowl, raptors, and neo-tropical migratory species; (4) to provide high quality interpretive and environmental education programs to instill in refuge visitors an appreciation of fish and wildlife ecology; and (5) to provide quality wildlife-oriented recreation that is compatible with Ding Darling NWR’s established purposes.

Site Description:

Located southwest of Fort Myers on Sanibel Island in Lee County, Ding Darling NWR covers approximately 6,315 acres. 5,220 acres are owned in fee title, and two portions of the refuge are managed in agreement with the State of Florida - Tarpon Bay (950 acres) and State Botanical Site (184 acres). Ding Darling is a National Wildlife Refuge Complex that also administers several satellite National Wildlife Refuges - Pine Island, Island Bay, Matlacha Pass, and Caloosahatchee. Marine components of Ding Darling NWR include sea grass beds, mud flats, mangrove islands, open water, interior freshwater open ponds, spartina swales, West Indian hardwood hammocks, ridges, shallow bays, and two brackish water impoundments. Approximately 238 bird species, 51 species of reptiles and amphibians, and 32 species of mammals have been identified at Ding Darling. Pursuant to Pub. L. 94-557, (October 19, 1976), 2,825 acres of the refuge have been designated as Wilderness Area.

Regulation: The U.S. Fish and Wildlife Service is the primary agency that regulates Ding Darling NWR. The Refuge Recreation Act, 16 U.S.C. 460k-460k-4, restricts public recreation use of fish and wildlife conservation areas, including National Wildlife Refuges. Section 460k lays out public uses that are allowed in the refuge, such as wildlife observation, sport fishing, commercial fishing and crabbing, nature photography, motorized and non-motorized boating, and waterfowl hunting. Pursuant to 50 C.F.R. 27.11-17.97, ATVs, camping, littering, fires, collecting, horses, and firearms/weapons are prohibited. However, motorized vehicles are allowed on designated roads. Pursuant to 50 C.F.R. 32.28, anglers may fish and crab in Ding Darling subject to conditions.



Black Skimmers
Courtesy of USFWS, Photograph by George Gentry

Primary Information Source: J.N. “Ding” Darling NWR website - <http://dingdarling.fws.gov/>

Lower Suwannee National Wildlife Refuge

Authorizing Legislation: Fish and Wildlife Act of 1956, 16 U.S.C. 742(a)-754, as amended and National Wildlife Refuge Administration Act, 16 U.S.C. 668dd

Date of Designation: 1979

Management Agency: U.S. Fish and Wildlife Service

Management Goals: (1) To expand scientifically-based monitoring and research to support management decisions regarding wildlife habitat and populations; (2) to restore, conserve, and enhance the natural diversity, abundance, and ecological function of Lower Suwannee habitats with an emphasis on managing habitat to benefit threatened and endangered species and Florida species of special concern; (3) to protect the refuge's natural and cultural resources; (3) to provide opportunities for environmental education, interpretation, and wildlife-dependent recreation; and (5) to promote interagency and private landowner cooperation and partnerships to manage and protect the natural and cultural resources of the Big Bend region of Florida, the Suwannee River Basin, and the North Florida ecosystem to benefit wildlife, water quality and quantity, and the public.



Great Blue Heron
Courtesy of USFWS

Site Description:

Located southeast of the city of Chiefland in Dixie, Levy, and Columbia Counties, Lower Suwannee NWR covers approximately 52,935 acres. 29,436 acres are located in Dixie County, 23,353 acres are located in Levy County, and 146 acres are located in Columbia County. 51,104 acres are in fee ownership, while 1,831 acres are administered via management agreements. Lower Suwannee NWR also manages Cedar Keys as part of its National Wildlife Refuge Complex. 36,000 acres of Lower Suwannee are wetland habitat, and 16,000 acres are upland habitat. More specifically, the refuge contains floodplain, hardwood forests, tidal marshes, salt marshes, islands, creeks, an estuary, and the Suwannee River. Lower Suwannee NWR provides habitat for wading birds, shore birds, migratory songbirds, bald eagles, ospreys, and swallow-tailed kites. One of the refuge's unique features is that it remains one of the largest undeveloped river delta-estuarine systems in the United States.

Regulation:

The U.S. Fish and Wildlife Service is the primary agency that regulates Lower Suwannee NWR. The Refuge Recreation Act, 16 U.S.C. 460k-460k-4, restricts public recreation use of fish and wildlife conservation areas, including National Wildlife Refuges. Section 460k lays out public uses that are allowed in the refuge, such as wildlife observation, sport fishing, commercial fishing and crabbing, nature photography, motorized and non-motorized boating, and waterfowl hunting. Pursuant to 50 C.F.R. 27.11-17.97, ATVs, camping, littering, fires, collecting, horses, and firearms/weapons (except during refuge hunting seasons) are prohibited. However, motorized vehicles are allowed on designated roads. Pursuant to 50 C.F.R. 32.28, hunting of migratory game birds in designated areas of Lower Suwannee NWR is allowed subject to conditions, including a refuge permit. Section 32.28 also allows upland game hunting and big game hunting subject to conditions, including a refuge permit. Finally, Section 32.28 allows sport fishing in accordance with Florida regulations and subject to conditions set forth in Section 32.28

Primary Information Source: Lower Suwannee NWR website - <http://lowersuwannee.fws.gov/>

Matlacha Pass National Wildlife Refuge

Authorizing Legislation: Executive Order 943

Signed by President Theodore Roosevelt on September 26, 1908, Executive Order 943 ordered that three small islands located in Matlacha Pass, Florida, be reserved and set aside for the use as a preserve and breeding ground for native birds.

Date of Designation: 1908

Management Agency: U.S. Fish and Wildlife Service

Management Goals: (1) To protect and provide suitable habitat for endangered and threatened species, including the West Indian manatee, eastern indigo snake, American crocodile, wood stork, and bald eagle; (2) to implement sound wildlife management techniques to provide feeding, nesting, and roosting habitat for shore birds, wading birds, waterfowl, raptors, and neo-tropical migratory species; and (3) to provide wildlife-oriented recreation compatible with the purposes for which the refuge was established.

Site Description:

Located within the Matlacha Pass estuary northwest of the city of Fort Myers in Lee County, Florida, Matlacha Pass NWR covers approximately 512 acres that include twenty-three islands, mangrove forests, and tidally-influenced wetlands with low sand and shell ridges. It is administered as a satellite refuge of the J.N. "Ding" Darling National Wildlife Refuge Complex. Matlacha Pass NWR is almost exclusively red mangrove habitat, but in interior wetland areas on some of the islands black mangroves dominate and are often mixed with white mangroves and buttonwood. Upland and wetland areas are maintained in their natural condition so that they may provide undisturbed habitat for birds, fish, invertebrates, and other animals. Colonial birds utilize the refuge as nesting and roosting habitats. As part of its management program, Matlacha Pass NWR uses chemical and mechanical controls against invasive species.

Regulation: The U.S. Fish and Wildlife Service is the primary agency that regulates Matlacha Pass NWR. The Refuge Recreation Act, 16 U.S.C. 460k-460k-4, restricts public recreation use of fish and wildlife conservation areas, including National Wildlife Refuges. Section 460k lays out public uses that are allowed in the refuge, such as wildlife observation, sport fishing, commercial fishing and crabbing, nature photography, motorized and non-motorized boating, and waterfowl hunting. Pursuant to 50 C.F.R. 27.11-17.97, ATVs, camping, littering, fires, collecting, horses, and fire-arms/weapons are prohibited. However, motorized vehicles are allowed on designated roads.

Primary Information Source: Matlacha Pass NWR website - <http://southeast.fws.gov/MatlachaPass/>



Bald Eagle
Courtesy of USFWS
Photograph by Dave Menke

Pine Island National Wildlife Refuge

Authorizing Legislation: Executive Order 939; Fish and Wildlife Act of 1956, 16 U.S.C. 742(a)-754, as amended; Refuge Recreation Act, 16 U.S.C. 460k-460k-4, as amended

Signed by President Theodore Roosevelt on September 15, 1908, Executive Order 939 ordered “two small, unsurveyed islets commonly known as ‘Bird Island’ and ‘Middle Island’ . . . are hereby reserved . . . as a preserve and breeding ground for native birds.”³⁵

Date of Designation: 1908

Management Agency: U.S. Fish and Wildlife Service

Management Goals: (1) To protect and provide habitat for endangered and threatened species such as the West Indian manatee, eastern indigo snake, American crocodile, wood stork, and bald eagle; (2) to implement sound wildlife management techniques to provide feeding, nesting, and roosting habitat for shore birds, wading birds, waterfowl, raptors, and neo-tropical migratory species; and (3) to provide wildlife-oriented recreation compatible with the purposes for which Pine Island NWR was established.

Site Description:

Located north of Sanibel Island in Pine Island Sound in Lee County, Pine Island NWR is managed as a satellite refuge of the J.N. “Ding” Darling National Wildlife Refuge Complex. The refuge covers approximately 602 acres and approximately seventeen islands that consist of densely-forested red and black mangroves. There is little upland habitat, and only a few islands can support upland vegetation. Access to the islands is by boat only. Due to the dense mangroves and little upland habitat on the islands, Pine Island receives little public use. Several of the islands are important nesting and roosting habitats for colonial birds, particularly the brown pelican. Small colonies of gopher tortoises may be found on the larger islands, and dolphins have been spotted in area waters. Shell mounds are located on a few of the islands and are evidence that Calusa Indians once inhabited the area. As part of its management program, Pine Island NWR uses chemical and mechanical controls against invasive species.



Manatees
Courtesy of USFWS
Photograph by Jim Reid

Regulation:

The U.S. Fish and Wildlife Service is the primary agency that regulates Pine Island NWR. The Refuge Recreation Act, 16 U.S.C. 460k-460k-4, restricts public recreation use of fish and wildlife conservation areas, including National Wildlife Refuges. Section 460k lays out public uses that are allowed in the refuge, such as wildlife observation, sport fishing, commercial fishing and crabbing, nature photography, motorized and non-motorized boating, and waterfowl hunting. Pursuant to 50 C.F.R. 27.11-17.97, ATVs, camping, littering, fires, collecting, horses, and firearms/weapons are prohibited. However, motorized vehicles are allowed on designated roads.

Primary Information Source: Pine Island NWR website - <http://southeast.fws.gov/PineIsland/>

35. Exec. Order 939 (1908).

Cormorant
Courtesy of USFWS
Photograph by Jo Keller



Pinellas National Wildlife Refuge

Authorizing Legislation: Migratory Bird Conservation Act, 16 U.S.C. 715-715r, as amended; Refuge Recreation Act, 16 U.S.C. 460-460-k, as amended

Date of Designation: 1951

Management Agency: U.S. Fish and Wildlife Service

Management Goals: (1) To provide nesting habitat for the endangered brown pelican and other water birds; and (2) to preserve and protect barrier island habitat.

Site Description:

Located offshore from the city of St. Petersburg in Pinellas County, Pinellas NWR covers approximately 403 acres. It is closed to all public use and accessible by boat only. The refuge is administered as a satellite refuge of the Chassahowitzka National Wildlife Refuge Complex. Pinellas NWR was established as a breeding ground for colonial birds. Several islands comprise the refuge, and one of the islands, Tarpon Key, is the location of Florida's largest brown pelican rookery. Other species that utilize the islands as habitat include herons, egrets, and cormorants.

Regulation:

The U.S. Fish and Wildlife Service is the primary agency that regulates Pinellas NWR. The Refuge Recreation Act, 16 U.S.C. 460k-460k-4, restricts public recreation use of fish and wildlife conservation areas, including National Wildlife Refuges. Pursuant to 50 C.F.R. 32.28, fishing is permitted only from boats and in the waters surrounding Tarpon Key. Flats surrounding the islands contain seagrass beds, and, therefore, motorized boating activity is prohibited to protect them.

Primary Information Source: Pinellas NWR website - <http://southeast.fws.gov/Pinellas/>

St. Marks National Wildlife Refuge

Authorizing Legislation: Executive Order 5740; Migratory Bird Conservation Act, 16 U.S.C. 717-715r, as amended; National Wildlife Refuge Administration Act, 16 U.S.C. 668dd; Refuge Recreation Act, 16 U.S.C. 460k-460k-4, as amended

Signed by President Herbert Hoover on October 31, 1931, Executive Order 5740 originally set aside St. Marks National Wildlife Refuge as a migratory bird refuge and as a breeding ground for wild animals and birds. Executive Order 5740 also authorized use of the area's lighthouse by the U.S. Department of Commerce.

Date of Designation: 1931

Management Agency: U.S. Fish and Wildlife Service

Management Goals: (1) To provide wintering habitat for birds; (2) to provide habitat and protection for wildlife and for endangered and threatened species, such as the bald eagle, wood stork, West Indian manatee, Atlantic green turtle, Atlantic loggerhead turtle, and leatherback turtle; (3) to protect the diverse communities of forested and wetland habitats; (4) to control invasive species in the refuge; and (5) to maintain the St. Marks Lighthouse.

Site Description:

Located on Florida's Gulf coast, south of the city of Tallahassee in Wakulla, Jefferson, and Taylor Counties, Florida, St. Marks NWR covers approximately 67,122 acres. The refuge contains an array of habitats: coastal marshes, islands, tidal creeks, pine and oak forests, scrubby flatwoods, wet flatwoods, mesic flatwoods, mesic hammock, hydric hammock, inland hardwood swamps, and estuaries of seven north Florida rivers. Not only does St. Marks NWR provide migratory bird habitat, it also provides habitat for mammals such as Florida black bears, white-tailed deer, and bobcats. Also, the refuge currently provides habitat for several federally-protected endangered species: bald eagle, red-cockaded woodpecker, wood stork, West Indian manatee, Atlantic green turtle, Atlantic loggerhead turtle, and leatherback turtle. Formally, the Florida panther and ivory-billed woodpecker inhabited St. Marks NWR, but no members of these species have been documented in the refuge for decades. It is believed that the red wolf also occupied this area in the past. As part of its management plan, the refuge uses wildlife monitoring, prescribed burning, an endangered species program, and an exotic plant eradication program. The St. Marks lighthouse was built in 1832 to serve the town of St. Marks, which was an important port of entry. It is still in use today, aiding navigation to vessels that travel Apalachee Bay.

Regulation:

The U.S. Fish and Wildlife Service is the primary agency that regulates St. Marks NWR. The Refuge Recreation Act, 16 U.S.C. 460k-460k-4, restricts public recreation use of fish and wildlife conservation areas, including National Wildlife Refuges. Section 460k lays out public uses that are allowed in the refuge, such as wildlife observation, sport fishing, commercial fishing and crabbing, nature photography, motorized and non-motorized boating, and waterfowl hunting. Pursuant to 50 C.F.R. 27.11-17.97, ATVs, camping, littering, fires, collecting, horses, and firearms/weapons (except during refuge hunting seasons) are prohibited. However, motorized vehicles are allowed on designated roads. Pursuant to 50 C.F.R. 32.28, hunting of migratory birds, and certain species of upland game and big game are allowed as long as the required permit is obtained. Furthermore, Section 32.28 allows anglers to fish and crab in designated areas, subject to certain conditions and restrictions. St. Marks NWR currently is in the process of writing a Comprehensive Conservation Plan that will become the refuge management plan for the next fifteen years, which will further define refuge objectives and provide justification for future operation, maintenance, and enhancement opportunities.

Primary Information Source: St. Marks NWR website - <http://saintmarks.fws.gov/>

St. Vincent National Wildlife Refuge

Authorizing Legislation: Migratory Bird Conservation Act, 16 U.S.C. 715-715r, as amended

Date of Designation: 1968

Management Agency: U.S. Fish and Wildlife Service

Management Goals: (1) To provide habitat and protection for threatened and endangered species, including red wolf, bald eagle, American alligator, sea turtle, and eastern indigo snake; (2) to provide habitat for migratory birds; (3) to manage and preserve the natural barrier island and associated native plant and animal communities; and (4) to provide wildlife-dependent recreation and environmental education to the public.

Site Description:

Located southwest of the city of Apalachicola in Franklin and Gulf Counties, Florida, St. Vincent NWR is an approximately 12,490 acre undeveloped coastal barrier island. Therefore, access to the refuge is by boat only. Habitat consists of open water (approx. 264 acres), wetlands (approx. 4,566 acres), forest (approx. 5,861 acres), shrub (approx. 1,412 acres), and sand dunes (approx. 387 acres). In addition, St. Vincent NWR manages 21 conservation easements that cover approximately 1,625 acres in twelve counties in Florida. The refuge serves as a migratory bird stopover and provides nesting habitat for bald eagles, wood storks, and loggerhead sea turtles. A unique feature is the refuge's population of sambar deer, an elk species that is native to Southeast Asia. Prior to its designation as a National Wildlife Refuge, the island was used as a private hunting and fishing preserve, and several exotic wildlife species, including sambar deer, were introduced to the site. The sambar deer population co-exists with the native white-tailed deer that also populate St. Vincent by occupying different ecological niches of the island. Another unique feature of the refuge is that it serves as a red wolf propagation site. Red wolves born and weaned at the refuge are transported while they are still pups to other sites, such as Great Smoky Mountains National Park, for reintroduction into the wild.

Regulation:

The U.S. Fish and Wildlife Service is the primary agency that regulates St. Vincent NWR. The Refuge Recreation Act, 16 U.S.C. 460k-460k-4, restricts public recreation use of fish and wildlife conservation areas, including National Wildlife Refuges. Section 460k lays out public uses that are allowed in the refuge, such as wildlife observation, sport fishing, commercial fishing and crabbing, nature photography, motorized and non-motorized boating, and waterfowl hunting. Pursuant to 50 C.F.R. 27.11-17.97, ATVs, camping, littering, fires, collecting, horses, and firearms/weapons (except during refuge hunting seasons) are prohibited. However, motorized vehicles are allowed on designated roads. Pursuant to 50 C.F.R. 32.28, hunting of sambar deer, white-tailed deer, and feral hogs is allowed during specified seasons at the refuge subject to permit. Section 32.28 also allows sport fishing in designated areas subject to conditions. Pursuant to 50 C.F.R. 17.95, part of St. Vincent NWR is critical habitat for the piping plover, a bird species listed as Endangered in the Great Lakes watershed and listed as Threatened elsewhere in the U.S.

Primary Information Source: St. Vincent NWR website - <http://southeast.fws.gov/StVincent/>



Red Wolf
Courtesy of USFWS
Photograph by John and Karen Hollingsworth

Ten Thousand Islands National Wildlife Refuge

Authorizing Legislation: Fish and Wildlife Act of 1956, 16 U.S.C. 742(a)-754, as amended

Date of Designation: 1996

Management Agency: U.S. Fish and Wildlife Service

Management Goals: (1) To conserve and protect wildlife resources, especially endangered species that inhabit the Ten Thousand Islands NWR; (2) to permit sustained-yield use and enterprises compatible with the refuge's purpose; (3) to provide visitors with quality recreational opportunities compatible with the refuge's purposes; (4) to promote the interpretation and education of natural resources of the refuge; and (5) to promote refuge cooperation with entities involved with natural and cultural resources within the Big Cypress watershed.



Loggerhead Sea Turtle
Courtesy of USFWS
Photograph by Ryan Hagerty

Site Description:

Located southeast of the city of Naples in the lower end of the Fakahatchee and Picayune Strands of Big Cypress Swamp in Collier County, Florida, Ten Thousand Islands NWR covers approximately 35,000 acres of estuaries, freshwater marshlands, mangrove forests, and islands. One of the refuge's most unique features is that it is in one of the largest mangrove estuaries in North America. Approximately 8,000 acres of the refuge are mangrove forest, while 16,000 acres are marine water and 11,000 acres are freshwater marshland and other habitat. Ten Thousands Islands NWR is used year round by West Indian manatees, and the beaches are used by loggerhead sea turtles as nesting habitat. Dolphins and bald eagles have been spotted at the refuge. A variety of wading birds utilize the refuge,

including wood storks, water birds, and shore birds. The estuaries at Ten Thousand Islands NWR are used by interjurisdictional fisheries, which makes the refuge a popular saltwater fishing destination. As part of its management program, the refuge uses prescribed burning and control of exotic plants through mechanical and chemical means.

Regulation:

The U.S. Fish and Wildlife Service is the primary agency that regulates Ten Thousand Islands NWR. The Refuge Recreation Act, 16 U.S.C. 460k-460k-4, restricts public recreation use of fish and wildlife conservation areas, including National Wildlife Refuges. Section 460k lays out public uses that are allowed in the refuge, such as wildlife observation, sport fishing, commercial fishing and crabbing, nature photography, motorized and non-motorized boating, and waterfowl hunting. Per 50 C.F.R. 27.11-17.97, ATVs, camping, littering, fires, collecting, horses, and firearms/weapons (except during refuge hunting seasons) are prohibited. However, motorized vehicles are allowed on designated roads. Pursuant to 50 C.F.R. 32.28, hunting of ducks and coots is authorized in the refuge in accordance with Florida regulations and subject to conditions set forth in Section 32.28. Section 32.28 also authorizes sport fishing, and anglers may fish only in designated portions of the refuge subject to conditions.

Primary Information Source: Ten Thousand Island NWR website - <http://southeast.fws.gov/TenThousandIsland/>

Federal-State Cooperatives

Apalachicola National Estuarine Research Reserve

Authorizing Legislation: Coastal Zone Management Act, 16 U.S.C. 1461

Date of Designation: 1979

Management Agencies: U.S. Department of Commerce, National Oceanic and Atmospheric Administration and Florida Department of Environmental Protection, Office of Coastal and Aquatic Managed Areas

Management Goals: The mission of the National Estuarine Research Reserve System is to establish and manage, through federal-state cooperation, a national system of estuarine research reserves that are representative of the various regions and estuarine types in the United States.³⁶ A National Estuarine Research Reserve (NERR) is established to provide opportunities for long-term research, education, and interpretation.³⁷ The goals of the NERR program are: (1) ensure a stable environment for research through long-term protection of NERR resources; (2) enhance public awareness and understanding of estuarine areas and provide suitable opportunities for public education and interpretation; (3) promote federal, state, public, and private uses of one or more NERRs within the NERR System when such entities conduct estuarine research; and (4) conduct and coordinate estuarine research within the NERR System, gathering and making available information necessary for improved understanding and management of estuarine areas.

Site Description:

Located in the Florida panhandle region in Franklin, Gulf, Calhoun, and Liberty Counties, Apalachicola NERR (ANERR) covers approximately 246,000 acres. ANERR is one of twenty-five sites designated by the National Oceanic and Atmospheric Administration as a NERR. The site has also been designated an Aquatic Preserve and an Outstanding Florida Water by the State of Florida and a Gulf of Mexico Ecological Management Site by the EPA. Apalachicola Bay is a productive estuarine system. Between sixty percent to eighty-five percent of the local population make a living from the fishing industry, and most of this fishing takes place in ANERR waters. Therefore, research projects that focus on commercial fisheries management and the food chain are high priority. ANERR's education program focuses on educating coastal managers and visiting researchers about the area and its ecology. The education program also includes ongoing guest lectures for the community and coastal management workshops for environmental professionals. K-12 educational activities are another education program component, which provides both on-site and classroom programs.

Apalachicola Bay is an important nursery area for the Gulf of Mexico region. Over ninety-five percent of all commercially harvested species and eighty-five percent of all recreationally harvested species in the open Gulf spend a portion of their lives in the bay's waters. Apalachicola Bay is a major blue crab breeding ground for Florida's West Coast and a nursery for penaeid shrimp. The barrier islands surrounding Apalachicola Bay provide a resting spot for birds, and West Indian manatees migrate to Apalachicola Bay during the summer months.

The Apalachicola River and Apalachicola Bay drainage basin contain historic structures and over 100 archeological sites. The Apalachicola River valley is believed to have been occupied by humans for over 10,000 years by prehistoric human populations of small hunting groups, farmers, or aquatic species-based hunter-gatherers. Paleo-Indian through Mississippian cultural sites are represented, as well as historic set-

36. 15 C.F.R. 921.1 (2003).

37. *Id.*

tlements, structures and occupational sites. Prehistoric and historic artifacts still may be found on the shores adjacent to Apalachicola Bay Aquatic Preserve, with registered sites on St. Vincent, Cape St. George, and St. George Islands.

Regulation:

15 C.F.R. Part 921 contains regulations applicable to ANERR. According to 15 C.F.R. 921.1, NERRs are open to the public to the extent permitted under State and Federal law. Multiple uses are allowed to the degree compatible with each reserve's overall purpose as provided in the management plan and consistent with the NERR Program's mission and goals. Use levels are set by the state where each reserve is located and analyzed in the management plan. Management plans are required to describe the uses and establish priorities among these uses and identify uses requiring a state permit, as well as areas where uses are encouraged or prohibited. Consistent with resource protection and research objectives, public access and use may be restricted to certain areas or components within a NERR.

Primary Information Source: Apalachicola NERR websites -

<http://www.dep.state.fl.us/coastal/sites/apalachicola/anerr/info.htm> and <http://nerrs.noaa.gov/Apalachicola/>

*Apalachicola NERR
Courtesy of NOAA National Estuarine Research
Reserve Collection*



*Apalachicola NERR
Courtesy of NOAA National Estuarine Research
Reserve Collection*

Charlotte Harbor National Estuary Program

Authorizing Legislation: Clean Water Act, 33 U.S.C. 1330

Section 320 of the Clean Water Act established the National Estuary Program. Section 302 sets forth the procedure for nominating an estuary into the National Estuary Program and development of a comprehensive management plan for the estuary. The Governor of the State of Florida nominated Charlotte Harbor estuary for participation in the National Estuary Program and it was accepted into the program in 1995. In February 2000, the National Estuary Program's Management Conference approved the Charlotte Harbor Comprehensive Conservation Management Plan.³⁸

Date of Designation: 1995

Management Agencies: U.S. Environmental Protection Agency and Florida Department of Environmental Protection

Management Goals: The management goals of the Charlotte Harbor National Estuary Program (CHNEP) are to "improve the environmental integrity of the Charlotte Harbor study area" by: (1) preserving, restoring, and enhancing seagrass beds, coastal wetlands, barrier beaches, and functionally-related uplands; (2) reducing point and nonpoint sources of pollution to attain desired uses of the estuary; (3) providing proper freshwater inflow to the estuary to ensure a balanced and productive ecosystem; (4) developing and implementing a strategy for public participation and education; and (5) developing and implementing a formal Charlotte Harbor management plan with a specified structure and process for achieving goals for the estuary.

Site Description:

The CHNEP covers an area of 4,400 square miles, with 270 of those square miles being open water. It is located on the Gulf of Mexico coast of Florida and includes parts of Charlotte, DeSoto, Hardee, Polk, Lee, Manatee, and Sarasota Counties. The Charlotte Harbor estuary extends along the coast from Venice to Estero Bay. Geographic subdivisions include the following areas: Myakka River, Peace River, Caloosahatchee River, coastal watersheds, Lemon Bay, San Carlos Bay, Estero Bay, Gasparilla Sound, Pine Island Sound, and Matlacha Pass. The Myakka, Peace, and Caloosahatchee Rivers feed freshwater into the estuary.

The estuary is the second largest open water estuary in the state of Florida. The CHNEP area provides a habitat for over 2,300 animal species, including 42 state listed or federally listed endangered species. The area also has the highest vascular plant species diversity in south Florida. The harbor itself serves as a protected area for the larval and juvenile stages of more than 270 species of fish. Key features to this estuary are the habitats that the area provides including subtidal soft bottoms and xeric oak scrubs.

A Comprehensive Conservation Management Plan has been approved for the CHNEP. The CCMP includes approximately 250 projects that will be implemented.³⁹ The plans focus on three main objectives: (1) preventing and slowing hydrologic alterations, (2) improving water quality, and (3) preserving fish and wildlife habitat.

38. Charlotte Harbor National Estuary Program, Comprehensive Conservation and Management Plan, available at <http://www.charlotteharbornep.org/CCMP.htm> (accessed September 16, 2003).

39. Charlotte Harbor National Estuary, Comprehensive Conservation Management Plan, p. 417 (accessed Sept. 17, 2003), available at <http://www.charlotteharbornep.com/CCMP/Volume%202.pdf>.

Regulation:

The NEP Program Office has no regulatory authority. The policies and goals identified by the Policy and Management Committees are implemented by the Alabama agencies with authority over the various resources and sectors.

Primary Information Sources: Charlotte Harbor NEP websites - www.charlotteharbornep.com/ and <http://www.epa.gov/owow/estuaries/programs/ch.htm>



Florida Scrub Jay
Courtesy of USFWS



Spotted Sea Trout
Courtesy of USFWS
Illustration by Duane Raver

Rookery Bay National Estuarine Research Reserve

Authorizing Legislation: Coastal Zone Management Act, 16 U.S.C. 1461

Date of Designation: 1978

Management Agencies: Florida Department of Environmental Protection, Office of Coastal and Aquatic Managed Areas and U.S. Department of Commerce, National Oceanic and Atmospheric Administration

Management Goals: The mission of the National Estuarine Research Reserve System is to establish and manage, through federal-state cooperation, a national system of estuarine research reserves that are representative of the various regions and estuarine types in the United States.⁴⁰ A National Estuarine Research Reserve (NERR) is established to provide opportunities for long-term research, education, and interpretation.⁴¹ The goals of the NERR program are: (1) to ensure a stable environment for research through long-term protection of NERR resources; (2) to enhance public awareness and understanding of estuarine areas and provide suitable opportunities for public education and interpretation; (3) to promote federal, state, public, and private uses of one or more NERRs within the NERR System when such entities conduct estuarine research; and (4) conduct and coordinate estuarine research within the NERR System, gathering and making available information necessary for improved understanding and management of estuarine areas.

Site Description:

Located in Collier County, Rookery Bay NERR includes both Rookery Bay and Cape Romano-Ten Thousand Islands Aquatic Preserves and covers approximately 110,000 acres. Rookery Bay NERR is managed jointly by the State of Florida and the National Oceanic and Atmospheric Administration. The area also has been designated a Gulf of Mexico Ecological Management Site. The Rookery Bay area is a relatively undisturbed mangrove estuary, one of the remaining few in the United States. Other types of habitat within the preserve include bays, salt marsh, freshwater marsh, xeric scrub, pine flatwoods, and coastal hammock. The area provides habitat for recreational and commercial fish and shellfish, and the bay's shallow waters are feeding grounds for dolphins, manatees, and various bird species.

Management of the preserve includes research and education programs. The research program promotes the preservation, protection, and understanding of the ecological integrity of the entire Rookery Bay system. Therefore, the NERR program promotes research that leads to improved knowledge and understanding of our nation's estuarine resources. The NERR program's goal is to enhance the ability of citizens and officials to make informed coastal decisions. Therefore, the education program focuses on interpreting coastal management information and results of coastal research to adult audiences. In furtherance of this goal, Rookery Bay NERR has been conducting training programs for local decision-makers in Southwest Florida for over 10 years, providing science-based information to local officials and a variety of professionals. In 2003, Rookery Bay NERR opened the Environmental Learning Center and Marine Lab. The Center houses four research labs, an auditorium, two classrooms, and a visitor center. The Center also includes exhibits designed to help visitors understand the value of estuaries.

Regulation:

15 C.F.R. Part 921 contains regulations applicable to Rookery Bay NERR. According to 15 C.F.R. 921.1, NERRs are open to the public to the extent permitted under state and Federal law. Multiple uses are allowed to the degree compatible with each reserve's overall purpose, as provided in the management plan and consistent with the NERR Program's mission and goals. Use levels are set by the state where each

40. 15 C.F.R. 921.1 (2003).

41. *Id.*

reserve is located and analyzed in the management plan. Management plans are required to describe the uses and establish priorities among these uses and identify uses requiring a state permit, as well as areas where uses are encouraged or prohibited. Consistent with resource protection and research objectives, public access and use may be restricted to certain areas or components within a NERR.

Primary Information Sources: Rookery Bay NERR websites - <http://www.dep.state.fl.us/coastal/sites/southwest/rookery/info.htm> and <http://nerrs.noaa.gov/RookeryBay/welcome.html> , and <http://www.rookerybay.org>

*Rookery Bay
Courtesy of NOAA National Estuarine Research
Reserve Collection*



*Common Tern Guards Nest
Courtesy of NOAA National Estuarine
Research Reserve Collection*

Sarasota Bay National Estuary Program

Authorizing Legislation: Clean Water Act, 33 U.S.C. 1330

Date of Designation: Sarasota Bay was named in the 1987 amendments to the Clean Water Act that created the National Estuary Program, and the Sarasota Bay National Estuary Program officially began in 1989.

Management Agencies: U.S. Environmental Protection Agency and Florida Department of Environmental Protection

Management Goals: Sarasota Bay National Estuary Program (SBNEP) is “dedicated to improving and protecting the area’s greatest and most important natural asset - Sarasota Bay.”⁴² The program “strives to improve water quality, increase habitat and enhance the natural resources of the area for use and enjoyment by the public.”⁴³

Site Description:

Located on the southwestern coast of Florida in Sarasota and Manatee Counties, the watershed of SBNEP covers approximately 733 square kilometers of land and water areas. Marine components of SBNEP are Sarasota Bay, sea walls, artificial reefs, wetlands, seagrass beds, estuaries, and barrier islands. Accompanying the loss of marine habitat such as seagrass beds and mangrove wetlands to commercial and residential development were losses of marine life such as fish, birds, and shellfish. The Sarasota Bay region is home to many species of marine life, including dolphins, loggerhead turtles, West Indian manatees, black mullet, red drum, spotted sea trout, stone crabs, blue crabs, and bait shrimp. SBNEP has its own Comprehensive Conservation Management Plan that sets forth several management approaches to improve and protect Sarasota Bay, such as reforming sea walls, shoreline softening, bay bottom improvements, and channel markers as habitat.



*Aerial View of Sarasota Bay
Courtesy of Sarasota National Estuary Program*

SBNEP has its own Comprehensive Conservation Management Plan that sets forth several management approaches to improve and protect Sarasota Bay, such as reforming sea walls, shoreline softening, bay bottom improvements, and channel markers as habitat.

Regulation:

The NEP Program Office has no regulatory authority. The policies and goals identified by the Policy and Management Committees are implemented by the Florida agencies with authority over the various resources and sectors.

Primary Information Sources: Sarasota Bay NEP websites - <http://www.sarasotabay.org/default.asp> and <http://www.epa.gov/owow/estuaries/programs/sb.htm>

42. Sarasota Bay National Estuary Program, at http://www.sarasotabay.org/getpage.asp?Category_ID=31 (accessed September 15, 2003).

43. *Id.*

Tampa Bay Estuary Program

Authorizing Legislation: Clean Water Act, 33 U.S.C. 1330

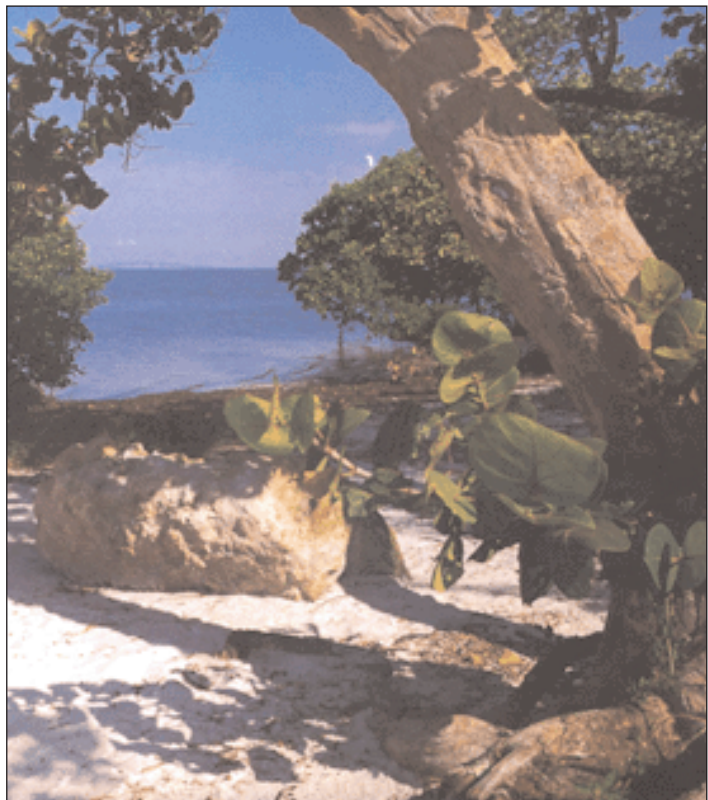
Date of Designation: 1990

Management Agencies: U.S. Environmental Protection Agency and Florida Department of Environmental Protection

Management Goals: (1) Improvement of water and sediment quality; (2) restoration of Tampa Bay habitats; (3) increase the diversity and improve the health of Tampa Bay's fish and wildlife populations; (4) development of a "long-range dredging plan for the bay that will minimize environmental impacts and maximize beneficial uses of the dredged material"; (5) installation of a vessel traffic system to improve coordination of ship movements along Tampa Bay's shipping channel; (6) installation of permanent anchors for oil-containment booms near environmentally sensitive areas; and (7) public outreach and education.

Site Description:

Located off the coast of the city of Tampa and in Pinellas, Hillsborough, and Manatee Counties, TBEP covers approximately 400 square miles of water. Major types of habitat in the estuary include sea-grass, artificial reefs, barrier islands, sand bars, sand flats, mud flats, salt flats, salt and brackish marshes, mangrove, forested wetlands, freshwater lakes and ponds, and scrub/shrub. A wide variety of fish, shellfish, and crustaceans use Tampa Bay waters during some critical stages of their development. Approximately 40,000 pairs of birds, including brown pelicans and roseate spoonbills, nest in Tampa Bay every year. Other bird species, such as sandpipers and white pelicans, nest in Tampa Bay on a seasonal basis. Tampa Bay is also home to dolphins, sea turtles, burrowing owls, manatees, and other many other animal species.



Tampa Bay
Courtesy of Tampa Bay Estuary Program

Regulation:

The NEP Program Office has no regulatory authority. The policies and goals identified by the Policy and Management Committees are implemented by the Florida agencies with authority over the various resources and sectors.

Primary Information Sources: Tampa Bay NEP websites -

<http://www.tbep.org/> and <http://www.epa.gov/owow/estuaries/programs/tampa.htm>

STATE-MANAGED AREAS

Alligator Harbor Aquatic Preserve

Authorizing Legislation: Florida Aquatic Preserve Act, FLA. STAT. ANN. Section 258.35 et seq.

Date of Designation: 1969

Management Agency: Florida Department of Environmental Protection, Office of Coastal and Aquatic Managed Areas

Management Goals: (1) To preserve, protect, and enhance these exceptional areas of sovereignty submerged lands by reasonable regulation of human activity with the preserve through the development and implementation of a comprehensive management plan; (2) to protect and enhance the waters of the preserve so that the public may continue to enjoy the traditional recreational uses of those waters such as swimming, boating, and fishing; (3) to coordinate with federal, state, and local agencies to aid in carrying out the intent of the Florida Legislature in creating the preserve; to use applicable federal, state, and local management programs, which are compatible with the intent and provisions of the Florida Aquatic Preserve Act and its rules, and to assist in managing the preserve; (4) to encourage the protection, enhancement, or restoration of the biological, aesthetic, or scientific values of the preserve, including but not limited to the modification of existing man-made conditions toward its natural condition and discourage activities that would degrade the aesthetic, biological, or scientific values or the quality or utility of the preserve when reviewing applications or when developing and implementing a management plan for the preserve; (5) to preserve, promote, and utilize indigenous life forms and habitats, including but not limited to sponges, soft coral, hard coral, submerged grasses, mangroves, wetlands, aquatic and marine reptiles, game and non-game fish species, and estuarine, aquatic, and marine mammals, birds, shellfish, and mollusks; (6) to acquire additional title interests in lands whenever these acquisitions would protect or enhance the aesthetic, biological, or scientific values of the preserve; and (7) to maintain beneficial hydrologic and biologic functions for the public benefit.

Site Description:

Located in Franklin County and east of the Apalachicola Bay estuary, Alligator Harbor Aquatic Preserve covers approximately 14,366 acres. In addition to its designation as an Aquatic Preserve, Alligator Harbor AP also has been designated an Outstanding Florida Water, Class II Shellfish Harvesting Waters, and Gulf of Mexico Ecological Management Site. The preserve has little freshwater inflow. Preserve habitat includes seagrass beds, salt marshes, and nearshore coastal communities. The seagrass beds and salt marshes are nursery grounds and refuges for commercial and recreational fish and invertebrate species. Several offshore shoal systems border Alligator Harbor AP, including Dog Island Reef to the southwest, South Shoal to the southeast, and the Ochlocknee Shoal to the east.

Recreational species within Alligator Harbor include tarpon, redfish, sea trout, flounder, pompano, and Spanish mackerel. Commercial species within the preserve include shrimp and clams. Alligator Harbor also is a forage area for migratory birds. A portion of the preserve known as Alligator Spit is a landfall area for migratory birds such as the piping plover. Many rare and endangered species utilize the preserve area as well, including the American alligator, Kemp's ridley sea turtle, and bald eagle.

For more detailed discussion of the habitats, flora and fauna, and management objectives and strategies for this Aquatic Preserve, see the Alligator Harbor Aquatic Preserve Management Plan. It is available online at http://www.dep.state.fl.us/coastal/downloads/management_plans/aquatic/Alligator_Harbor.pdf

Regulation:

FLDEP's Office of Coastal and Aquatic Areas administers Aquatic Preserves. Chapters 253 and 258, Florida Statutes, establish the proprietary management overview role of the Board of Trustees. Florida Aquatic Preserves Rules, FLA. ADMIN. CODE ANN. Chapter 18-20, and the Sovereignty Submerged Lands Management Rules, FLA. ADMIN. CODE ANN. Chapter 18-21, contain relevant rules and regulations to administer Florida's Aquatic Preserves. Preserves are managed primarily for the maintenance of essentially natural conditions, propagation of fish and wildlife, and traditional uses such as swimming, fishing, and boating.⁴⁴ Activities in Aquatic Preserves are limited to water dependent activities unless the BOT determines that it is in the public interest to allow an exception.⁴⁵ The use of preserves to provide road access to islands, where such access did not previously exist, is prohibited, but the BOT may allow an exception under certain circumstances.⁴⁶

Primary Information Source: Alligator Harbor Aquatic Preserve website - <http://www.dep.state.fl.us/coastal/sites/apalachicola/alligator/info.htm>



*Alligator Harbor Aquatic Preserve
Courtesy of FLDEP*

44. FLA. ADMIN. CODE ANN. 18-20.001(1).

45. FLA. ADMIN. CODE ANN. 18-21.004(1)(f). Note: Chapter 18-21 sets forth rules regarding management of sovereignty submerged lands. Aquatic Preserves are included in the category of sovereign submerged lands.

46. FLA. ADMIN. CODE ANN. 18-21.004(1)(i).

Apalachicola Bay Aquatic Preserve

Authorizing Legislation: Florida Aquatic Preserve Act, FLA. STAT. ANN. Section 258.35 et seq.

Date of Designation: 1969

Management Agency: Florida Department of Environmental Protection, Office of Coastal and Aquatic Managed Areas

Management Goals: See Alligator Harbor Aquatic Preserve, *supra* page 50.

Site Description:

Located in Franklin County in the Florida panhandle, Apalachicola Bay Aquatic Preserve (ABAP) covers approximately 80,000 acres of estuarine, riverine, floodplain, and adjacent upland habitats. ABAP also has been designated a Gulf of Mexico Ecological Management Site. ABAP lies within the ANERR at the mouth of the Apalachicola-Chattahoochee-Flint River system. The Apalachicola River is the largest river in Florida in terms of flow and plays a major role in the salinity regime and ecology of Apalachicola Bay.

Apalachicola Bay is an important nursery area for the Gulf of Mexico. Over 95 percent of all commercially harvested species and 85 percent of all recreationally harvest species in the open Gulf spend a portion of their lives in the bay's waters. Apalachicola Bay is a major blue crab breeding ground for the west coast of Florida and a nursery for penaeid shrimp. The barrier islands surrounding Apalachicola Bay provide a resting spot for birds. West Indian manatees migrate to the Apalachicola Bay during the summer months.

For more detailed discussion of the habitats, flora and fauna, and management objectives and strategies for this Aquatic Preserve, see the Apalachicola Bay Aquatic Preserve Management Plan. It is available online at

http://www.dep.state.fl.us/coastal/downloads/management_plans/aquatic/Apalachicola_Bay.pdf



Apalachicola Bay Aquatic Preserve
Courtesy of FLDEP

Regulation:

FLDEP's Office of Coastal and Aquatic Areas administers Aquatic Preserves. Chapters 253 and 258, Florida Statutes, establish the proprietary management overview role of the Board of Trustees. Florida Aquatic Preserves Rules, FLA. ADMIN. CODE ANN. Chapter 18-20, and the Sovereignty Submerged Lands Management Rules, FLA. ADMIN. CODE ANN. Chapter 18-21, contain relevant rules and regulations to administer Florida's Aquatic Preserves. Preserves are managed primarily for the maintenance of essentially natural conditions, propagation of fish and wildlife, and traditional uses such as swimming, fishing, and boating. Activities in Aquatic Preserves are limited to water dependent activities unless the BOT determines that it is in the public interest to allow an exception. The use of preserves to provide road access to islands, where such access did not previously exist, is prohibited, but BOT may allow an exception under certain circumstances.

Primary Information Source: Apalachicola Bay Aquatic Preserve website - <http://www.dep.state.fl.us/coastal/sites/apalachicola/apalachicola/info.htm>

Big Bend Seagrasses Aquatic Preserve

Authorizing Legislation: Florida Aquatic Preserve Act, FLA. STAT. ANN. Section 258.395

Date of Designation: 1985

Management Agency: Florida Department of Environmental Protection, Office of Coastal and Aquatic Managed Areas

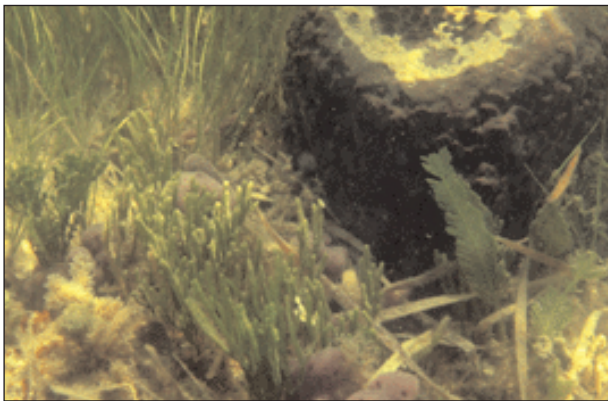
Management Goals: See Alligator Harbor Aquatic Preserve, *supra* page 50.

Site Description:

Located along the coasts of Levy, Dixie, Taylor, Jefferson, and Wakulla Counties, Big Bend Seagrasses Aquatic Preserve covers approximately 945,000 acres. In addition to its designation as an Aquatic Preserve, Big Bend AP also has been designated an Outstanding Florida Water and Gulf of Mexico Ecological Management Site. The preserve primarily consists of a large, remote, and undeveloped expanse of submerged seagrasses and nearshore marshlands, which are located along approximately 150 miles of the northeast coast of Florida. Big Bend AP's marine components include estuaries formed at the confluence of the rivers and streams that flow into the preserve and support flora and fauna. The shoreline along the preserve consists of inter-tidal marsh grasslands. Mangroves occur in the southern parts of these marshes, but stunt and die during periodic freezes. The open waters and bay waters of these estuaries support commercial and recreational fish species. Big Bend AP also provides a nursery for shellfish and fish and foraging habitat for these species, as well as manatee, osprey, bald eagle, species of sea turtle, sturgeon, and dolphin.

For more detailed discussion of the habitats, flora and fauna, and management objectives and strategies for this Aquatic Preserve, see the Big Bend Seagrasses Aquatic Preserve Management Plan. It is available online at

http://www.dep.state.fl.us/coastal/downloads/management_plans/aquatic/Big_Bend.pdf.



*Seagrasses at Big Bend
Courtesy of FLDEP*

Regulation:

FLDEP's Office of Coastal and Aquatic Areas administers Aquatic Preserves. Chapters 253 and 258, Florida Statutes, establish the proprietary management overview role of the BOT. Florida Aquatic Preserves Rules, FLA. ADMIN. CODE ANN. Chapter 18-20, and the Sovereignty Submerged Lands Management Rules, FLA. ADMIN. CODE ANN. Chapter 18-21, contain relevant rules and regulations to administer Florida's Aquatic Preserves. Preserves are managed primarily for the maintenance of essentially natural conditions, propagation of fish and wildlife, and traditional uses such as swimming, fishing, and

boating. Activities in Aquatic Preserves are limited to water dependent activities unless the BOT determines that it is in the public interest to allow an exception. The use of preserves to provide road access to islands, where such access did not previously exist, is prohibited, but BOT may allow an exception under certain circumstances.

Primary Information Source: Big Bend Aquatic Preserve website -

<http://www.dep.state.fl.us/coastal/sites/bigbend/bigbend/info.htm>

Great Egret
Courtesy of NOAA Restoration Center
Photograph by Louise Kane



Boca Ciega Bay Aquatic Preserve

Authorizing Legislation: Florida Aquatic Preserve Act, FLA. STAT. ANN. Section 258.396

Date of Designation: 1969

Management Agency: Florida Department of Environmental Protection, Office of Coastal and Aquatic Managed Areas

Management Goals: See Alligator Harbor Aquatic Preserve, *supra* page 50.

Site Description:

Located in south central Pinellas County, Boca Ciega Bay Aquatic Preserve covers approximately 22,000 acres and lies within the Cross Bayou and Boca Ciega Bay watersheds. Marine-related habitats within the preserve include seagrass beds, hardbottom, open sand and mud bottom, sandy beach, oyster reef, mangrove forest, and salt marsh. Boca Ciega Bay AP is in the middle of an area in which the shoreline was dredged and filled extensively throughout the 1950s and 1960s. Nevertheless, the area still contains valuable submerged resources, with the "aquatic preserve" designation providing added protection.

Regulation:

FLDEP's Office of Coastal and Aquatic Areas administers Aquatic Preserves. Chapters 253 and 258, Florida Statutes, establish the proprietary management overview role of the BOT. Florida Aquatic Preserves Rules, FLA. ADMIN. CODE ANN. Chapter 18-20, and the Sovereignty Submerged Lands Management Rules, FLA. ADMIN. CODE ANN. Chapter 18-21, contain relevant rules and regulations to administer Florida's Aquatic Preserves. Preserves are managed primarily for the maintenance of essentially natural conditions, propagation of fish and wildlife, and traditional uses such as swimming, fishing, and boating. Activities in Aquatic Preserves are limited to water dependent activities unless the BOT determines that it is in the public interest to allow an exception. The use of preserves to provide road access to islands, where such access did not previously exist, is prohibited, but BOT may allow an exception under certain circumstances. Boca Ciega AP also has specific rules regarding docks and docking facilities.⁴⁷

Primary Information Source: Boca Ciega Aquatic Preserve - <http://www.dep.state.fl.us/coastal/sites/tampabay/bocaciega/info.htm> ⁴⁸

47. See FLA. ADMIN. CODE ANN. 18-20.019.

48. Information on FLDEP's Boca Ciega Bay AP web site is forthcoming. Information contained in this summary was obtained from Dr. Randy Runnels of the FLDEP Office of Coastal and Aquatic Managed Areas.

Cape Haze Aquatic Preserve

Authorizing Legislation: Florida Aquatic Preserve Act, FLA. STAT. ANN. Section 258.39

Date of Designation: 1978

Management Agency: Florida Department of Environmental Protection, Office of Coastal and Aquatic Managed Areas

Management Goals: See Alligator Harbor Aquatic Preserve, *supra* page 50.

Site Description:

Located in Charlotte County within the Charlotte Harbor estuary, Cape Haze Aquatic Preserve covers approximately 11,168 acres. In addition to its designation as an Aquatic Preserve, Cape Haze also has been designated an Outstanding Florida Water, a Gulf of Mexico Ecological Management Site, and a National Estuarine Preserve. The preserve supports many recreational fish species, including mullet, spotted sea trout, red drum, flounder, blue crab, pink shrimp, and several species of shark. The preserve also supports commercial fish species such as cobia, flounder, mullet, pompano, spotted sea trout, snapper, and pink shrimp. Mangroves, seagrasses, and salt marshes provide nursery areas for many commercial and recreational species. Eighty-six endangered and threatened species are found within the Charlotte Harbor region, such as American alligator, bald eagle, wood stork, West Indian manatee, and species of sea turtle.

For more detailed discussion of the habitats, flora and fauna, and management objectives and strategies for this Aquatic Preserve, see the Charlotte Harbor Aquatic Preserves Management Plan. It is available online at http://www.dep.state.fl.us/coastal/downloads/management_plans/aquatic/Charlotte_Harbor.pdf

Regulation:

FLDEP's Office of Coastal and Aquatic Areas administers Aquatic Preserves. Chapters 253 and 258, Florida Statutes, establish the proprietary management overview role of the BOT. Florida Aquatic Preserves Rules, FLA. ADMIN. CODE ANN. Chapter 18-20, and the Sovereignty Submerged Lands Management Rules, FLA. ADMIN. CODE ANN. Chapter 18-21, contain relevant rules and regulations to administer Florida's Aquatic Preserves. Preserves are managed primarily for the maintenance of essentially natural conditions, propagation of fish and wildlife, and traditional uses such as swimming, fishing, and boating. Activities in Aquatic Preserves are limited to water dependent activities unless the BOT determines that it is in the public interest to allow an exception. The use of preserves to provide road access to islands, where such access did not previously exist, is prohibited, but BOT may allow an exception under certain circumstances.

Primary Information Source: Cape Haze Aquatic Preserve website - <http://www.dep.state.fl.us/coastal/sites/charlotte/capehaze/info.htm>



*Kemp's Ridley Sea Turtle
Courtesy of USFWS,
Photograph by David Bowman*

Cape Romano-Ten Thousand Islands Aquatic Preserve

Authorizing Legislation: Florida Aquatic Preserve Act, FLA. STAT. ANN. Section 258.35 et seq.

Date of Designation: 1988

Management Agency: Florida Department of Environmental Protection, Office of Coastal and Aquatic Managed Areas

Management Goals: See Alligator Harbor Aquatic Preserve, *supra* page 50.



Florida panther
Courtesy of USFWS

Site Description:

Located in Collier County, Cape Romano-Ten Thousand Islands Aquatic Preserve (CR-TTI AP) covers approximately 70,000 acres. CR-TTI AP is part of the larger Rookery Bay NERR, which is managed jointly by the State of Florida and the National Oceanic and Atmospheric Administration. The area also has been designated a Gulf of Mexico Ecological Management Site. The area is a relatively undisturbed mangrove estuary, one of the remaining few in the United States. Other types of habitat with the preserve include bays, salt marsh, freshwater marsh, xeric scrub, pine flatwoods, and coastal hammock. CR-TTI AP provides habitat for recreational and commercial fish and shellfish, and the bay's shallow waters are feeding grounds for dolphins, manatees, and various bird species.

As part of the larger Rookery Bay NERR, the management of the preserve includes research and education programs. The research program promotes the preservation, protection, and understanding of the ecological integrity of the entire Rookery Bay system. Therefore, the NERR program promotes research that leads to improved knowledge and understanding of our nation's estuarine resources. The NERR program's goal is to enhance the ability of citizens and officials to make informed coastal decisions. The education component of the program focuses on interpreting coastal management information and results of coastal research to adult audiences.

For more detailed discussion of the habitats, flora and fauna, and management objectives and strategies for this Aquatic Preserve, see the Rookery Bay and Cape Romano-Ten Thousand Islands Aquatic Preserves Management Plan. It is available online at http://www.dep.state.fl.us/coastal/downloads/management_plans/aquatic/Rookery_Bay_and_Cape_Romano_Ten_Thousand_Islands.pdf.

Regulation:

FLDEP's Office of Coastal and Aquatic Areas administers Aquatic Preserves. Chapters 253 and 258, Florida Statutes, establish the proprietary management overview role of the BOT. Florida Aquatic Preserves Rules, FLA. ADMIN. CODE ANN. Chapter 18-20, and the Sovereignty Submerged Lands Management Rules, FLA. ADMIN. CODE ANN. Chapter 18-21, contain relevant rules and regulations to administer Florida's Aquatic Preserves. Preserves are managed primarily for the maintenance of essentially natural conditions, propagation of fish and wildlife, and traditional uses such as swimming, fishing, and boating. Activities in Aquatic Preserves are limited to water dependent activities unless the BOT determines that it is in the public interest to allow an exception. The use of preserves to provide road access to islands, where such access did not previously exist, is prohibited, but BOT may allow an exception under certain circumstances.

Primary Information Source: Cape Romano-Ten Thousand Islands Aquatic Preserve website - <http://www.dep.state.fl.us/coastal/sites/southwest/rookery/info.htm>

Charlotte Harbor State Buffer Preserve

Authorizing Legislation: FLA. STAT. ANN. Sections 253.03 and 253.86(1)

Section 253.03 is the enabling statute that vests acquisition, management, and disposition of public lands with the Board of Trustees of the Internal Improvement Trust Fund.

Date of Designation: 1988

Management Agency: Florida Department of Environmental Protection, Florida Park Service

Management Goals: (1) To conserve and preserve natural values of ecosystems; (2) to provide public access and recreation that is compatible with natural and cultural resource conservation; (3) to protect and preserve wetlands, natural and water resources of adjacent aquatic preserves, parks, and other special management areas administered either by the Department of Environmental Protection or other state, federal, or local government authorities; (4) to protect and preserve native plant and animal species and natural communities, particularly any that are endangered or threatened; (5) to restore natural communities and original ecosystem functions, which have been historically degraded; (6) to protect cultural resources; and (7) to enhance public appreciation for natural and cultural diversity.⁴⁹

Site Description:

Located in Charlotte and Lee Counties, Charlotte Harbor State Buffer Preserve (CHSBP) covers approximately 42,400 acres. The preserve primarily consists of mangrove and salt marsh wetlands along with freshwater marsh, coastal scrub, tropical hardwood hammocks, and pinelands. The preserve's estuarine environment is its most prominent feature. CHSBP faces open bay waters, tidal creeks, and the Myakka, Peace, and Caloosahatchee Rivers. The preserve's coastal wetlands remain relatively undisturbed. The aquatic and terrestrial communities in the preserve support many species of wildlife, including federally- and state-listed endangered and threatened species such as the Florida panther, Florida scrub jay, and West Indian manatee. The preserve's mangrove swamps, salt marshes, salt flats, and seasonal ponds provide nursery areas for many species.

The location of CHSBP is significant because it provides additional protection to a group of aquatic preserves that were established to protect the Charlotte Harbor estuary. The Aquatic Preserves protected by CHSBP include Gasparilla Sound-Charlotte Harbor (80,000 acres), Cape Haze (11,289 acres), Matlacha Pass (14,000 acres), and Pine Island Sound (62,000 acres). CHBP also acts as a land buffer between the Charlotte Harbor estuary and adjacent upland development. Buffer Preserves generally protect water quality and other resources in adjacent environmentally sensitive areas. They also connect with other public lands to provide continuity among habitats and wildlife corridors.

Regulation:

FLA. ADMIN. CODE ANN. Chapter 18-23 conveys authority and establishes guidance for the management of Florida's State Buffer Preserves by the Board of Trustees of the Internal Improvement Trust Fund. Activities generally allowed in Buffer Preserves are hiking, horseback riding, and bicycle riding on specified trails or roads; camping in designated areas; fires in designated areas; vehicles on designated roads; and motor vehicle or vessel operation in water bodies, wetlands, or low lying areas located inside the boundaries of Buffer Preserves when such areas are designated for use with signs.⁵⁰

Visitors are responsible for proper disposal of all wastewater, refuse, and trash by placing them in designated containers, if provided, or removed to an off-site disposal facility or receptacle.⁵¹ Prohibited activ-

49. FLA. ADMIN. CODE ANN. 18-23.002.

50. FLA. ADMIN. CODE ANN. 18-23.007(2)(b).

51. *Id.*

ities in Buffer Preserves include: consumption of alcoholic beverages; hunting, harassing, possessing, or trapping wildlife; use of animal trapping or concealment devices; use of firearms or other weapons that are potentially dangerous to humans and wildlife; admission of unleashed domestic animals, except those assisting the handicapped; transplant or removal of any plant or animal or parts of plants or animals (living or dead), except as provided; removal, disturbance, pollution, or destruction of property or natural or cultural resources; and solicitation or distribution of commercial material and advertising any commercial event, other than FLDEP materials or announcements of FLDEP-sponsored or sanctioned events and gatherings.⁵²

FLDEP is required to close any Buffer Preserve or section of a Buffer Preserve to the public at any time and for any interval of time to protect the public health, public safety or welfare, weather conditions, natural hazards, management activities or environmental conditions, natural or cultural resources.⁵³

Primary Information Source: Charlotte Harbor State Buffer Preserve website - <http://www.dep.state.fl.us/coastal/sites/charlotte/charlotte/info.htm>



*Charlotte Harbor
Courtesy of Charlotte Harbor Aquatic
Preserve, Coastal Aquatic Managed Areas
(CAMA), FDEP
Photograph by Katie Fuhr*



*Manatee playing with crab pot
Courtesy of USFWS
Photograph by Jim Reid*

52. FLA. ADMIN. CODE ANN. 18-23.007(2)(a).

53. FLA. ADMIN. CODE ANN. 18-23.007(2)(d).

Cockroach Bay Aquatic Preserve

Authorizing Legislation: Florida Aquatic Preserve Act, FLA. STAT. ANN. Section 258.391

Date of Designation: 1976

Management Agency: Florida Department of Environmental Protection, Office of Coastal and Aquatic Managed Areas

Management Goals: See Alligator Harbor Aquatic Preserve, *supra* page 50.

Site Description:

Located in Hillsborough County, along southeast Tampa Bay, Cockroach Bay Aquatic Preserve covers approximately 8,583 acres and lies within the Little Manatee River, Little Cockroach Bay, Cockroach Bay, and Piney Point Creek watersheds. Marine-related habitats in the area include seagrass beds, hardbottom, sandy beach, open sand and mud bottom, tidal creek, mangrove forest, fresh marsh, and salt marsh. Cockroach Bay AP is one of the most pristine areas in the Tampa Bay region. The extensive seagrass beds and mangrove shorelines serve as nursery areas for abundant nearshore and offshore fisheries. It is believed that Spanish explorers who observed numerous horseshoe crabs first called the area "Cockroach Bay."

For more detailed discussion of the habitats, flora and fauna, and management objectives and strategies for this Aquatic Preserve, see the Cockroach Bay Aquatic Preserve Management Plan. It is available online at http://www.dep.state.fl.us/coastal/downloads/management_plans/aquatic/Cockroach_Bay.pdf.



*Aerial View of Cockroach Bay
Courtesy of NOAA, Tampa Bay Watch
Photograph by Peter Clark*

Regulation:

FLDEP's Office of Coastal and Aquatic Areas administers Aquatic Preserves. Chapters 253 and 258, Florida Statutes, establish the proprietary management overview role of the BOT. Florida Aquatic Preserves Rules, FLA. ADMIN. CODE ANN. Chapter 18-20, and the Sovereignty Submerged Lands Management Rules, FLA. ADMIN. CODE ANN. Chapter 18-21, contain relevant rules and regulations to administer Florida's Aquatic Preserves. Preserves are managed primarily for the maintenance of essentially natural conditions, propagation of fish and wildlife, and traditional uses such as swimming, fishing, and boating. Activities in Aquatic Preserves are limited to water

dependent activities unless the BOT determines that it is in the public interest to allow an exception. The use of preserves to provide road access to islands, where such access did not previously exist, is prohibited, but BOT may allow an exception under certain circumstances.

Primary Information Source: Cockroach Bay Aquatic Preserve website - <http://www.dep.state.fl.us/coastal/sites/tampabay/cockroacha/info.htm> ⁵⁴

54. Information on FLDEP's Cockroach Bay AP is forthcoming. Information contained in this summary was obtained from Dr. Randy Runnels of the FLDEP Office of Coastal and Aquatic Managed Areas.

Estero Bay Aquatic Preserve

Authorizing Legislation: Florida Aquatic Preserve Act, FLA. STAT. ANN. Section 258.35 et seq.

Date of Designation: 1966

Primary Management Agency: Florida Department of Environmental Protection, Office of Coastal and Aquatic Managed Areas

Management Goals: See Alligator Harbor Aquatic Preserve, *supra* page 50.

Site Description:

Located in Lee County, Estero Bay Aquatic Preserve covers approximately 15 square miles of surface area and approximately 293 square miles of the Estero Bay drainage basin. Estero Bay AP was Florida's first Aquatic Preserve. In addition to its designation as an Aquatic Preserve, it also has been designated a Gulf of Mexico Ecological Management Site. The preserve is a productive estuarine system due to the subtropical climate, lagoon configuration, and vegetation. Approximately 40 percent of Florida's endangered and threatened species are found within the area. Estero Bay AP's estuary also supports and provides a nursery area for commercial and recreational fisheries.

For more detailed discussion of the habitats, flora and fauna, and management objectives and strategies for this Aquatic Preserve, see the Estero Bay Aquatic Preserve Management Plan. It is available online at http://www.dep.state.fl.us/coastal/downloads/management_plans/aquatic/Estero_Bay.pdf.

Regulation:

FLDEP's Office of Coastal and Aquatic Areas administers Aquatic Preserves. Chapters 253 and 258, Florida Statutes, establish the proprietary management. Chapters 253 and 258, Florida Statutes, establish the proprietary management overview role of the BOT. Florida Aquatic Preserves Rules, FLA. ADMIN. CODE ANN. Chapter 18-20, and the Sovereignty Submerged Lands Management Rules, FLA. ADMIN. CODE ANN. Chapter 18-21, contain relevant rules and regulations to administer Florida's Aquatic Preserves. Preserves are managed primarily for the maintenance of essentially natural conditions, propagation of fish and wildlife, and traditional uses such as swimming, fishing, and boating. Activities in Aquatic Preserves are limited to water dependent activities unless the BOT determines that it is in the public interest to allow an exception. The use of preserves to provide road access to islands, where such access did not previously exist, is prohibited, but BOT may allow an exception under certain circumstances.

Primary Information Source: Estero Bay Aquatic Preserve website - <http://www.dep.state.fl.us/coastal/sites/southwest/esteroa/info.htm>



Estero Bay Seagrass
Courtesy of NOAA
Photograph by Paige Gill

Estero Bay State Buffer Preserve

Authorizing Legislation: FLA. STAT. ANN. Sections 253.03 and 253.86(1)

Section 253.03 is the enabling statute that vests acquisition, management, and disposition of public lands with the Board of Trustees of the Internal Improvement Trust Fund.

Date of Designation: 1987

Management Agency: Florida Department of Environmental Protection, Florida Park Service

Management Goals: See Charlotte Bay State Buffer Preserve, *supra* page 57.

Site Description:

Located in Lee County, Estero Bay State Buffer Preserve (EBSBP) covers approximately 9,518 acres and lies within the Estero Bay drainage basin. In addition to its designation as a State Buffer Preserve, the site also has been designated a Gulf of Mexico Ecological Management Site. EBSBP contains five types of habitat: wet flatwoods, tidal estuarine marshes (salt marshes), tidal estuarine swamp (mangrove forests), mud flats, and shell mounds. The estuary is bordered on the west by a chain of barrier islands: Estero Island, Long Key, Lovers Key, Black Island, Big Hickory Island, and Little Hickory Island. Mangrove is the dominant type of vegetation in the preserve. Seagrass beds are found within shallow bays and sounds. The region in which EBSBP is located is known for its abundant recreational fishing grounds and wading bird and shore bird breeding and wintering grounds, as well as being a home to the West Indian manatee and bottle-nose dolphin. Many endangered and threatened species inhabit the area as well, including American alligator, American crocodile, and red-cockaded woodpecker.

Regulation:

FLA. ADMIN. CODE ANN. Chapter 18-23 conveys authority and establishes guidance for the management of Florida's State Buffer Preserves by the Board of Trustees of the Internal Improvement Trust Fund. Activities generally allowed in Buffer Preserves are hiking, horseback riding, and bicycle riding on specified trails or roads; camping in designated areas; fires in designated areas; vehicles on designated roads; and motor vehicle or vessel operation in water bodies, wetlands, or low lying areas located inside the boundaries of Buffer Preserves when such areas are designated for use with signs.

Visitors are responsible for proper disposal of all wastewater, refuse, and trash by placing them in designated containers, if provided, or removed to an off-site disposal facility or receptacle. Prohibited activities in Buffer Preserves include: consumption of alcoholic beverages; hunting, harassing, possessing, or trapping wildlife; use of animal trapping or concealment devices; use of firearms or other weapons that are potentially dangerous to humans and wildlife; admission of unleashed domestic animals, except those assisting the handicapped; transplant or removal of any plant or animal or parts of plants or animals (living or dead), except as provided; removal, disturbance, pollution, or destruction of property or natural or cultural resources; and solicitation or distribution of commercial material and advertising any commercial event, other than FLDEP materials or announcements of FLDEP-sponsored or sanctioned events and gatherings.

FLDEP is required to close any Buffer Preserve or section to the public at any time and for any interval of time to protect the public health, public safety or welfare, weather conditions, natural hazards, management activities or environmental conditions, natural or cultural resources

Primary Information Source: Estero Bay State Buffer Preserve website - <http://www.dep.state.fl.us/coastal/sites/southwest/esterob/info.htm>

Fort Pickens State Park Aquatic Preserve

Authorizing Legislation: Florida Aquatic Preserve Act, FLA. STAT. ANN. Section 258.35 et seq.

Date of Designation: 1970

Management Agency: Florida Department of Environmental Protection, Office of Coastal and Aquatic Managed Areas

Management Goals: See Alligator Harbor Aquatic Preserve, *supra* page 50.



Green Sea Turtle
Courtesy of USFWS
Photograph by Ryan Hagerty

Site Description:

Located in Escambia County, Fort Pickens State Park Aquatic Preserve covers approximately 34,000 acres and lies within the Pensacola Bay watershed. The preserve surrounds the western portion of Santa Rosa Island and the eastern portion of Perdido Key, both of which are undeveloped barrier islands. The preserve is also located in proximity to Gulf Islands National Seashore. In addition to its designation as Aquatic Preserve, Fort Pickens AP also has been designated an Outstanding Florida Water and a Gulf of Mexico Ecological Management Site. Shallow saline water, seagrass, and salt marsh communities provide habitat for wildlife and birds such as nesting sea turtles and shorebirds. Endangered and threatened species have been documented in the area, including green turtle, leatherback turtle, Kemp's ridley sea turtle, wood stork, and Perdido Key beach mouse. Fort Pickens AP previously had some of Florida's largest sand dunes. Hurricanes Erin and Opal in 1995 flattened many of them, however.

The preserve has a rich archeological and military history. Indian middens are located on Santa Rosa Island and Perdido Key, but most activity was historic and included Spanish settlers who first came to the area in 1528 and activity from the Civil War and Spanish-American War. Fort Pickens, Fort McRhee, and Fort Barrancas guarded the mainland during these wars. A sunken ship is located within the waters of the preserve. The USS Massachusetts, built in 1891 and one of the most powerful naval vessels of its time, was sunk in 1921 and used as target for artillery tests. In 1993, it was designated an underwater preserve and is located one mile from Pensacola Pass in the Gulf of Mexico.

For more detailed discussion of the habitats, flora and fauna, and management objectives and strategies for this Aquatic Preserve, see the Fort Pickens Aquatic Preserve Management Plan. It is available online at http://www.dep.state.fl.us/coastal/downloads/management_plans/aquatic/Ft_Pickens.pdf.

Regulation:

FLDEP's Office of Coastal and Aquatic Areas administers Aquatic Preserves. Chapters 253 and 258, Florida Statutes, establish the proprietary management overview role of the BOT. Florida Aquatic Preserves Rules, FLA. ADMIN. CODE ANN. Chapter 18-20, and the Sovereignty Submerged Lands Management Rules, FLA. ADMIN. CODE ANN. Chapter 18-21, contain relevant rules and regulations to administer Florida's Aquatic Preserves. Preserves are managed primarily for the maintenance of essentially natural conditions, propagation of fish and wildlife, and traditional uses such as swimming, fishing, and boating. Activities in Aquatic Preserves are limited to water dependent activities unless the BOT determines that it is in the public interest to allow an exception. The use of preserves to provide road access to islands, where such access did not previously exist, is prohibited, but BOT may allow an exception under certain circumstances.

Primary Information Source: Fort Pickens State Park Aquatic Preserve website - <http://www.dep.state.fl.us/coastal/sites/northwest/ftpickens/info.htm>

Gasparilla Sound-Charlotte Harbor Aquatic Preserve

Authorizing Legislation: Florida Aquatic Preserve Act, FLA. STAT. ANN. Section 258.392

Date of Designation: 1979

Management Agency: Florida Department of Environmental Protection, Office of Coastal and Aquatic Managed Areas

Management Goals: See Alligator Harbor Aquatic Preserve, *supra* page 50.

Site Description:

Located in Charlotte and Lee Counties, Gasparilla Sound-Charlotte Harbor Aquatic Preserve (GS-CH AP) covers approximately 79,168 acres and lies within the Charlotte Harbor watershed. In addition to its designation as an Aquatic Preserve, GS-CH AP also has been designated an Outstanding Florida Water, a Gulf of Mexico Ecological Management Site, and a National Estuarine Preserve. The most common biological communities in the preserve are mangroves, seagrasses, salt marshes, tidal flats (including estuarine beaches, spoil areas, shoal areas, and mud flats), and oyster communities. The preserve consists of recreational species such as mullet, spotted sea trout, and red drum, and commercial species such as cobia, flounder, pompano, and pink shrimp. Approximately eighty-six of Florida's endangered and threatened species can be found in the Charlotte Harbor region, including Atlantic green turtle, leatherback turtle, Kemp's ridley sea turtle, bald eagle, wood stork, and West Indian manatee.

For more detailed discussion of the habitats, flora and fauna, and management objectives and strategies for this Aquatic Preserve, see the Charlotte Harbor Aquatic Preserves Management Plan. It is available online at http://www.dep.state.fl.us/coastal/downloads/management_plans/aquatic/Charlotte_Harbor.pdf

Regulation:

FLDEP's Office of Coastal and Aquatic Areas administers Aquatic Preserves. Chapters 253 and 258, Florida Statutes, establish the proprietary management overview role of the BOT. Florida Aquatic Preserves Rules, FLA. ADMIN. CODE ANN. Chapter 18-20, and the Sovereignty Submerged Lands Management Rules, FLA. ADMIN. CODE ANN. Chapter 18-21, contain relevant rules and regulations to administer Florida's Aquatic Preserves. Preserves are managed primarily for the maintenance of essentially natural conditions, propagation of fish and wildlife, and traditional uses such as swimming, fishing, and boating. Activities in Aquatic Preserves are limited to water dependent activities unless the BOT determines that it is in the public interest to allow an exception. The use of preserves to provide road access to islands, where such access did not previously exist, is prohibited, but BOT may allow an exception under certain circumstances.

Primary Information Source: Gasparilla Sound Charlotte Harbor Aquatic Preserve website - <http://www.dep.state.fl.us/coastal/sites/charlotte/gasparilla/info.htm>



Hawksbill Turtle
Courtesy of NOAA, Florida Keys National
Marine Sanctuary Staff

Lemon Bay Aquatic Preserve

Authorizing Legislation: Florida Aquatic Preserve Act, FLA. STAT. ANN. Section 258.3925

Date of Designation: 1986

Management Agency: Florida Department of Environmental Protection, Office of Coastal and Aquatic Managed Areas

Management Goals: See Alligator Harbor Aquatic Preserve, *supra* page 50.

Site Description:

Located in Charlotte and Sarasota Counties, Lemon Bay Aquatic Preserve covers approximately 7,667 acres and lies within the Charlotte Harbor estuary complex. In addition to its designation as an Aquatic Preserve, Lemon Bay AP also has been designated an Outstanding Florida Water, Gulf of Mexico Ecological Management Site, and National Estuarine Preserve. The preserve is a linear inlet system connected by previous dredging activities. Lemon Bay AP includes large areas of wetlands, marine and estuarine waters, inlets, bays, tidal creeks, mudflats, sand bars, beaches, and salt flats. The preserve also includes submerged and intertidal habitats such as seagrass beds and mangrove islands.

Commercial species (e.g., mullet) and recreational species (e.g., snook and redfish) can be found in the waters of the preserve. Estuarine tributaries and mangrove and marsh habitats within the preserve support the early life stages of marine species. Lemon Bay AP's mangrove ecosystem in particular supports many species. At least 230 species of fish depend on the mangroves in Lemon Bay AP for feeding, breeding, and nursery grounds and shelter. Mangrove habitat also provides nursery and feeding grounds for bird species such as the brown pelican. In the southwest Florida region alone, at least 20 species of reptiles and amphibians, 90 species of birds, and 20 species of mammals utilize mangroves as habitat for feeding, roosting, breeding, and cover. In addition, Lemon Bay AP is a forage area for the West Indian manatee and several species of sea turtles.

For more detailed discussion of the habitats, flora and fauna, and management objectives and strategies for this Aquatic Preserve, see the Lemon Bay Aquatic Preserve Management Plan. It is available online at http://www.dep.state.fl.us/coastal/downloads/management_plans/aquatic/Lemon_Bay.pdf.

Regulation:

FLDEP's Office of Coastal and Aquatic Areas administers Aquatic Preserves. Chapters 253 and 258, Florida Statutes, establish the proprietary management overview role of the BOT. Florida Aquatic Preserves Rules, FLA. ADMIN. CODE ANN. Chapter 18-20, and the Sovereignty Submerged Lands Management Rules, FLA. ADMIN. CODE ANN. Chapter 18-21, contain relevant rules and regulations to administer Florida's Aquatic Preserves. Preserves are managed primarily for the maintenance of essentially natural conditions, propagation of fish and wildlife, and traditional uses such as swimming, fishing, and boating. Activities in Aquatic Preserves are limited to water dependent activities unless the BOT determines that it is in the public interest to allow an exception. The use of preserves to provide road access to islands, where such access did not previously exist, is prohibited, but BOT may allow an exception under certain circumstances.

Primary Information Source: Lemon Bay Aquatic Preserve website - <http://www.dep.state.fl.us/coastal/sites/charlotte/lemon/info.htm>



Reddish Egret
Courtesy of USFWS
Photograph by James Leupold



Loggerhead Sea Turtle
Courtesy of NOAA Sanctuary Collection

Matlacha Pass Aquatic Preserve

Authorizing Legislation: Florida Aquatic Preserve Act, FLA. STAT. ANN. Section 258.35 et seq.

Date of Designation: 1972

Management Agency: Florida Department of Environmental Protection, Office of Coastal and Aquatic Managed Areas

Management Goals: See Alligator Harbor Aquatic Preserve, *supra* page 50.

Site Description:

Located in Lee County, Matlacha Pass Aquatic Preserve covers approximately 12,511 acres and lies within the Charlotte Harbor estuary complex. Mangroves, seagrasses, salt marshes, oyster communities, and tidal flats (estuarine beaches, spoil areas, shoal areas, and mud flats) are common biological communities within the preserve. Matlacha Pass AP supports various commercial and recreational species. Snook, mullet, and redfish are a few recreational fish species found in the preserve while commercial species include shrimp, blue crab, and oysters. Mangroves, seagrasses, and salt marshes in the preserve provide nursery grounds for recreational and commercial species. Matlacha Pass AP is near parks and beaches such as Cayo Costa State Park and Ding Darling NWR.

For more detailed discussion of the habitats, flora and fauna, and management objectives and strategies for this Aquatic Preserve, see the Charlotte Harbor Aquatic Preserves Management Plan. It is available online at http://www.dep.state.fl.us/coastal/downloads/management_plans/aquatic/Charlotte_Harbor.pdf

Regulation:

FLDEP's Office of Coastal and Aquatic Areas administers Aquatic Preserves. Chapters 253 and 258, Florida Statutes, establish the proprietary management overview role of the BOT. Florida Aquatic Preserves Rules, FLA. ADMIN. CODE ANN. Chapter 18-20, and the Sovereignty Submerged Lands Management Rules, FLA. ADMIN. CODE ANN. Chapter 18-21, contain relevant rules and regulations to administer Florida's Aquatic Preserves. Preserves are managed primarily for the maintenance of essentially natural conditions, propagation of fish and wildlife, and traditional uses such as swimming, fishing, and boating. Activities in Aquatic Preserves are limited to water dependent activities unless the BOT determines that it is in the public interest to allow an exception. The use of preserves to provide road access to islands, where such access did not previously exist, is prohibited, but BOT may allow an exception under certain circumstances.

Primary Information Source: Matlacha Pass Aquatic Preserve website - <http://www.dep.state.fl.us/coastal/sites/charlotte/matlacha/info.htm>

Pine Island Sound Aquatic Preserve

Authorizing Legislation: Florida Aquatic Preserve Act, FLA. STAT. ANN. Section 258.35 et seq.

Date of Designation: 1970

Management Agency: Florida Department of Environmental Protection, Office of Coastal and Aquatic Managed Areas

Management Goals: See Alligator Harbor Aquatic Preserve, *supra* page 50.

Site Description:

Located in Lee County, Pine Island Sound Aquatic Preserve covers approximately 54,176 acres and lies within the Charlotte Harbor estuary complex. In addition to its designation as an Aquatic Preserve, Pine Island Sound AP also has been designated as an Outstanding Florida Water, Gulf of Mexico Ecological Management Site, and National Estuarine Preserve. The preserve shares some of the same ecological features with Matlacha Pass AP. Mangroves, seagrasses, salt marshes, oyster communities, and tidal flats (estuarine beaches, spoil areas, shoal areas, and mud flats) are common biological communities within the preserve. Pine Island Sound AP supports various commercial and recreational species. Snook, mullet, and redfish are a few recreational fish species found in the preserve while commercial species include shrimp, blue crab, and oyster. Mangroves, seagrasses, and salt marshes in the preserve provide nursery grounds for recreational and commercial species. As with Matlacha Pass AP, Pine Island Sound AP is near parks and beaches such as Cayo Costa State Park and Ding Darling NWR.

For more detailed discussion of the habitats, flora and fauna, and management objectives and strategies for this Aquatic Preserve, see the Charlotte Harbor Aquatic Preserves Management Plan. It is available online at http://www.dep.state.fl.us/coastal/downloads/management_plans/aquatic/Charlotte_Harbor.pdf.



Reddish egret
Courtesy of USWFS
Photograph by James Leupold

Regulation:

FLDEP's Office of Coastal and Aquatic Areas administers Aquatic Preserves. Chapters 253 and 258, Florida Statutes, establish the proprietary management overview role of the BOT. Florida Aquatic Preserves Rules, FLA. ADMIN. CODE ANN. Chapter 18-20, and the Sovereignty Submerged Lands Management Rules, FLA. ADMIN. CODE ANN. Chapter 18-21, contain relevant rules and regulations to administer Florida's Aquatic Preserves. Preserves are managed primarily for the maintenance of essentially natural conditions, propagation of fish and wildlife, and traditional uses such as swimming, fishing, and boating. Activities in Aquatic Preserves are limited to water dependent activities unless the BOT determines that it is in the public interest to allow an exception. The use of preserves to provide road access to islands, where such access did not previously exist, is prohibited, but BOT may allow an exception under certain circumstances.

Primary Information Source: Pine Island Aquatic Preserve website - <http://www.dep.state.fl.us/coastal/sites/charlotte/pineisland/info.htm>

Pinellas County Aquatic Preserve

Authorizing Legislation: Florida Aquatic Preserve Act, FLA. STAT. ANN. Section 258.35 et seq.

Date of Designation: 1972

Management Agency: Florida Department of Environmental Protection, Office of Coastal and Aquatic Managed Areas

Management Goals: See Alligator Harbor Aquatic Preserve, *supra* page 50.

Site Description:

Located along the east and west coasts of Pinellas County, Pinellas County Aquatic Preserve covers approximately 336,265 acres and lies within the Anclote River and Tampa Bay watersheds. Basins include Clearwater Harbor, Safety Harbor, Feather Sound, western Tampa Bay, and state-owned lake bottoms. Marine-related habitats include seagrass beds, hardbottom (including diverse coral communities in the Gulf of Mexico), open sand and mud bottom, sandy beach, mangrove forest, and salt marsh. Pinellas County AP is Florida's largest urban aquatic preserve. Despite its location, the dense seagrass beds, coral communities, and other habitats have thrived under its aquatic preserve designation.

Regulation:

FLDEP's Office of Coastal and Aquatic Areas administers Aquatic Preserves. Chapters 253 and 258, Florida Statutes, establish the proprietary management overview role of the BOT. Florida Aquatic Preserves Rules, FLA. ADMIN. CODE ANN. Chapter 18-20, and the Sovereignty Submerged Lands Management Rules, FLA. ADMIN. CODE ANN. Chapter 18-21, contain relevant rules and regulations to administer Florida's Aquatic Preserves. Preserves are managed primarily for the maintenance of essentially natural conditions, propagation of fish and wildlife, and traditional uses such as swimming, fishing, and boating. Activities in Aquatic Preserves are limited to water dependent activities unless the BOT determines that it is in the public interest to allow an exception. The use of preserves to provide road access to islands, where such access did not previously exist, is prohibited, but BOT may allow an exception under certain circumstances.

Primary Information Source: Pinellas County Aquatic Preserve website - <http://www.dep.state.fl.us/coastal/sites/tampabay/pinellas/info.htm>



Stilts taking flight
Courtesy of USFWS
Photograph by Tupper A. Blake

*Florida Black Bear
Courtesy of USFWS
Photograph by R.I. Bridges*



Rocky Bayou State Park Aquatic Preserve

Authorizing Legislation: Florida Aquatic Preserve Act, FLA. STAT. ANN. Section 258.35 et seq.

Date of Designation: 1970

Management Agency: Florida Department of Environmental Protection, Office of Coastal and Aquatic Managed Areas

Management Goals: See Alligator Harbor Aquatic Preserve, *supra* page 50.

Site Description:

Located in Okaloosa County, Rocky Bayou State Park Aquatic Preserve (Rocky Bayou AP) covers approximately 480 acres and lies within the Choctawhatchee Bay watershed. In addition to its designation as an Aquatic Preserve, Rocky Bayou AP also has been designated as an Outstanding Florida Water and Gulf of Mexico Ecological Management Site. The preserve is a freshwater to brackish water system that includes forested wetlands, marshes, low bays, and grass beds. Rocky Bayou AP provides food and habitat for fish and wildlife, and endangered and threatened species utilize the preserve. For example, a bald eagle's nest has been active and produced fledglings for over five years. The uplands bordering the preserve are primarily residential and publicly managed areas. Fred Gannon Rocky Bayou State Recreation Area and Eglin Air Force Base, both of which manage almost half of the uplands adjacent to Rocky Bayou, help buffer impacts to water quality.

For more detailed discussion of the habitats, flora and fauna, and management objectives and strategies for this Aquatic Preserve, see the Rocky Bayou Aquatic Preserve Management Plan. It is available online at http://www.dep.state.fl.us/coastal/downloads/management_plans/aquatic/Rocky_Bayou.pdf.

Regulation:

FLDEP's Office of Coastal and Aquatic Areas administers Aquatic Preserves. Chapters 253 and 258, Florida Statutes, establish the proprietary management overview role of the BOT. Florida Aquatic Preserves Rules, FLA. ADMIN. CODE ANN. Chapter 18-20, and the Sovereignty Submerged Lands Management Rules, FLA. ADMIN. CODE ANN. Chapter 18-21, contain relevant rules and regulations to administer Florida's Aquatic Preserves. Preserves are managed primarily for the maintenance of essentially natural conditions, propagation of fish and wildlife, and traditional uses such as swimming, fishing, and boating. Activities in Aquatic Preserves are limited to water dependent activities unless the BOT determines that it is in the public interest to allow an exception. The use of preserves to provide road access to islands, where such access did not previously exist, is prohibited, but BOT may allow an exception under certain circumstances.

Primary Information Source: Rocky Bayou State Park Aquatic Preserve website - <http://www.dep.state.fl.us/coastal/sites/northwest/rocky/info.htm>

Rookery Bay Aquatic Preserve

Authorizing Legislation: Florida Aquatic Preserve Act, FLA. STAT. ANN. Section 258.35 et seq.

Date of Designation: 1978

Management Agency: Florida Department of Environmental Protection, Office of Coastal and Aquatic Managed Areas

Management Goals: See Alligator Harbor Aquatic Preserve, *supra* page 50.



*Rookery Bay Aquatic Preserve
Courtesy of NOAA National Estuarine Research Reserve Collection*

Site Description:

Located in Collier County, Rookery Bay Aquatic Preserve (Rookery Bay AP) covers approximately 40,000 acres. Rookery Bay AP is part of the larger Rookery Bay NERR, which is managed jointly by the State of Florida and the National Oceanic and Atmospheric Administration. The area also has been designated a Gulf of Mexico Ecological Management Site. The Rookery Bay area is a relatively undisturbed mangrove estuary, one of the remaining few in the United States. Other types of habitat within the preserve include bays, salt marsh, freshwater marsh, xeric scrub, pine flatwoods, and coastal hammock. The area provides habitat for recreational and commercial fish and shellfish, and the bay's shallow waters are feeding grounds for dolphins, manatees, and various bird species.

As part of the larger Rookery Bay NERR, the management of the preserve includes research and education programs. The research program promotes the preservation, protection, and understanding of the ecological integrity of the entire Rookery Bay system. Therefore, the NERR program promotes research that leads to improved knowledge and understanding of our nation's estuarine resources. The NERR program's goal is to enhance the ability of citizens and officials to make informed coastal decisions. Therefore, the education program focuses on interpreting coastal management information and results of coastal research to adult audiences.

For more detailed discussion of the habitats, flora and fauna, and management objectives and strategies for this Aquatic Preserve, see the Rookery Bay and Cape Romano-Ten Thousand Islands Aquatic Preserves Management Plan. It is available online at http://www.dep.state.fl.us/coastal/downloads/management_plans/aquatic/Rookery_Bay_and_Cape_Romano_Ten_Thousand_Islands.pdf.

Regulation:

FLDEP's Office of Coastal and Aquatic Areas administers Aquatic Preserves. Chapters 253 and 258, Florida Statutes, establish the proprietary management overview role of the BOT. Florida Aquatic Preserves Rules, FLA. ADMIN. CODE ANN. Chapter 18-20, and the Sovereignty Submerged Lands Management Rules, FLA. ADMIN. CODE ANN. Chapter 18-21, contain relevant rules and regulations to administer Florida's Aquatic Preserves. Preserves are managed primarily for the maintenance of essentially natural conditions, propagation of fish and wildlife, and traditional uses such as swimming, fishing, and boating. Activities in Aquatic Preserves are limited to water dependent activities unless the BOT determines that it is in the public interest to allow an exception. The use of preserves to provide road access to islands, where such access did not previously exist, is prohibited, but BOT may allow an exception under certain circumstances.

Primary Information Source: Rookery Bay Aquatic Preserve website - <http://www.dep.state.fl.us/coastal/sites/southwest/rookery/info.htm>

St. Andrews State Park Aquatic Preserve

Authorizing Legislation: Florida Aquatic Preserve Act, FLA. STAT. ANN. Section 258.35 et seq.

Date of Designation: 1972

Management Agency: Florida Department of Environmental Protection, Office of Coastal and Aquatic Managed Areas

Management Goals: See Alligator Harbor Aquatic Preserve, *supra* page 50.

Site Description:

Located in Bay County, St. Andrews State Park Aquatic Preserve covers approximately 25,000 acres. In addition to its designation as an Aquatic Preserve, St. Andrews AP also has been designated as an Outstanding Florida Water and a Gulf of Mexico Ecological Management Site. The preserve surrounds the entrance of St. Andrews Bay, a diverse ecosystem that also includes the largest expanse of seagrass in the Florida panhandle region. Estuarine and oceanic waters and salt marsh also compose the St. Andrews Bay system. The bay itself has little freshwater input. Major water sources are from spring-fed streams. The preserve itself, however, is important to the entire St. Andrews Bay system because all waters entering and exiting the bay must pass through the preserve.

Over 2,100 marine-dependent species have been documented in the bay. The beaches within the preserve and adjacent beaches provide nesting grounds for sea turtles such as the Atlantic green and Atlantic loggerhead and several species of endangered and threatened shorebirds. Salt marshes and seagrass beds provide spawning and nursery habitats for fish and shellfish species. The dunes and beaches within the preserve support protected species such as the piping plover, snowy plover, and Choctawhatchee beach mouse.

For more detailed discussion of the habitats, flora and fauna, and management objectives and strategies for this Aquatic Preserve, see the St. Andrews State Park Aquatic Preserve Management Plan. It is available online at

http://www.dep.state.fl.us/coastal/downloads/management_plans/aquatic/St_Andrews_State_Park.pdf .



*Atlantic green sea turtle
Courtesy of FLDEP
Photograph by Shirley Brown*

Regulation:

FLDEP's Office of Coastal and Aquatic Areas administers Aquatic Preserves. Chapters 253 and 258, Florida Statutes, establish the proprietary management overview role of the BOT. Florida Aquatic Preserves Rules, FLA. ADMIN. CODE ANN. Chapter 18-20, and the Sovereignty Submerged Lands Management Rules, FLA. ADMIN. CODE ANN. Chapter 18-21, contain relevant rules and regulations to administer Florida's Aquatic Preserves. Preserves are managed primarily for the maintenance of essentially natural conditions, propagation of fish and wildlife, and traditional uses such as swimming, fishing, and boating. Activities in Aquatic Preserves are limited to water dependent activities unless the BOT determines that it is in the public interest to allow an exception. The use of preserves to provide road access to islands, where such access did not previously exist, is prohibited, but BOT may allow an exception under certain circumstances.

Primary Information Source: St. Andrews State Park Aquatic Preserve website - <http://www.dep.state.fl.us/coastal/sites/northwest/standrews/info.htm>

St. Joseph Bay Aquatic Preserve

Authorizing Legislation: Florida Aquatic Preserve Act, FLA. STAT. ANN. Section 258.35 et seq.

Date of Designation: 1969

Management Agency: Florida Department Environmental Protection, Office of Coastal and Aquatic Managed Areas

Management Goals: See Alligator Harbor Aquatic Preserve, *supra* page 50.

Site Description:

Located in Gulf County, St. Joseph Bay Aquatic Preserve covers approximately 73,000 acres. In addition to its designation as an Aquatic Preserve, St. Joseph Bay AP also has been designated as an Outstanding Florida Water and Gulf of Mexico Ecological Management Site. A distinguishing characteristic of the preserve is that it is the only bay in the eastern Gulf of Mexico not influenced by the inflow of freshwater. Habitat includes salt marsh, nearshore coastal communities, and seagrass beds. St. Joseph Bay AP is the location of one of the north Florida coast's most abundant seagrass communities. Five species of seagrass can be found in the bay: Cuban shoal grass, manatee grass, turtle grass, widgeon grass, and star grass. These seagrass communities provide habitat for many commercial and recreational marine species such as blue crab, redfish, and flounder and provide nursery grounds and cover for juvenile fish and invertebrate species.

The land area surrounding the preserve is an important stopover for migratory birds. Birds from the Midwest and the Atlantic seaboard travel to the Gulf of Mexico and peninsular Florida during migration. In season, migratory birds such as warblers, vireos, tanagers, and grosbeaks flock to the St. Joseph peninsula and cape. The St. Joseph peninsula also draws hawks from all over North America.

Regulation:

FLDEP's Office of Coastal and Aquatic Areas administers Aquatic Preserves. Chapters 253 and 258, Florida Statutes, establish the proprietary management overview role of the BOT. Florida Aquatic Preserves Rules, FLA. ADMIN. CODE ANN. Chapter 18-20, and the Sovereignty Submerged Lands Management Rules, FLA. ADMIN. CODE ANN. Chapter 18-21, contain relevant rules and regulations to administer Florida's Aquatic Preserves. Preserves are managed primarily for the maintenance of essentially natural conditions, propagation of fish and wildlife, and traditional uses such as swimming, fishing, and boating. Activities in Aquatic Preserves are limited to water dependent activities unless the BOT determines that it is in the public interest to allow an exception. The use of preserves to provide road access to islands, where such access did not previously exist, is prohibited, but BOT may allow an exception under certain circumstances.

Primary Information Source: St. Joseph Bay Aquatic Preserve website - <http://www.dep.state.fl.us/coastal/sites/apalachicola/stjosepha/info.htm>



*Atlantic green sea turtle
Courtesy of FLDEP
Photo by Tammy Summers*

St. Joseph Bay State Buffer Preserve

Authorizing Legislation: FLA. STAT. ANN. Sections 253.03 and 253.86(1)

Section 253.03 is the enabling statute that vests acquisition, management, and disposition of public lands with the Board of Trustees of the Internal Improvement Trust Fund.

Date of Designation: 1995

Management Agency: Florida Department of Environmental Protection, Florida Park Service

Management Goals: See Charlotte Harbor State Buffer Preserve, *supra* at page 57.

Site Description:

Located in Gulf County, St. Joseph Bay State Buffer Preserve (SJBSBP) covers approximately 5,018 acres. An additional 486 acres are managed as part of the St. Joseph Bay Aquatic Preserve. The optimal buffer preserve acreage is 12,570 acres. The preserve includes upland, tidal marsh, bog and swamp habitats that also influence St. Joseph Bay. SJBSBP provides habitat for several endangered and threatened species not found on other conservation lands in Florida. Migratory birds also use this area during their journeys. The preserve also acts as a water recharge area and buffers primarily St. Joseph Bay, but also the Gulf of Mexico, St. Vincent Sound, Indian Lagoon, and Apalachicola River and Bay through connected drainages, which improve and protect the bay's water quality.

Regulation:

FLA. ADMIN. CODE ANN. Chapter 18-23 conveys authority and establishes guidance for the management of Florida's State Buffer Preserves by the Board of Trustees of the Internal Improvement Trust Fund. Activities generally allowed in Buffer Preserves are hiking, horseback riding, and bicycle riding on specified trails or roads; camping in designated areas; fires in designated areas; vehicles on designated roads; and motor vehicle or vessel operation in water bodies, wetlands, or low lying areas located inside the boundaries of Buffer Preserves when such areas are designated for use with signs.

Visitors are responsible for proper disposal of all wastewater, refuse, and trash by placing them in designated containers, if provided, or removed to an off-site disposal facility or receptacle. Prohibited activities in Buffer Preserves include: consumption of alcoholic beverages; hunting, harassing, possessing, or trapping wildlife; use of animal trapping or concealment devices; use of firearms or other weapons that are potentially dangerous to humans and wildlife; admission of unleashed domestic animals, except those assisting the handicapped; transplant or removal of any plant or animal or parts of plants or animals (living or dead), except as provided; removal, disturbance, pollution, or destruction of property or natural or cultural resources; and solicitation or distribution of commercial material and advertising any commercial event, other than FLDEP materials or announcements of FLDEP-sponsored or sanctioned events and gatherings.

FLDEP is required to close any Buffer Preserve or section of a Buffer Preserve to the public at any time and for any interval of time to protect the public health, public safety or welfare, weather conditions, natural hazards, management activities or environmental conditions, natural or cultural resources.

Primary Information Source: St. Joseph Bay State Buffer Preserve website - <http://www.dep.state.fl.us/coastal/sites/apalachicola/stjosephb/info.htm>



*Aerial View of St. Joseph Bay State Buffer Preserve
Courtesy of LDEP*

St. Martins Marsh Aquatic Preserve

Authorizing Legislation: Florida Aquatic Preserve Act, FLA. STAT. ANN. Section 258.35 et seq.

Date of Designation: 1969

Management Agency: Florida Department of Environmental Protection, Office of Coastal and Aquatic Managed Areas

Management Goals: See Alligator Harbor Aquatic Preserve, *supra* page 50.

Site Description:

Located in Citrus County, St. Martins Marsh Aquatic Preserve covers approximately 23,000 acres. In addition to its designation as an Aquatic Preserve, it also has been designated an Outstanding Florida Water and a Gulf of Mexico Ecological Management Site. The preserve is comprised of open water, inlet bays, tidal rivers and creeks, salt marsh, seagrasses, mangroves, and adjoining upland hammock islands. The nutrient exchange between the marshes and the Gulf of Mexico makes the salt marsh in St. Martins Marsh AP a nursery ground for commercial and recreational fish. Species of fish that can be found in preserve waters include snook, redfish, and sea trout. The marsh and coastal hammocks are wintering and stopover areas for migratory birds.

For more detailed discussion of the habitats, flora and fauna, and management objectives and strategies for this Aquatic Preserve, see the St. Martins Marsh Aquatic Preserve Management Plan. It is available online at http://www.dep.state.fl.us/coastal/downloads/management_plans/aquatic/St_Martins_Marsh.pdf.

Regulation:

FLDEP's Office of Coastal and Aquatic Areas administers Aquatic Preserves. Chapters 253 and 258, Florida Statutes, establish the proprietary management overview role of the BOT. Florida Aquatic Preserves Rules, FLA. ADMIN. CODE ANN. Chapter 18-20, and the Sovereignty Submerged Lands Management Rules, FLA. ADMIN. CODE ANN. Chapter 18-21, contain relevant rules and regulations to administer Florida's Aquatic Preserves. Preserves are managed primarily for the maintenance of essentially natural conditions, propagation of fish and wildlife, and traditional uses such as swimming, fishing, and boating. Activities in Aquatic Preserves are limited to water dependent activities unless the BOT determines that it is in the public interest to allow an exception. The use of preserves to provide road access to islands, where such access did not previously exist, is prohibited, but BOT may allow an exception under certain circumstances.

Primary Information Source: St. Martins Marsh Aquatic Preserve website - <http://www.dep.state.fl.us/coastal/sites/bigbend/stmartins/info.htm>



St. Martin's Marsh Aquatic Preserve
Courtesy of FLDEP

Wood Stork
Courtesy of NOAA National Estuarine
Research Reserve Collection



Terra Ceia Aquatic Preserve

Authorizing Legislation: Florida Aquatic Preserve Act, FLA. STAT. ANN. Section 258.393

Date of Designation: 1984

Management Agency: Florida Department of Environmental Protection, Office of Coastal and Aquatic Managed Areas

Management Goals: See Alligator Harbor Aquatic Preserve, *supra* page 50.

Site Description:

Located in northwest Manatee County, along southeast Tampa Bay, Terra Ceia Aquatic Preserve covers approximately 25,786 acres and lies within the Terra Ceia/Frog Creek, Terra Ceia Bay, and Bishop Harbor watersheds. The area also is adjacent to the Manatee River. Marine-related habitats include seagrass communities, hardbottom, open sand and mud bottom, sandy beach, tidally-influenced creeks, backwater stream, mangrove forest, fresh marsh, and salt marsh. Although this area is located in Tampa Bay, near urbanized Pinellas County, it supports coral communities and tropical and subtropical marine species. Extensive mangrove systems and dense seagrass beds make this system especially productive.

For more detailed discussion of the habitats, flora and fauna, and management objectives and strategies for this Aquatic Preserve, see the Terra Ceia Aquatic Preserve Management Plan. It is available online at http://www.dep.state.fl.us/coastal/downloads/management_plans/aquatic/Terra_Ceia.pdf.

Regulation:

FLDEP's Office of Coastal and Aquatic Areas administers Aquatic Preserves. Chapters 253 and 258, Florida Statutes, establish the proprietary management overview role of the BOT. Florida Aquatic Preserves Rules, FLA. ADMIN. CODE ANN. Chapter 18-20, and the Sovereignty Submerged Lands Management Rules, FLA. ADMIN. CODE ANN. Chapter 18-21, contain relevant rules and regulations to administer Florida's Aquatic Preserves. Preserves are managed primarily for the maintenance of essentially natural conditions, propagation of fish and wildlife, and traditional uses such as swimming, fishing, and boating. Activities in Aquatic Preserves are limited to water dependent activities unless the BOT determines that it is in the public interest to allow an exception. The use of preserves to provide road access to islands, where such access did not previously exist, is prohibited, but BOT may allow an exception under certain circumstances.

Primary Information Source: Terra Ceia Aquatic Preserve website - <http://www.dep.state.fl.us/coastal/sites/tampabay/terraceiaa/info.htm> ⁵⁵

55. Information on FLDEP's Terra Ceia AP web site is forthcoming. Information contained in this summary was obtained from Dr. Randy Runnels of the FLDEP Office of Coastal and Aquatic Managed Areas.

Yellow River Marsh Aquatic Preserve

Authorizing Legislation: Florida Aquatic Preserve Act, FLA. STAT. ANN. Section 258.35 et seq.

Date of Designation: 1970

Management Agency: Florida Department of Environmental Protection, Office of Coastal and Aquatic Managed Areas

Management Goals: See Alligator Harbor Aquatic Preserve, *supra* page 50.

Site Description:

Located in Santa Rosa County, Yellow River Marsh Aquatic Preserve covers approximately 16,435 acres. In addition to its designation as an Aquatic Preserve, Yellow River Marsh AP also has been designation an Outstanding Florida Water and a Gulf of Mexico Ecological Management Site. The preserve includes a large section of the Yellow River, near where the river flows into the Blackwater and East Bays, in the western portion of the Florida Panhandle region. Forested wetlands, freshwater and saltwater marshes, and submerged seagrasses provide food and habitat for fish, reptiles, amphibians, mammals, and benthic invertebrates. Protected species such as the Florida black bear, Gulf sturgeon, and bald eagle can be found in the preserve.

Regulation:

FLDEP's Office of Coastal and Aquatic Areas administers Aquatic Preserves. Chapters 253 and 258, Florida Statutes, establish the proprietary management overview role of the BOT. Florida Aquatic Preserves Rules, FLA. ADMIN. CODE ANN. Chapter 18-20, and the Sovereignty Submerged Lands Management Rules, FLA. ADMIN. CODE ANN. Chapter 18-21, contain relevant rules and regulations to administer Florida's Aquatic Preserves. Preserves are managed primarily for the maintenance of essentially natural conditions, propagation of fish and wildlife, and traditional uses such as swimming, fishing, and boating. Activities in Aquatic Preserves are limited to water dependent activities unless the BOT determines that it is in the public interest to allow an exception. The use of preserves to provide road access to islands, where such access did not previously exist, is prohibited, but BOT may allow an exception under certain circumstances.

Primary Information Source: Yellow River Marsh Aquatic Preserve website - <http://www.dep.state.fl.us/coastal/sites/northwest/yellowa/info.htm>



*Tri-Colored Heron
Courtesy of USFWS
Photograph by Gary Stolz*

LOUISIANA

Introduction

The Louisiana Department of Wildlife and Fisheries (LDWF) administers the state's Wildlife Management Area Program and wildlife refuges. The major statutory provisions for establishing wildlife management areas and wildlife refuges are La. R.S. Sections 56:109 and 56:781. R.S. 56:109 provides general authority to establish and maintain wildlife management areas and wildlife refuges and to promulgate rules and regulations for their administration and for protection of their flora and fauna. R.S. 56:781 provides authority for the selection of lands owned or acquired by the state for the establishment of wildlife refuges, wildlife management areas, public hunting grounds, upland game preserves, and wildlife sanctuaries.

The Louisiana Wildlife and Fisheries Commission (Commission) has the power to establish, manage, and maintain wildlife management areas and refuges.¹ The Commission, with permission from the Governor, also has the power to lease, purchase, or accept donations of any lands suitable as wildlife management areas.² The Commission has the authority to select lands owned by the state for designation as wildlife management areas and wildlife refuges and has the power to maintain, equip, and stock these areas.³ The Commission has the authority to establish rules governing the propagation, protection, and harvest of wildlife species and may prohibit individuals from taking, disturbing, or destroying any wildlife or egg unless it issues a permit authorizing such activity.⁴ The Commission also adopts seasons and bag and possession limits for wild quadrupeds and wild birds in the state.⁵

LDWF's Fur and Refuge Division (Division) manages the wildlife management areas and wildlife refuges located in coastal Louisiana.⁶ The Division also manages and supervises fur, alligator, reptile, and amphibian resources in the state.⁷ The Division is active in waterfowl, bald eagle, brown pelican, and aquaculture management and conducts alligator research.⁸ Other tasks of the Division are applied research into coastal marsh management practices for fur, estuarine fisheries, and wildlife resources and life history investigations of marsh wildlife and fisheries.⁹

General Programs

Artificial Reef Program

Louisiana's Artificial Reef Program was created by the Louisiana Fishing Enhancement Act (LFEA).¹⁰ The purpose of this program is to promote and facilitate effective establishment and maintenance of artificial reefs in the offshore waters of Louisiana.¹¹ The primary participants in this program are LDWF, Louisiana State University School of the Coast and Environment (formerly the Center for Coastal,

1. La. R.S. 56:109(A).

2. *Id.*

3. La. R.S. 56:781.

4. La. R.S. 56:109(B) and (C).

5. La. R.S. 56:115.

6. Louisiana Department of Wildlife and Fisheries Fur and Refuge Division, at <http://www.wlf.state.la.us/apps/netgear/page57.asp> (accessed December 4, 2003).

7. *Id.*

8. *Id.*

9. *Id.*

10. La. R.S. 56:639.1 et seq.

11. La. R.S. 56:639.2.

Energy, and Environmental Resources), and the Louisiana Sea Grant College Program.¹² The program operates out of the Artificial Reef Development Fund under the direction of LDWF.¹³ LFEA created a Louisiana Artificial Reef Development Council, which oversees the development and implementation of the Louisiana Artificial Reef Plan, provides guidance to LDWF on policy and procedural issues concerning the program, and makes recommendations to LDWF regarding allocation of program funds.¹⁴ The program is administered and enforced in accordance with the National Fishing Enhancement Act.

Artificial reefs are sited and constructed and subsequently maintained, monitored, and managed to enhance and conserve fishery resources, facilitate access and utilization by Louisiana recreational and commercial user groups, minimize conflicts among competing uses of waters and the resources in such waters, and minimize environmental and health risks.¹⁵ To date, twenty-five reef sites have been created off Louisiana's coast by utilizing the jackets of eighty-five obsolete oil and gas platforms. The use of these platforms has been successful in terms of longevity and stability. There are also several artificial reefs in the inshore waters of Lake Pontchartrain, Lake Pelto, Pointe Aux Chenes, Cote Blanche Bay, and Vermilion Bay.

For more information on Louisiana's Artificial Reef Plan, visit <http://www.wlf.state.la.us/apps/netgear/clientFiles/lawlf/files/Louisiana%20Artificial%20Reef%20Plan.pdf>.

Mollusk Program

The Marine Fisheries Division of LDWF has developed oyster management plans over the last century that yield steady supplies of sack and seed oysters on public grounds. Oysters grow in the coastal waters of Louisiana and can be found naturally in reefs in intertidal and subtidal waters. A majority of hard substrate found in Louisiana coastal waters are oyster reefs, and animals such as fish, crabs, and worms use these reefs as foraging and shelter habitats. The State both leases state water bottoms to citizens¹⁶ and maintains certain water bottoms as public seed grounds and reservations. During open reef seasons, properly licensed oyster fishers are allowed to gather oyster from public reefs and may transplant them onto private leases.

State biologists use dredge and square meter gear types to take samples from public oyster grounds and analyze the data to determine the health of the species. Random sampling from multiple public ground locations can lead to accurate prediction of oyster abundance throughout the state. The planting of hard substrate on water bottoms is also a part of the mollusk program. Placing substrate (also called cultch deposition) on water bottoms provides oyster larvae with a place onto which they can settle and grow. Cultch that is deposited on public oyster grounds is made from materials such as oyster shell, limestone, and crushed concrete.

Louisiana's estuaries also contain sizeable population of other shellfish species, such as clams and oyster drill. The Oyster Drill is a predatory snail that feeds on oysters and is typically found on subtidal oyster reefs and in higher salinity waters. Although Oyster Drills can pose a threat to oysters, they occasionally are hand-collected for use in Cajun dishes.

For more information on Louisiana's Mollusk Program, visit <http://www.wlf.state.la.us/apps/netgear/index.asp?cn=lawlf&pid=550>.

12. La. R.S. 56:639.5.

13. *Id.*

14. La. R.S. 56:639.6.

15. La. R.S. 56:639.4.

16. Currently, there is a moratorium on new oyster leases. See LA. ADMIN. CODE Tit. 76, Section 7:505.

FEDERALLY-MANAGED AREAS

Breton National Wildlife Refuge

Authorizing Legislation: Executive Order 7983

Breton National Wildlife Refuge was originally set aside by Executive Order of October 4, 1904 (unnumbered series). E.O. 7983, signed by President Franklin D. Roosevelt in October 1938, revoked this previous E.O. and established the site as Breton Bird Refuge to further the purpose of the Migratory Bird Conservation Act (16 U.S.C. 715-715r). E.O. 7983 reserved and set apart the area for use by the U.S. Department of Agriculture as a refuge and breeding ground for birds and other wildlife.

Date of Designation: 1904

Management Agency: U.S. Fish and Wildlife Service

Management Goals: To provide sanctuary for nesting and wintering seabirds; to protect and preserve the wilderness character of the islands; and to provide sandy beach habitat for a variety of wildlife species.



*Aerial View of Breton National Wildlife Refuge
Courtesy of LSU School of the Coast and Environment Aerial Video
Survey Program, Photograph by Karen Westphal*

Site Description:

Located in St. Bernard Parish in Southeastern Louisiana, Breton NWR is comprised of barrier islands and covers approximately 18,000 acres. Access to the refuge is by boat only. Breton NWR includes Breton Island and all of Chandeleur Islands. The barrier islands that make up Breton NWR are remnants of the Mississippi River's St. Bernard Delta, which was active about 2,000 years ago. The refuge's barrier islands are dynamic: storms, wind, and tidal action have altered and continue to alter the size and shape of these islands. Black mangrove, groundsel bush, and wax myrtle are the dominant vegetation, and the shallow bay waters surrounding the islands support a variety of seagrasses. Twenty-three species of seabirds and shorebirds frequent Breton NWR, and thirteen species nest on the various islands, including brown pelican, laughing gull, and royal, Caspian, and sandwich terns. Waterfowl winter near the refuge's islands and use adjacent shallows, marshes, and sounds for feeding and for protection from weather. Other wildlife species found in Breton NWR include the invasive nutria, rabbits, raccoons, and loggerhead sea turtles.

Regulation:

The U.S. Fish and Wildlife Service is the primary agency that regulates Breton NWR. The Refuge Recreation Act, 16 U.S.C. 460k-460k-4, restricts public recreation use of fish and wildlife conservation areas, including National Wildlife Refuges. Section 460k lays out public uses that are allowed in the refuge, such as wildlife observation, sport fishing, commercial fishing and crabbing, nature photography, motorized and non-motorized boating, and waterfowl hunting. Per 50 C.F.R. 27.11-17.97, ATVs, camping, littering, fires, collecting, horses, and firearms/weapons (except during refuge hunting seasons) are prohibited. However, motorized vehicles are allowed on designated roads. Pursuant to 50 C.F.R. 32.7, Breton NWR is open to hunting and fishing. 50 CFR 32.37 authorizes fishing and crabbing in designated areas: anglers are authorized to fish year round at the refuge, but are not authorized to use trotlines, slat traps, or nets. Section 32.37 requires crabbers to tend crabbing equipment at all times.

Primary Information Source: Breton NWR website - <http://southeastlouisiana.fws.gov/breton.html>

Bayou Sauvage National Wildlife Refuge

Authorizing Legislation: Pub. L. 99-645, 100 Stat. 3590 (November 10, 1986) and Pub. L. 104-253, 110 Stat. 3167 (October 9, 1996)

Public Law 99-645 authorized acquisition of approximately 19,000 acres for the Bayou Sauvage Urban National Wildlife Refuge (Bayou Sauvage NWR) in Orleans Parish, Louisiana. The law established the purposes of the refuge and authorized such sums as may be necessary for acquisition and \$5 million for development, all to be available until expended. Public Law 104-253 authorized the expansion of Bayou Sauvage NWR by 4,328 acres.

Date of Designation: 1990

Management Agency: U.S. Fish and Wildlife Service

Management Goals: (1) To preserve wetlands; (2) to enhance the population of migratory birds; (3) to encourage diversity of fish and wildlife species; (4) and to protect endangered and threatened plants and animals.

Site Description:

Located in Orleans Parish in Southeastern Louisiana, Bayou Sauvage NWR covers approximately 22,770 acres of freshwater marsh, bottomland, and brackish marsh, lagoons, canals, borrow pits, chenieres (former beachfronts), and natural bayous. The marshes along Lakes Pontchartrain and Borgne are estuarine nurseries for various fish species, crabs, and shrimp. The freshwater lagoons, bayous, and ponds are production areas for fish species such as largemouth bass, crappie, bluegill, and catfish. The diverse habitats within the refuge support approximately 340 bird species throughout the year. Bayou Sauvage NWR also provides habitat for endangered and threatened species such as brown pelican, bald eagle, red-cockaded woodpecker, and gopher tortoise. Other animal species that can be found in the refuge include alligators, swamp rabbits, and game and small mammals.

Regulation:

The U.S. Fish and Wildlife Service is the primary agency that regulates Bayou Sauvage NWR. The Refuge Recreation Act, 16 U.S.C. 460k-460k-4, restricts public recreation use of fish and wildlife conservation areas, including National Wildlife Refuges. Section 460k lays out public uses that are allowed in the refuge, such as wildlife observation, sport fishing, commercial fishing and crabbing, nature photography, motorized and non-motorized boating, and waterfowl hunting. Per 50 C.F.R. 27.11-17.97, ATVs, camping, littering, fires, collecting, horses, and firearms/weapons (except during refuge hunting seasons) are prohibited. However, motorized vehicles are allowed on designated roads. Pursuant to 50 C.F.R. 32.7, Bayou Sauvage NWR is open to hunting and fishing. 50 CFR 32.37 authorizes sport fishing subject to conditions: Fishing is permitted during daylight hours only; sport fishing and shellfishing are permitted year round on refuge lands south of the Intracoastal Waterway; one may sport fish only with hand-held rod and reel or hand-held rod and line. Gait shrimp may be taken with cast nets 8 feet in diameter or less. Crawfish and crabs can be taken (up to 100 pounds per person) with wire nets up to 20 inches in diameter. All fishing, crabbing, and crawfishing equipment must be attended at all times; the use of trotlines, limblines, slat traps, gar sets, nets, or alligator lines is prohibited in the refuge; only outboard motors 25 horsepower or less are permitted in waterways inside the hurricane protection levee; and airboats, aircraft, motorized pirogues, and go-devils are prohibited in refuge waters.

Primary Information Source: Bayou Sauvage NWR website - <http://southeastlouisiana.fws.gov/bayousauvage.html>



*FWS Employee planting Cypress Trees
Courtesy of USFWS
Photograph by John and Karen Hollingsworth*

Cameron Prairie National Wildlife Refuge

Authorizing Legislation: Migratory Bird Conservation Act, 16 U.S.C. 715d

Date of Designation: 1988

Management Agency: U.S. Fish and Wildlife Service

Management Goals: (1) To provide the highest quality wintering waterfowl habitat possible; (2) to provide for the needs of endangered plants and animals; (3) to allow compatible public uses such as hunting, fishing, trapping, wildlife observation, and photography; and (4) to promote research on marsh and aquatic wildlife.

Site Description:

Located southeast of the City of Lake Charles in Cameron Parish, Cameron Prairie NWR covers approximately 24,548 acres. The refuge is separated into two distinct units: the Gibbstown unit (approximately 9,621 acres) and the East Cove unit (approximately 19,927 acres). The Gibbstown unit contains fresh marsh, coastal prairie, and old rice fields. It is managed to provide habitat to wintering waterfowl and other water birds. The East Cove unit is made up of brackish marsh and salt marsh. It is a nursery ground for shrimp, blue crab, and various fish species. Cameron Prairie NWR provides habitat for wildlife including alligators, white-tailed deer, and numerous species of migratory birds throughout the year. The refuge's prairies are primarily home for resident songbirds, northern bobwhites, mourning doves, and white-tailed deer. Ducks, geese, shorebirds, wading birds, and alligators can be found in the refuge's marshes. Cameron Prairie is a winter home to thousands of ducks and geese and a spring and summer home to migrating songbirds.

An unique habitat that is located near the refuge is the chenier plain. The chenier plain is composed of tree-covered ridges that run parallel along Louisiana's coast for ten to fifty miles. Species of neo-tropical migrants, birds that winter in Mexico and Central and South Americas, fly north to the refuge and beyond. The cheniers are the first lands these birds visit following their flight across the Gulf of Mexico.

Regulation:

The U.S. Fish and Wildlife Service is the primary agency that regulates Cameron Prairie NWR. The Refuge Recreation Act, 16 U.S.C. 460k-460k-4, restricts public recreation use of fish and wildlife conservation areas, including National Wildlife Refuges. Section 460k lays out public uses that are allowed in the refuge, such as wildlife observation, sport fishing, commercial fishing and crabbing, nature photography, motorized and non-motorized boating, and waterfowl hunting. Per 50 C.F.R. 27.11-17.97, ATVs, camping, littering, fires, collecting, horses, and firearms/weapons (except during refuge hunting seasons) are prohibited. However, motorized vehicles are allowed on designated roads. Pursuant to 50 C.F.R. 32.7, Cameron Prairie NWR is open to hunting and fishing. 50 CFR 32.37 authorizes the hunting of migratory game birds, upland game hunting, and big game hunting in designated areas. However, persons engaging in these activities are required to obtain refuge permits. Compliance with all terms and conditions in the refuge's brochure is also required. 50 CFR 32.37 allows sport fishing in designated areas subject to compliance with all terms and conditions in the refuge's brochure.



*Aerial view of Cameron Prairie
Courtesy of LSU School of the Coast and Environment Aerial
Video Survey Program
Photograph by Karen Westphal*

Primary Information Sources: Cameron Prairie NWR websites: <http://cameronprairie.fws.gov/> and http://library.fws.gov/Refuges/cameron_prairie98.pdf

Delta National Wildlife Refuge

Authorizing Legislation: Executive Order 7229 and Executive Order 7538

Executive Order 7229, signed by President Franklin D. Roosevelt on November 19, 1935, formally established Delta Migratory Waterfowl Refuge (later named Delta National Wildlife Refuge). E.O. 7229 ordered approximately 8,000 acres, which the United States had contracted for purchase, to further the purpose of the Migratory Bird Conservation Act (16 U.S.C. 715-715r). These lands originally were set aside for use by the U.S. Department of Agriculture as a refuge and breeding ground for migratory birds and other wildlife. Executive Order 7538, signed by President Franklin D. Roosevelt on June 5, 1936, ordered approximately 900 acres of land, together with all buildings, pipe lines, and wharves thereon, to be reserved and set aside for use by the U.S. Department of Agriculture as an addition to Delta Migratory Waterfowl Refuge.

Date of Designation: 1935

Management Agency: U.S. Fish and Wildlife Service

Management Goals: (1) Waterfowl habitat management; marsh restoration; (2) and oil and gas management.

Site Description:

Located in Plaquemines Parish, Delta NWR covers approximately 48,800 acres of marshlands and open water. Access to the refuge is by boat only. There are two basic marsh zones within the refuge's marsh habitat: fresh marsh near main tributaries and brackish marsh near the Gulf of Mexico. Approximately 60 percent of the Delta NWR is freshwater marsh. The predominant plants are delta duck potato (*Sagittaria platyphylla*), elephant ear (*Colocasia antiquorum*), wild millet (*Echinochloa crusgalli*), delta three-square (*Scirpus deltarum*), and roseau cane (*Phragmites sp.*). The fertile soils, vegetative composition, and shallow water environment create productive habitat for fish and wildlife.

Endangered and threatened species such as American alligator, brown pelican, and piping plover can be found in the refuge. Delta NWR supports a variety of other wildlife species. Tens of thousands of wintering birds utilize the refuge, and large numbers of other bird species can be found on the refuge such as wading birds, shorebirds, and raptors. The marshes and waterways provide year-round and seasonal habitat for fish and shellfish species, such as flounder, redfish, blue crabs, and shrimp.

Regulation:

The U.S. Fish and Wildlife Service is the primary agency that regulates Delta NWR. The Refuge Recreation Act, 16 U.S.C. 460k-460k-4, restricts public recreation use of fish and wildlife conservation areas, including National Wildlife Refuges. Section 460k lays out public uses that are allowed in the refuge, such as wildlife observation, sport fishing, commercial fishing and crabbing, nature photography, motorized and non-motorized boating, and waterfowl hunting. Per 50 C.F.R. 27.11-17.97, ATVs, camping, littering, fires, collecting, horses, and firearms/weapons (except during refuge hunting seasons) are prohibited. However, motorized vehicles are allowed on designated roads. Pursuant to 50 C.F.R. 32.7, Delta NWR is open to hunting and fishing. 50 CFR 32.37 authorizes the hunting of migratory waterfowl, upland game hunting, and big game hunting with a permit. 50 CFR 32.37 also authorizes fishing and crabbing in designated areas subject to the following conditions: Recreational fishing and crabbing are permitted only from sunrise to sunset; the use of trotlines, limblines, slat traps, gar sets, nets, or alligator lines is prohibited; and camping is permitted year-round in designated areas only.

Primary Information Source: Delta NWR website - <http://southeastlouisiana.fws.gov/delta.html>



Aerial view of Delta National Wildlife Refuge
Courtesy of LDWF

Sabine National Wildlife Refuge

Authorizing Legislation: Executive Order 7764

Executive Order 7764, signed December 6, 1937 by President Franklin D. Roosevelt, originally designated Sabine NWR as a Migratory Waterfowl Refuge. The Executive Order ordered approximately 143,110 acres to be acquired and then reserved and set aside for use by the U.S. Department of Agriculture as a refuge and breeding ground for migratory birds and other wildlife in furtherance of the Migratory Bird Conservation Act (16 U.S.C. 715-715r).

Date of Designation: 1937

Management Agency: U.S. Fish and Wildlife Service

Management Goals: (1) To provide habitat for migratory waterfowl and other birds; (2) to preserve and enhance coastal marshes for fish and wildlife; (3) and to provide outdoor recreation and environmental education for the public.

Site Description:

Located south of the town of Hackberry in Cameron Parish, Sabine NWR covers approximately 124,511 acres. Approximately 39,844 acres are open water and approximately 84,667 acres are grassland/herbaceous/marsh. The refuge lies in the marshes between Calcasieu Lake and Sabine Lake. Among the species of wildlife that can be found in Sabine NWR are duck, goose, alligator, muskrat, nutria, various wading birds and shorebirds, blue crabs, and shrimp. Other bird species present in the refuge are Olivaceous cormorant and snowy egret, and common egret rookeries are also located in the refuge. Some management tools utilized at Sabine NWR are water management to control salinity levels and preserve marsh and aquatic habitats, open water terracing for waterfowl and fishery habitat enhancement, impoundments for preserving marsh and freshwater fisheries, and prescribed burning for marsh and coastal prairie restoration and maintenance.

Regulation:

The U.S. Fish and Wildlife Service is the primary agency that regulates Sabine NWR. The Refuge Recreation Act, 16 U.S.C. 460k-460k-4, restricts public recreation use of fish and wildlife conservation areas, including National Wildlife Refuges. Section 460k lays out public uses that are allowed in the refuge, such as wildlife observation, sport fishing, commercial fishing and crabbing, nature photography, motorized and non-motorized boating, and waterfowl hunting. Per 50 C.F.R. 27.11-17.97, ATVs, camping, littering, fires, collecting, horses, and firearms/weapons (except during refuge hunting seasons) are prohibited. However, motorized vehicles are allowed on designated roads. Pursuant to 50 C.F.R. 32.7, Sabine NWR is open to hunting and fishing. 50 CFR 32.37 allows hunting of ducks, geese, and coots in designated areas with a permit and subject to compliance with all terms and conditions in the hunting permit. 50 CFR 32.37 also allows fishing, crabbing, and shrimp cast netting in designated areas subject to compliance with all terms and conditions set forth in the refuge fishing brochure.

Primary Information Source: Sabine NWR website - <http://sabine.fws.gov/>



*Boardwalk at Sabine National Wildlife Refuge
Courtesy of Louisiana Department of Tourism*

Shell Keys National Wildlife Refuge

Authorizing Legislation: Executive Order 682

Executive Order 682, signed by President Theodore Roosevelt on August 17, 1907, created the NWR that was originally named the Shell Keys Reservation. According to the Executive Order, Shell Keys Reservation originally created a lighthouse reservation that included a group of previously unsurveyed islets located in the Gulf of Mexico. The islets were reserved and set aside for use by the U.S. Department of Agriculture as a reserve and breeding ground for native birds.

Date of Designation: 1907

Management Agency: U.S. Fish and Wildlife Service

Management Goal: To provide breeding grounds for native birds.

Site Description:

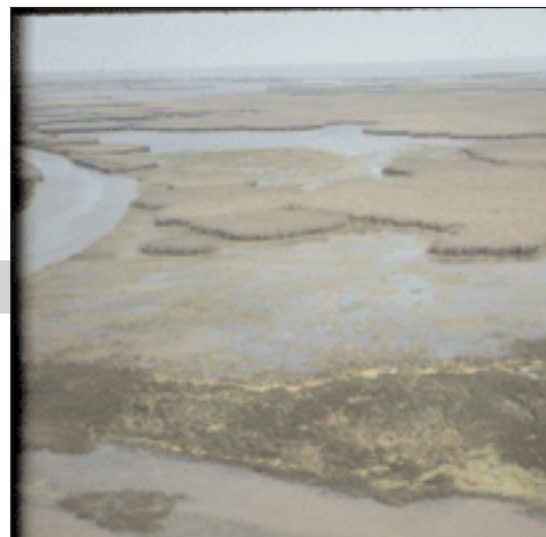
Located near East and West Cote Blanch Bays in coastal Louisiana, Shell Keys NWR is comprised of small sand spit/barrier islands. Therefore, the refuge is accessible only by boat. The refuge covers 5 to 7 acres, depending on how the islands are rebuilt, eroded, or moved by storms. The islands that comprise Shell Keys NWR are normally under water, but when land is exposed public uses such as fishing and bird watching are allowed.

Regulation:

The U.S. Fish and Wildlife Service is the primary agency that regulates Shell Keys NWR. The Refuge Recreation Act, 16 U.S.C. 460k-460k-4, restricts public recreation use of fish and wildlife conservation areas, including National Wildlife Refuges. Section 460k lays out public uses that are allowed in refuges, such as wildlife observation, sport fishing, commercial fishing and crabbing, nature photography, motorized and non-motorized boating, and waterfowl hunting, but only fishing and bird watching are allowed at Shell Keys NWR when land is exposed. Pursuant to 50 C.F.R. 27.11-17.97, ATVs, camping, littering, fires, collecting, horses, and firearms/weapons (except during refuge hunting seasons) are prohibited.

Primary Information Source: Shell Keys NWR website - <http://southeastlouisiana.fws.gov/shellkeys.html>

*Aerial View of Shell Keys National Wildlife Refuge
Courtesy of LSU School of the Coast and
Environment Aerial Video Survey Program
Photograph by Karen Westphal*



FEDERAL-STATE COOPERATIVES

Barataria-Terrebonne National Estuary Program

Authorizing Legislation: Clean Water Act, 33 U.S.C. 1330

Date of Designation: 1990

Management Agencies: U.S. Environmental Protection Agency and Louisiana Department of Environmental Quality

Management Goals: (1) To preserve and restore wetlands and barrier islands; (2) to realistically support diverse natural biological communities; (3) to develop and meet water quality standards that adequately protect estuarine resources and human health; (4) to promote environmentally responsible economic activities that sustain estuarine resources; (5) to generate national recognition and support; (6) to implement comprehensive education and awareness on and awareness programs that enhance public involvement and maintain cultural heritage; (7) to create an accessible, comprehensive database with interpreted



*Aerial View of Barataria-Terrebonne National Estuary Program
Courtesy of NOAA National Estuarine Research Reserve Collection*

information for the public; (8) to create clear, fair, practical, and enforceable regulations; (9) to develop and maintain multi-level, long-term, and comprehensive watershed planning; (10) to be compatible with natural processes; to forge common-ground solutions to estuarine problems; and (11) to formulate indicators of estuarine ecosystem health and balance estuary use.

Site Description:

Extending from the towns of Morganza to the north and Grand Isle to the south and flanked by the Mississippi River to the east and the Atchafalaya basin to the west, BTNEP encompasses the Barataria and Terrebonne basins and covers approximately 4.1 millions acres, 3.2 millions acres of which are open water. Habitats within the BTNEP include salt and freshwater marshes, bottomland hardwoods, and barrier islands. These habitats support fish, shellfish, birds, and other animals. A large percentage of fish and shellfish harvested in coastal Louisiana waters depend on the estuarine habitats of the Barataria-Terrebonne estuary system. Shrimp, blue crab, oysters, and more than sixty species of fish live in the estuary.

Regulation:

The NEP Program Office has no regulatory authority. The policies and goals identified by the Policy and Management Committees are implemented by the Louisiana agencies with authority over the various resources and sectors.

Primary Information Source: Barataria-Terrebonne NEP websites -

<http://www.btnep.org/> and <http://www.epa.gov/ecocommunity/case1/barataria.htm>

STATE-MANAGED AREAS

Atchafalaya Delta Wildlife Management Area

Authorizing Legislation: Act No. 612 of 1968, Act No. 565 of 1977, and La. R.S. 56:109 and 56:781

Act No. 565 authorized the State to lease this land, which became Atchafalaya Delta Wildlife Management Area to the Department of Wildlife and Fisheries. In 1977, the Louisiana Department of Natural Resources leased the Atchafalaya WMA to the Department of Wildlife and Fisheries. The 1977 lease ended in August 2002, which was subsequently extended until July 2003 when a new lease was entered into with the Department of Wildlife and Fisheries remaining the lessee. The 2003 lease agreement ends at midnight on June 30, 2028.¹⁷

Date of Designation: 1977

Management Agency: Louisiana Department of Wildlife and Fisheries, Fur and Refuge Division

Management Goal: To protect, conserve, and manage wildlife and wildlife habitat.

Site Description:

Located in St. Mary's Parish, Atchafalaya WMA covers approximately 137,000 acres. Two delta areas occur in the WMA: the Main Delta and the Wax Lake Delta. The Wax Lake Delta was formed as a result of channelization of Wax Lake from its confluence with the Atchafalaya River to the Gulf of Mexico. This WMA was formed from silt deposits from the Mississippi River and material dredged from Wax Lake. The area has shallow open bays, sand beaches, and freshwater marsh. Marshland in this area is one of the few in Louisiana that is growing. Exposed land has increased from approximately 10,000 acres in 1981 to 19,500 acres in 1995. The cause of this growth was silt fallout, accretion, and placement of material from river channelization. The oldest islands at the WMA are vegetated with trees. Several willow stands are wading bird rookeries; ibis, roseate spoonbills, and several species of egrets and herons also use these sites. Several species of waterfowl frequent the area, and the area also provides habitat to endangered species such as American alligator, bald eagle, roseate spoonbill, and species of sea turtles.

Regulation:

The Louisiana Department of Wildlife and Fisheries administers WMAs. Sections 3:101-3:333 and 17:111(G) of the Louisiana Administrative Code set forth responsibilities, duties, and regulations for WMA. Cutting, breaking or collecting plant material is prohibited unless a permit is obtained. Regulations restrict activity on nature trails in WMA, and organized trail rides are not permitted in any WMA or refuge owned by Louisiana and/or the Louisiana Department of Wildlife and Fisheries. Section 17:111(G) prohibits the following: (1) dumping garbage or trash except in designated areas, (2) commercial activities without prior approval or unless otherwise specified, (3) burning of marsh, (4) damage to or removal of trees, shrubs, hard mast, and wild plants without prior approval, and (5) oyster harvesting, except from private oyster leases and state seed grounds located within WMAs when authorized by the Wildlife and Fisheries Commission and approved by the Department of Health and Hospitals. Section 17:111(G)(1)(d) restricts times of the day when hunters may enter WMAs where hunting is allowed. Pursuant to Section 17:111(G)(3)(g), commercial fishing and sport fishing are allowed in Atchafalaya WMA. Commercial fishing activities shall not impede navigation, and leaving vessels or barges unattended is prohibited. Section 17:111(G) also places restrictions on firearms, methods of taking game, camping, and vehicles. ATVs, ATCs, and motorcycles are prohibited at Atchafalaya WMA, and tampering or altering water control structures are not permitted by anyone except employees of the Louisiana Department of Wildlife and Fisheries. Section 17:111(G)(6)(b) allows the mooring of houseboats with a permit in designated areas of Atchafalaya WMA throughout the hunting season.

Primary Information Source: Atchafalaya WMA website -<http://www.wlf.state.la.us/apps/netgear/index.asp?cn=lawlf&pid=233>

17. The lease agreements are on file with the Louisiana Sea Grant Legal Program.

Biloxi Wildlife Management Area

Authorizing Legislation: Biloxi Wildlife Management Area (Biloxi WMA) is owned by the Biloxi Marsh Land Corporation and is leased to the Louisiana Department of Wildlife and Fisheries under the authority of La. R.S. 56:109.¹⁸ This statute gives the Wildlife and Fisheries Commission the authority to establish, maintain, and manage wildlife management areas and other state-protected areas. The lease expires on October 4, 2011.

Date of Designation: 1986

Management Agency: Louisiana Department of Wildlife and Fisheries

Management Goal: To protect, conserve, and manage wildlife and wildlife habitat.

Site Description:

Located east of the City of New Orleans in St. Bernard Parish, Biloxi WMA covers approximately 39,583 acres. It is accessible only by boat. The area is low brackish to saline marsh with canals, bayous, sloughs, and potholes that produce a variety of fish, shrimp, crab, and fur-bearing animals. Fish

species found in the area include speckled trout, redfish, black drum, sheepshead, and flounder. Widgeon grass is the main submergent plant. Other vegetation includes wiregrass, black rush, hog cane, oyster grass, salt grass, glasswort and three square grass. Although most of the area is marsh, a few oak trees are present in the WMA. The many canal spoil banks scattered throughout the marsh provide escape for birds and mammals from rising water levels during storms or high tides. Canal spoil banks also provide habitat for wildlife and protected species such as the bald eagle and brown pelican.



American Widgeon
Courtesy of USFWS
Photograph by Tim McCabe

Regulation:

The Louisiana Department of Wildlife and Fisheries administers WMAs. Sections 3:101-3:333 and 17:111(G) of the Louisiana Administrative Code set forth responsibilities, duties, and regulations for WMAs. Cutting, breaking or collecting plant material is prohibited unless a permit is obtained. Regulations restrict activity on nature trails in WMAs, and organized trail rides are not permitted in any WMA or refuge owned by the State of Louisiana and/or the Louisiana Department of Wildlife and Fisheries. Section 17:111(G) prohibits the following: (1) dumping garbage or trash except in designated areas, (2) commercial activities without prior approval or unless otherwise specified, (3) burning of marsh, (4) damage to or removal of trees, shrubs, hard mast, and wild plants without prior approval, and (5) oyster harvesting, except from private oyster leases and state seed grounds located within WMAs and when authorized by the Wildlife and Fisheries Commission and approved by the Department of Health and Hospitals. Section 17:111(G)(1)(d) restricts times of the day when hunters may enter WMAs where hunting is allowed. Hunting, fishing, crabbing, shrimping, bird watching, and boating are allowed at Biloxi WMA.

Primary Information Source: Biloxi WMA website -

<http://www.wlf.state.la.us/apps/netgear/index.asp?cn=lawlf&pid=341>

18. The lease agreements between the Biloxi Marsh Land Corporation and the State of Louisiana are on file with the Louisiana Sea Grant Legal Program.

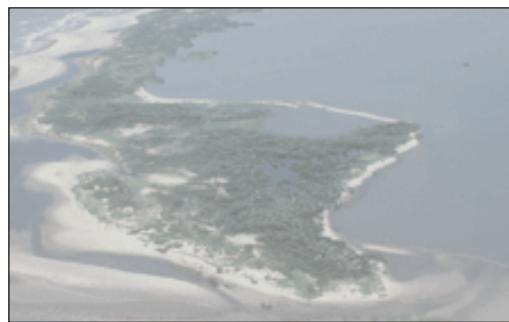
Isles Dernieres Barrier Islands Refuge

Authorizing Legislation: Isles Dernieres Barrier Islands Refuge (ID Refuge) was donated to the State of Louisiana by the Louisiana Land and Exploration Company in 1997.¹⁹

Date of Designation: 1999

Management Agency: Louisiana Department of Wildlife and Fisheries, Fur and Refuge Division

Management Goal: To provide and protect habitat for nesting water birds.



*Aerial View of Isles Dernieres Barrier Islands Refuge
Courtesy of LSU School of the Coast and Environment
Aerial Video Survey Program
Photograph by Karen Westphal*

Site Description:

Located across the shoreline in Terrebonne Parish, ID Refuge is a chain of five barrier islands that covers approximately 2,000 acres. The five barrier islands are East Island, Raccoon Island, Trinity Island, Whiskey Island, and Wine Island. Between 1992 and 1999, ID Refuge was known as the Terrebonne Barrier Islands Refuge and included only Raccoon Island, Whiskey Island, and Wine Island. During this period, the islands were still owned by the Louisiana Land and Exploration Company and leased to the State of Louisiana. The area is mostly salt marsh. Vegetation includes spartina, black mangrove, beach morning glory, and widgeon grass. Numerous shorebird species utilize ID Refuge. Skimmers, gulls, and terns are a few of the species that are found at the refuge. Raccoon Island is an important nesting area for the brown pelican. The Louisiana Department of Wildlife and Fisheries has undertaken many restoration projects on the islands, including beach restoration and replanting vegetation.

Regulation:

The Louisiana Department of Wildlife and Fisheries administers Wildlife Management Areas. Sections 3:101-3:333 and 17:111(G) of the Louisiana Administrative Code set forth responsibilities, duties, and regulations for WMAs. Section 3:331 contains regulations for ID Refuge. On all islands, disturbing, injuring, collecting, or attempting to disturb, injure, or collect any flora, fauna, or other property is prohibited unless expressly permitted in writing by the Secretary of Wildlife and Fisheries or the Secretary's designee. Littering on the islands or in the waters or wetlands is also prohibited. Fishing from boats along the shore and wade fishing in the surf areas of all the barrier islands are allowed. Section 3:331(A)(1) contains regulations specific to East Island, Raccoon Island, Whiskey Island, and Wine Island. On these islands, public access to exposed land areas, wetlands, and interior waterways is prohibited unless permitted by the Secretary. However, boat traffic is allowed adjacent to these islands in the open waters on the Gulf of Mexico and bays only. Section 3:331(2) contains regulations for Trinity Island. On this island, public access is allowed in a designated area only. Activities such as bird watching, picnicking, fishing, and overnight camping are allowed in this area. Public access to all exposed lands that are not designated as a public use area is prohibited. Use of ATVs or other vehicles powered by internal combustion engines or electric motors is prohibited. Boat traffic is allowed adjacent to the Trinity Island in open waters and within the California Canal. No boat traffic is allowed in other human-made or natural waterways that extend into the interior of the island or in any land-locked open waters or wetlands. Houseboats may be moored in designated areas of California Canal with a permit.

Primary Information Source: Isles Dernieres Barrier Islands Refuge website - <http://www.wlf.state.la.us/apps/netgear/index.asp?cn=lawlf&pid=238>²⁰

19. A photocopy of the land agreement between the State of Louisiana and the Louisiana Land and Exploration Company is on file with the Louisiana Sea Grant Legal Program.

20. Additional and up-to-date information on ID Refuge was obtained from Cynthia Poland and David Soileau of the Louisiana Department of Wildlife and Fisheries.

Marsh Island Wildlife Refuge

Authorizing Legislation: Act No. 70 of 1920, which allowed the State of Louisiana to accept the donation of this area from the Russell Sage Foundation.²¹

Date of Designation: 1920

Management Agency: Louisiana Department of Wildlife and Fisheries, Fur and Refuge Division

Management Goal: To protect, conserve, and manage wildlife and wildlife habitat.

Site Description:

Located in Iberia Parish between Vermilion Bay and the Gulf of Mexico, Marsh Island WR originally covered approximately 76,664 acres, but now covers approximately 70,000 acres due to coastal erosion. The refuge is flat and virtually treeless. Brackish marsh is the main type of habitat. The area supports diverse wildlife, such as white-tailed deer, ducks, geese, shore birds, and wading birds. Marsh Island WR provides important wintering grounds for blue and snow geese. Other species such as alligators, several fish species, and fur-bearing animals (e.g., beaver and opossum) also inhabit the refuge. The area also provides nursery ground for shrimp, the harvest of which is important to the local economy.



*The Louisiana Fish and Wildlife station at Marsh Island
Courtesy of NOAA*

Photograph by Dr. Terry McTigue

Regulation:

The Louisiana Department of Wildlife and Fisheries administers Wildlife Management Areas. Sections 3:101-3:333 and 17:111(G) of the Louisiana Administrative Code set forth responsibilities, duties, and regulations for WMAs. Cutting, breaking or collecting plant material is prohibited unless a permit is obtained. Regulations restrict activity on nature trails in WMAs, and organized trail rides are not permitted in any WMA or refuge owned by the State of Louisiana and/or the Louisiana Department of Wildlife and Fisheries. Section 17:111(G) prohibits the following: (1) dumping garbage or trash except in designated areas, (2) commercial activities without prior approval or unless otherwise specified, (3) burning of marsh, (4) damage to or removal of trees, shrubs, hard mast, and wild plants without prior approval, and (5) oyster harvesting, except from private oyster leases and state seed grounds located within WMAs when authorized by the Wildlife and Fisheries Commission and approved by the Department of Health and Hospitals. Section 3:310 contains visitor regulations for Marsh Island WR. Use of the refuge is allowed from official sunrise to official sunset. Prohibited activities include: (1) overnight camping, (2) hunting, pursuing, killing, molesting, or intentionally disturbing any type of wildlife by the public, (3) trawling, trotlines, jug lines, trammel, and gill nets and traps, (4) all commercial fishing and the use of any commercial fishing gear, (5) commercial harvest of crawfish and crabs, (6) burning of marsh by the public, (7) tampering or altering of water control structures by anyone other than an employee of the Department of Wildlife and Fisheries, (8) speed boat racing and water skiing, (9) pulling boats over or around levees, dams, or water control structures, and (10) bringing firearms, bows and arrows, liquor, and controlled dangerous substances onto the refuge.

Primary Information Source: Marsh Island WR website -
<http://www.wlf.state.la.us/apps/netgear/index.asp?cn=lawlf&pid=232>

21. Act No. 70 of 1920 and the Act of Donation from the Russell Sage Foundation to the State of Louisiana are on file with the Louisiana Sea Grant Legal Program.

Pass-a-Loutre Wildlife Management Area

Authorizing Legislation: Act No. 52 of 1921²²

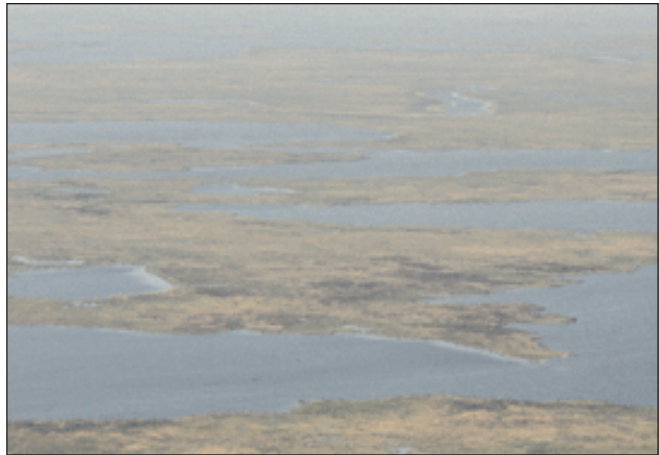
Date of Designation: 1921

Management Agency: Louisiana Department of Wildlife and Fisheries, Fur and Refuge Division

Management Goal: To protect, conserve, and manage wildlife and wildlife habitat.

Site Description:

Located in Plaquemines Parish, Pass-a-Loutre WMA covers approximately 110,000 acres. Boundaries often change in this area due to coastal erosion. It is located at the edge of coastal Louisiana, a tract of the Mississippi River Delta adjacent to the Gulf of Mexico. Pass-a-Loutre WMA includes freshwater and saltwater systems. Deltaic splays, mud flats, sand flats, and brackish and salt marshes are some of the habitats in the area. The WMA formerly contained floating marshes, but hurricanes and coastal erosion have destroyed these areas. Fertile silt depositions, delta duck potato, and various submerged aquatics all provide waterfowl habitat. Seabird and wading bird nesting colonies are located in the WMA. Birds species that have been observed at Pass-a-Loutre WMA include but are not limited to brown and white pelicans, great and little blue herons, double-crested cormorants, great and snowy egrets, royal and Forester's terns, and laughing and herring gulls. Estuarine and marine species that have been observed in the WMA include anchovy, mullet, menhaden, and drum. Shellfish such as oysters, shrimp, and crabs can be found in the brackish and salt marshes.



*Aerial View of Pass-a-Loutre Wildlife Management Area
Courtesy of LDWF*

Regulation:

The Louisiana Department of Wildlife and Fisheries administers Wildlife Management Areas. Title 76, Sections 3:101-3:333 and 17:111(G) of the Louisiana Administrative Code set forth responsibilities, duties, and regulations for WMAs. Cutting, breaking, or collecting plant material is prohibited unless a permit is obtained. Regulations restrict activity on nature trails in WMAs, and organized trail rides are not permitted in any WMA or refuge owned by the State of Louisiana and/or the Louisiana Department of Wildlife and Fisheries. Section 17:111(G) prohibits the following: (1) dumping garbage or trash except in designated areas, (2) commercial activities without prior approval or unless otherwise specified, (3) burning of marsh, and (4) damage to or removal of trees, shrubs, hard mast, and wild plants without prior approval. Section 17:111(G)(1)(d) restricts times of the day when hunters may enter WMAs where hunting is allowed. Pursuant to Section 17:111(G)(3)(g) commercial fishing is allowed at Pass-a-Loutre WMA. However, commercial fishing of mullet is allowed only in certain areas (Section 17:111(G)(7)(bb)). Section 17:111(G)(7)(bb) also prohibits oyster harvesting and ATVs, ATCs, and motorcycles at Pass-a-Loutre WMA. Section 17:111(G)(6)(b) allows the mooring of houseboats with a permit in designated areas throughout the hunting season.

Primary Information Source: Pass-a-Loutre WMA websites -
<http://www.wlf.state.la.us/apps/netgear/index.asp?cn=lawlf&pid=234> and
<http://www.wlf.state.la.us/apps/netgear/index.asp?cn=lawlf&pid=360>

22. Act No. 52 of 1921 is on file with the Louisiana Sea Grant Legal Program.

Pointe Aux Chenes Wildlife Management Area

Authorizing Legislation: Governor's Proclamation²³, La. R.S. 56:781, and La. R.S. 56:116

The original acreage of Pointe Aux Chenes Wildlife Management Area was purchased from the Humble Oil Company on October 7, 1968.²⁴ Additional lands have been either sold or leased to become a part of Pointe Aux Chenes WMA since 1968.²⁵ La. R.S. 56:116 authorizes the Louisiana Wildlife and Fisheries Commission to establish special seasons for the hunting of deer.

Date of Designation: 1968

Management Agency: Louisiana Department of Wildlife and Fisheries, Fur and Refuge Division

Management Goal: To protect, conserve, and manage wildlife and wildlife habitat.

Site Description:

Located approximately 15 miles southeast of the City of Houma in LaFourche and Terrebonne Parishes, Pointe Aux Chenes WMA covers approximately 31,902 acres. Most of the area is intermediate and brackish marsh with management aimed at maintaining and enhancing this habitat. Approximately 450 acres of Pointe Aux Chenes WMA are forested uplands, however, with reforestation of additional acreage in the planning stages. Submerged aquatic plants such as widgeongrass grow in the area and provide waterfowl habitat. Isohaline lines have encroached upon marsh habitat over the years, resulting in their deterioration. The State of Louisiana has undertaken freshwater diversion and other water management projects to combat marsh deterioration in Pointe Aux Chenes WMA, with more projects in the planning stages.

Regulation:

The Louisiana Department of Wildlife and Fisheries administers Wildlife Management Areas. Title 76, Sections 3:101-3:333 and 17:111(G) of the Louisiana Administrative Code set forth responsibilities, duties, and regulations for WMAs. Cutting, breaking, or collecting plant material is prohibited unless a permit is obtained. Regulations restrict activity on nature trails in WMAs, and organized trail rides are not permitted in any WMA or refuge owned by the State of Louisiana and/or the Louisiana Department of Wildlife and Fisheries. Section 17:111(G) prohibits the following: (1) dumping garbage or trash except in designated areas, (2) commercial activities without prior approval or unless otherwise specified, (3) burning of marsh, (4) damage to or removal of trees, shrubs, hard mast, and wild plants without prior approval, and (5) oyster harvesting, except from private oyster leases and state seed grounds located within WMAs when authorized by the Wildlife and Fisheries Commission and approved by the Department of Health and Hospitals. Section 17:111(G)(1)(d) restricts times of the day when hunters may enter WMAs where hunting is allowed. Pursuant to Section 17:111(G)(17)(ff) contains additional regulations. Hunting in Pointe Aux Chenes WMA is until 12 noon on all game, except for dove hunting and experimental youth deer hunt as specified in the regulation pamphlet. The harvest of fish, shrimp, crab, and crawfish are for recreational use only and commercial use is prohibited. Shrimp may be taken by the use of cast nets only. Persons only may take twenty-five pounds of shrimp per boat per day inside shrimp open season, and ten pounds of shrimp per boat per day is allowed during the inside closed season. Oyster harvesting is prohibited. Fish may be taken only by rod and reel or hand lines, and crabs may be taken only through the use of hand lines or nets.

23. Governor's Proclamation on file with the Louisiana Sea Grant Legal Program.

24. Photocopy of the Cash Sale of land to establish what would be called Pointe-aux-Chenes Wildlife Management Area is on file with the Louisiana Sea Grant Legal Program.

25. 640 acres are leased from the LaFourche Parish School Board to the Department of Wildlife and Fisheries for a period of 99 years, until November 27, 2077. Additional lands have been sold or leased to the State of Louisiana by individuals and The Nature Conservancy. Photocopies of the additional cash sale and lease agreements are on file with the Louisiana Sea Grant Legal Program.

However, nets may not be set to remain overnight. Crawfish may be harvested only in unrestricted portions of Pointe Aux Chenes WMA and is limited to 100 pounds per boat or per group. Members of the public are permitted to travel through Pointe Aux Chenes WMA for access to Grand Bayou, Humble Canal, Little Bayou Blue, and Grand Bayou Blue waterways. ATVs, ATCs, and motorcycles are prohibited. Motorized vehicles are prohibited from drainage ditches.

Primary Information Source: Pointe Aux Chenes WMA website -
<http://www.wlf.state.la.us/apps/netgear/index.asp?cn=lawlf&pid=236>

*Storks at Rockefeller Wildlife Refuge
Courtesy of LDWF*



*Pointe-aux-Chenes Wildlife Management Area
Courtesy of LDWF*

Rockefeller Wildlife Refuge

Authorizing Legislation: Act No. 71 of 1920

Act No. 71 authorized the Governor and Commissioner of Conservation to accept the Deed of Donation from the Rockefeller Foundation.²⁶ The Deed of Donation set forth many requirements, one of which was that the State of Louisiana must manage the property as a wildlife refuge. In 1983, the Deed was amended by a Memorandum of Agreement (MOA) between the U.S. Department of the Interior and the Louisiana Department of Wildlife and Fisheries. The MOA allows regulated sport fishing and commercial or nuisance trapping as long as these uses are compatible with management of the property as a wildlife refuge. The MOA also allows surplus revenues to be used for land acquisitions that further the refuge's wildlife management purpose.

Date of Designation: 1920

Management Agency: Louisiana Department of Wildlife and Fisheries, Fur and Refuge Division

Management Goal: To protect, conserve, and manage wildlife and wildlife habitat.

Site Description:

Located approximately 40 miles south of the City of Jennings in Vermilion and Cameron Parishes, Rockefeller WR covers approximately 76,042 acres. The area was originally 86,000 acres, but only approximately 76,042 acres remain due to coastal erosion. The habitat in this WMA is mainly brackish marsh. Other habitats include salt marsh and beach dunes. The refuge is a popular location for wintering waterfowl. Ducks, geese, coots, shorebirds, and wading birds migrate through or winter in Louisiana's coastal marshes. Shrimp, crab, and various fish species can be found in Rockefeller WR's coastal waters.

Rockefeller WR is also a test site for marsh management strategies designed to enhance marsh health and waterfowl food production. The refuge also has enacted management programs for salinity control, water level control, and restoration of marsh vegetation. Statewide brown pelican and bald eagle restoration and monitoring programs are coordinated from Rockefeller WR.

Regulation:

The Louisiana Department of Wildlife and Fisheries administers Wildlife Management Areas. Title 76, Sections 3:101-3:333 and 17:111(G) of the Louisiana Administrative Code set forth responsibilities, duties, and regulations for WMAs. Cutting, breaking or collecting plant material is prohibited unless a permit is obtained. Regulations restrict activity on nature trails in WMAs, and organized trail rides are not permitted in any WMA or refuge owned by the State of Louisiana and/or the Louisiana Department of Wildlife and Fisheries. Section 17:111(G) prohibits the following: (1) dumping garbage or trash except in designated areas, (2) commercial activities without prior approval or unless otherwise specified, (3) burning of marsh, (4) damage to or removal of trees, shrubs, hard mast, and wild plants without prior approval, and (5) oyster harvesting, except from private oyster leases and state seed grounds located within WMAs when authorized by the Wildlife and Fisheries Commission and approved by the Department of Health and Hospitals. Section 3:309 contains visitor regulations specific to Rockefeller WR. The visiting season is from March 1 to December 1 throughout the refuge except in restricted areas designated to prohibit interference with research and management activities. Section 3:309 prohibits overnight camping, burning marsh, littering, trawling, commercial fishing, and hunting, pursuing, killing, molesting, or intentionally disturbing wildlife by the public. Firearms, bows and arrows, commercial fishing gear, liquor, and controlled dangerous substances on the refuge are also prohibited. Sport fishing, crabbing, and oyster collection are allowed with restrictions.

Primary Information Source: Rockefeller WR website -

<http://www.wlf.state.la.us/apps/netgear/index.asp?cn=lawlf&pid=230>

26. Photocopies of Act No. 71 of 1920 and the Deed of Donation are on file with the Louisiana Sea Grant Legal Program

Salvador Wildlife Management Area

Authorizing Legislation: La. R.S. 56:109 and La. R.S. 56:781

The State of Louisiana purchased most of the acreage in the refuge from private parties. The State purchased 30,060 acres of Salvador Wildlife Management Area in 1968 from the Humble Oil Company.²⁷ The State purchased an additional 3,101.16 acres from the Netherlands Corporation in 1976, and the State purchased 1,960 acres from the St. Rose Land Company in 1986.²⁸

Date of Designation: 1968

Management Agency: Louisiana Department of Wildlife and Fisheries, Fur and Refuge Division

Management Goal: To protect, conserve, and manage wildlife and wildlife habitat.

Site Description:

Located 12 miles south of the City of New Orleans in St. Charles Parish, Salvador WMA covers approximately 34,060 acres. Salvador WMA is adjacent to Timken Wildlife Management Area. The area is mainly freshwater and intermediate marshes with ponds scattered throughout. Marsh vegetation includes maidencane, cattail, bulltongue, and submerged aquatics. Wax myrtle provides cover for deer and other wildlife. Nesting bald eagles and American alligators have been spotted at Salvador WMA, and the area is a popular location for wintering waterfowl.

Regulation:

The Louisiana Department of Wildlife and Fisheries administers Wildlife Management Areas. Salvador WMA is managed along with Timken WMA. Title 76, Sections 3:101-3:333 and 17:111(G) of the Louisiana Administrative Code set forth responsibilities, duties, and regulations for WMAs. Cutting, breaking or collecting plant material is prohibited unless a permit is obtained. Regulations restrict activity on nature trails in WMAs, and organized trail rides are not permitted in any WMA or refuge owned by the State of Louisiana and/or the Louisiana Department of Wildlife and Fisheries. Section 17:111(G) prohibits the following: (1) dumping garbage or trash except in designated areas, (2) commercial activities without prior approval or unless otherwise specified, (3) burning of marsh, (4) damage to or removal of trees, shrubs, hard mast, and wild plants without prior approval, and (5) oyster harvesting, except from private oyster leases and state seed grounds located within WMAs when authorized by the Wildlife and Fisheries Commission and approved by the Department of Health and Hospitals. Section 17:111(G)(1)(d) restricts times of the day when hunters may enter WMAs where hunting is allowed. Section 17:111(G)(17)(II) contains additional regulations for Salvador WMA. Hunting is allowed only until 12 noon for all game. All nighttime activities are prohibited. The harvest of fish, shrimp, crab, and crawfish are for recreational purposes only, and commercial use is prohibited. Shrimp may be taken by cast nets only. Persons only may take 25 pounds of shrimp per boat per day inside shrimp open season (size count will conform with open season requirements), and 10 pounds of shrimp per boat per day is allowed during the inside closed season. Fish may be taken only by rod and reel or hand lines, and crabs may be taken only through the use of hand lines or nets. However, nets may not be set to remain overnight. Crawfish may be harvested only in unrestricted portions of Salvador WMA and is limited to 100 pounds per boat or per group. Fishing gear used to catch crawfish may not remain set overnight. Pulling boats over levees, dams, or water control structures or any other activities that damage their integrity is prohibited. ATVs, ATCs, and motorcycles are prohibited on the area.

Primary Information Source: Salvador WMA website -
<http://www.wlf.state.la.us/apps/netgear/index.asp?cn=lawlf&pid=235>

27. A photocopy of the Cash Sale agreement between the State of Louisiana and the Humble Oil Company is on file with the Louisiana Sea Grant Legal Program.

28. Photocopies of these Cash Sale agreements are on file with the Louisiana Sea Grant Legal Program.

State Wildlife Refuge

Authorizing Legislation: Act No. 273 of 1910

Act No. 273 authorized the State of Louisiana to accept the donation of property that would become known as State Wildlife Refuge from Charles Ward and Edward McIlhenny.²⁹

Date of Designation: 1911

Management Agency: Louisiana Department of Wildlife and Fisheries, Fur and Refuge Division

Management Goal: To protect, conserve, and manage wildlife and wildlife habitat.

Site Description:

Located on the southwestern shore of Vermilion Bay in Vermilion Parish, State WR covers approximately 13,000 acres. The area mainly consists of brackish marsh, and the Department of Wildlife and Fisheries has put controls in place to prevent highly saline waters from entering the marsh. State WR is an important wintering locale for snow and blue geese and ducks. Other wildlife species that are found in the refuge include American alligator, shorebirds, wading birds, white-tailed deer, and marine life such as shrimp, crabs, and crawfish.



*Aerial View of State Wildlife Refuge
Courtesy of LDWF*

Regulation:

The Louisiana Department of Wildlife and Fisheries administers Wildlife Management Areas. Title 76, Sections 3:101-3:333 and 17:111(G) of the Louisiana Administrative Code set forth responsibilities, duties, and regulations for WMAs. Cutting, breaking or collecting plant material is prohibited unless a permit is obtained. Regulations restrict activity on nature trails in WMAs, and organized trail rides are not permitted in any WMA or refuge owned by the State of Louisiana and/or the Louisiana Department of Wildlife and Fisheries. Section 17:111(G) prohibits the following: (1) dumping garbage or trash except in designated areas, (2) commercial activities without prior approval or unless otherwise specified, (3) burning of marsh, (4) damage to or removal of trees, shrubs, hard mast, and wild plants without prior approval, and (5) oyster harvesting, except from private oyster leases and state seed grounds located within WMAs when authorized by the Wildlife and Fisheries Commission and approved by the Department of Health and Hospitals. Pursuant to Section 3:323, overnight camping, littering, commercial and recreational trawling, commercial harvests of crabs and crawfish, burning of marsh, speed boat racing, airboats, hovercraft, jet skis, and water skiing are prohibited. Hunting, pursuing, killing, molesting, or intentionally disturbing any type of wildlife by the public is also prohibited. Oysters may be harvested by tonging (properly licensed) or by hand collection, but oysters must be opened at the reef and shells must be returned to the reef. Firearms, bows and arrows, liquor, and controlled dangerous substances (drugs) are also prohibited on the refuge. LA. ADMIN. CODE Title 76, Section 3:103 contains regulations for mineral operations at State WR.

Primary Information Source: State WR website -

<http://www.wlf.state.la.us/apps/netgear/index.asp?cn=lawlf&pid=231>

29. A photocopy of the Deed of Donation is on file with the Louisiana Sea Grant Legal Program.

Timken Wildlife Management Area

Authorizing Legislation: La. R.S. 56:109 and La. R.S. 56:781

The area is leased to the Louisiana Department of Wildlife and Fisheries from the New Orleans City Park Improvement Association.³⁰ The lease ends on December 31, 2020.

Date of Designation: 1995

Management Agency: Louisiana Department of Wildlife and Fisheries, Wildlife Division

Management Goal:

To protect, conserve, and manage wildlife and wildlife habitat.

Site Description:

Located approximately 11 miles south of the City of New Orleans in St. Charles Parish, Timken WMA covers approximately 3,231 acres. The area is adjacent to Salvador WMA. The area is largely comprised of fresh and intermediate marsh.

Regulation:

The Louisiana Department of Wildlife and Fisheries administers Wildlife Management Areas. See the Regulation section for Salvador WMA. Timken WMA is managed along with Salvador WMA, and the same regulations apply.

Primary Information Source: Timken WMA website -

<http://www.wlf.state.la.us/apps/netgear/index.asp?cn=lawlf&pid=369>



Nutria
Courtesy of USFWS
Photograph by John and Karen Hollingsworth

30. A photocopy of the lease agreement is on file with the Louisiana Sea Grant Legal Program.

Wisner Wildlife Management Area

Authorizing Legislation: La. R.S. 56:109

15,000 acres of Wisner Wildlife Management Area is leased to the State of Louisiana by the Edward Wisner Donation Advisory Committee. The Wisner lease expires April 15, 2005. Marco and Carolyn Picciola and Larry and Charlene Picciola donated additional acreage with reservation of mineral rights, and certain areas are managed in cooperation with the LaFourche Parish School Board.³¹



*Aerial View of Wisner Wildlife Management Area
Courtesy of LSU School of the Coast and Environment Aerial Video
Survey Program, Photograph by Karen Westphal*

Date of Designation: 1980

Management Agency: Louisiana Department of Wildlife and Fisheries

Management Goal: To protect, conserve, and manage wildlife and wildlife habitat.

Site Description:

Located approximately 12 miles south of the town of Leesville in LaFourche Parish, Wisner WMA covers approximately 21,621 acres. Access to the WMA is by boat only. The WMA is mainly low sub-delta saline marsh along with ponds, lakes, and potholes. Marsh vegetation includes oyster grass, wire grass, and salt grass. Widgeongrass is the main submerged aquatic plant species. Baccharis, Iva, goldenrod, and various grasses grow on spoil banks in Wisner WMA, although oak trees grow on higher spoil banks along pipeline canals. The WMA is a popular locale for waterfowl and also provides habitat for the endangered brown pelican. Fish species found in area waters include speckled trout, red fish, flounder, black drum, sheepshead and croaker. Shrimp and crab also can be found in the area.

Regulation:

The Louisiana Department of Wildlife and Fisheries administers Wildlife Management Areas. Title 76, Sections 3:101-3:333 and 17:111(G) of the Louisiana Administrative Code set forth responsibilities, duties, and regulations for WMAs. Cutting, breaking or collecting plant material is prohibited unless a permit is obtained. Regulations restrict activity on nature trails in WMAs, and organized trail rides are not permitted in any WMA or refuge owned by the State of Louisiana and/or the Louisiana Department of Wildlife and Fisheries. Section 17:111(G) prohibits the following: (1) dumping garbage or trash except in designated areas, (2) commercial activities without prior approval or unless otherwise specified, (3) burning of marsh, (4) damage to or removal of trees, shrubs, hard mast, and wild plants without prior approval, and (5) oyster harvesting, except from private oyster leases and state seed grounds located within WMAs when authorized by the Wildlife and Fisheries Commission and approved by the Department of Health and Hospitals. Section 17:111(G)(1)(d) restricts times of the day when hunters may enter WMAs where hunting is allowed.

Primary Information Source: Wisner WMA website -
<http://www.wlf.state.la.us/apps/netgear/index.asp?cn=lawlf&pid=380>.

31. Photocopies of the Wisner Surface Lease Agreement, Picciola Act of Donation, and LaFourche Parish School Board minutes for August 7, 2002 (regarding the School Board's vote to enter into a cooperative agreement to incorporate certain School Board properties into Wisner WMA) are on file with the Louisiana Sea Grant Legal Program.

MISSISSIPPI

Introduction

The Mississippi Department of Marine Resources (DMR) established the Coastal Preserves Program in May 1992 to acquire and protect Mississippi's coastal habitats forever. The agency's authority to create the program is derived from the Coastal Wetlands Protection Law,¹ which establishes as state public policy the preservation of coastal wetlands in a natural state, except where alteration serves a higher public interest. "Coastal wetlands" are defined as "all publicly owned lands subject to the ebb and flow of the tide; which are below the watermark of ordinary high tide; . . . and all publicly owned submerged water-bottoms below the watermark of ordinary high tide."² Under § 49-27-65(c) of the Coastal Wetlands Protection Law, DMR was directed to identify specific coastal and private wetlands which should be set aside as estuarine sanctuaries. When the program was established in 1992, DMR identified twenty coastal preserves, including the four barrier islands of the Gulf Islands National Seashore.

DMR manages the Coastal Preserves pursuant to the guidelines of the Mississippi Coastal Program. The Program was last revised in 1988, but DMR is in the process of updating the plan. Two major regulatory tools exist to help DMR regulate coastal activities. DMR has a Wetlands Use Plan and has developed guidelines on how activities should be conducted to minimize adverse impacts.

DMR also coordinates Mississippi's activities with regard to the Gulf of Mexico GEMS program. The GEMS Program is an initiative of the EPA's Gulf of Mexico Program and the five Gulf States to provide a regional framework for the recognition and designation of ecologically important habitats in the Gulf of Mexico. Mississippi recognizes all twenty of its Coastal Preserves as GEMS.

General Programs

Oyster Reefs

DMR manages seventeen natural oyster reefs, the majority of which are located in the Mississippi Sound.³ The Mississippi Commission on Marine Resources has full jurisdiction over public and natural oyster reefs and may establish regulations for the harvesting of oysters and closing of reefs due to contamination or other public safety reasons.⁴ Oyster harvesters must possess a valid commercial or recreational license issued by DMR. Oyster harvesting is prohibited at night⁵ and harvesters must use the most efficient gear available.⁶ Primarily, oyster are harvested by dredging or tonging. Dredging for oysters is prohibited, however, in waters designated by DMR as tonging reefs.⁷

1. Miss. Code §§ 49-27-1 - 49-27-69 (2003).

2. Miss. Code § 49-27-5(a)

3. Department of Marine Resources, *Oysters available* at <http://www.dmr.state.ms.us/Fisheries/oystering.htm> (last accessed March 30, 2004)

4. Miss. Code § 49-15-36 (2003).

5. *Id.* § 49-15-41.

6. *Id.* § 49-15-37.

7. *Id.* § 49-15-39(1).

FEDERALLY-MANAGED AREAS

Grand Bay National Wildlife Refuge

Authorizing Legislation: National Wildlife Refuge System (16 U.S.C. §668dd); Emergency Wetlands Resources Act of 1986 (16 U.S.C. §§ 3901-3932)

Date of Designation: First parcel acquired on September 22, 1989

Management Agency: U.S. Fish and Wildlife Service

Management Goals: To protect one of the largest undisturbed pine savanna habitats in the Gulf coastal plain region and provide habitat for a variety of native plants and animals and for the establishment of a breeding population of endangered Mississippi sandhill cranes.

Site Description:

Located 10 miles east of Pascagoula, Mississippi and twenty miles southwest of Mobile, Alabama, the Grand Bay National Wildlife Refuge encompasses 14,060 acres in Jackson County, Mississippi and Mobile County, Alabama. The Refuge contains two distinct habitats: tidal marshes in the southern portion and pine savanna in the central and northern. A variety of threatened species, including the brown pelican and gopher tortoise, live in or visit the refuge.

The seafood industry in Mississippi and Alabama, highly dependent on the coastal marshes, is an important stakeholder in the Refuge. Coastal marshes contribute food and habitat for over ninety percent of marine fish species, including blue crab, red drum, and shrimp.

The Refuge's pine savannas present a unique management challenge. The Fish and Wildlife Service depends on controlled burns, generally conducted once every three to five years, to convert shrub lands and dense vegetation areas to savanna, thereby preventing the further loss of the valuable savanna habitats.

Regulation:

The U.S. Fish and Wildlife Service has management authority within the Refuge. General hunting and fishing regulations for the Refuge System are located at 50 C.F.R. Part 32. No overnight camping is allowed in the Grand Bay NWR; waterfowl hunting is restricted to shotguns and designated areas; and artifact, plant, and animal collection is prohibited. Motorized vehicles are prohibited, except on designated roads, as well as ATVs and horses.

Primary Information Source: Grand Bay NWR website - <http://grandbay.fws.gov/>

*Aerial View of Grand Bay National Wildlife Refuge
Courtesy of USFWS*



Gulf Islands National Seashore

Authorizing Legislation: Public Law 91-660, 84 Stat. 1967 (1971); Pub. L. 106-554, §1(a)(4). 114 Stat. 2763 (2000)

The Gulf Islands National Seashore was established by Congress in 1971 to “preserve for public use and enjoyment certain areas in Mississippi and Florida possessing outstanding natural, historic, and recreational values.” The Act also transferred the management of Horn and Petit Bois Islands from the National Wildlife Refuge System to the National Seashore. In 2000, Congress authorized the addition of Cat Island in Mississippi to the National Seashore.

Date of Designation: January 8, 1971

Management Agency: National Park Service

Management Goals: To preserve for public use and enjoyment certain areas in Mississippi and Florida possessing outstanding natural, historic, and recreational values.

Site Description:

The Gulf Islands National Seashore is comprised of offshore barrier islands with white sand beaches, historic forts and related historic structures, nature trails and adjacent open waters. The authorized acreage for the entire Gulf Islands National Seashore is 135,607.15 acres (Federal 99,246.56, Nonfederal 36,360.59). The barrier islands act as buffers to protect the mainland during storms. A unique feature of the islands is that they are constantly moving westward as currents erode sand from the eastern ends of the islands and deposit it on the western ends. The Gulf Islands National Seashore originally included three barrier islands off the coast of Mississippi; Horn, Petit Bois, and Ship Islands, and Davis Bayou on the mainland, totaling 74,999 acres. In 2000, Congress approved the acquisition by the National Park Service of Mississippi’s Cat Island.

Horn Island is a 2,763 acre barrier island in Jackson County, Mississippi. The large island has a variety of habitats including subtidal estuarine, marshes, slash pine/live oak maritime woodland, and offshore sea grass beds and mollusks reefs. The island also serves as a feeding, nesting, and overwintering ground for migratory birds. Horn Island is a known rookery for the bald eagle, black skimmer, great blue heron, least tern, and osprey. Other rare and endangered species can be found on the island, including the American alligators, loggerhead sea turtles, pelicans, peregrine falcons, and snowy plovers.

Petit Bois Island is six miles long (1,673 acres) and contains subtidal estuarine habitats, a small slash pine forest, and offshore seagrass beds and mollusk reefs. Wilson’s plovers can be found on the island in the spring and summer. Snowy plover’s can be found year-round. The island provides excellent habitat for aquatic birds, reddish egrets, least bitterns, mottled ducks, clapper rails, and common moorhens. The island serves as a rookery for black skimmers, least terns, Louisiana herons, ospreys, and sandwich terns and as a nesting site for loggerhead turtles. Other rare and endangered species can be found, including the American alligator, beach sand-squares, gray kingbird, gull-billed tern, and little brown bat.

Ship Island is eight miles long (2,051 acres) and is divided into three separate parts connected by narrow sandbars. West Ship Island is dominated by dunes and marshes. West Ship Island is also used heavily for recreation, because Fort Massachusetts, a Civil War fort, still remains on the island and daily boat trips provide easy access. East Ship Island, however, is not used much by tourists. Ship Island serves as a feeding, resting, and overwintering ground for migratory birds, is a rookery site for black skimmer, and a nesting ground for loggerhead sea turtles. A variety of other rare and endangered species use the island including the American alligator, American kestrel, American white pelican, black mangrove, brown pelican, Gulf rockrose, Gulf salt marsh snake, gulfdune paspalum, least tern, manatee, myrtle-leaf oak, northern harrier, osprey, piping plover, railroad vine, royal tern, and snowy plover.

Cat Island, a 2,802 acre barrier island and salt marsh in Harrison County, Mississippi, is made up of a variety of ecosystems, including subtidal estuarine habitat, a barrier island pond/lagoon complex with pine-oak woodland, and offshore sea grass beds and mollusk reefs. The island is an excellent feeding, resting, and overwintering ground for migratory birds. Among the rare and endangered species which can be found on Cat Island are: American alligator, American kestrel, beach sand-squares, black-crowned night heron, fan-shaped yellow-eyed grass, Gulf rockrose, Mississippi diamondback terrapin, myrtle-leaf oak, osprey, slender-leaf clammy-weed, and snowy plover. Cat Island is also a known rookery for the least tern and the black skimmer. Cat Island was privately owned until the island was transferred to the Gulf Islands National Seashore in 2000.

Regulation:

There are two levels of regulations within the Mississippi portion of the Gulf Islands National Seashore. First, the entire barrier island system is managed by the NPS as a National Seashore. In addition, Horn and Petit Bois Islands are federally-designated wilderness areas.

The regulations issued by the NPS for the National Seashore can be found at 36 C.F.R § 7.12. In general, the following types of recreation are allowed within the National Seashore: fishing, swimming, boating, and hiking. Camping is also allowed on East Ship, Horn, and Petit Bois Islands. The use of personal watercraft is prohibited. (36 C.F.R. § 3.24).

Approximately 1,800 acres of the National Seashore received heightened protection when Horn and Petit Bois Islands were designated wilderness areas in 1978 (Public Law 95-625, 92 Stat. 3489 (Nov. 10, 1978)). These islands are managed in accordance with the Wilderness Act (16 U.S.C. §§ 1131-1136), which requires the NPS to administer the area "for the use and enjoyment of the American people in such manner as will leave them unimpaired for future use and enjoyment as wilderness." A wilderness is "an area where the earth and its community of life are untrammelled by man." It is also defined as "an area of undeveloped Federal land retaining its primeval character and influence, without permanent improvements or human habitation . . ." (16 U.S.C. § 1131(c)). No commercial enterprise, permanent road, structures or installations are allowed in wilderness areas. Motorized vehicles and equipment are also prohibited. (16 U.S.C. §1133(c)).

Primary Information Sources:

Gulf Islands National Seashore website - <http://www.nps.gov/guis/>

Mississippi DMR GEMS website - <http://www.dmr.state.ms.us/Coastal%20Ecology/Gems/Gems%20Home.htm>

*Gulf Island National Seashore
Courtesy of National Park Service*





*Sandhill Cranes
Courtesy of USFWS
Photograph by John & Karen Hollingsworth*

Sandhill Crane National Wildlife Refuge

Authorizing Legislation: National Wildlife Refuge System (16 U.S.C. §668dd)

Date of Designation: November 25, 1975

Management Agency: U.S. Fish and Wildlife Service

Management Goal: To provide habitat for the endangered Mississippi Sandhill Crane, whose populations have declined due to alteration of coastal wetlands and fire suppression, which compromises the savanna habitat upon which the birds depend.

Site Description:

Located in Jackson County near Gautier and Ocean Springs, the Mississippi Sandhill Crane National Wildlife Refuge consists of 19,716 acres. The key habitat areas within the Refuge are the “wet savannas,” which occur in nutrient poor moist sandy soils. These areas have very high plant diversity with scattered trees, open grassy areas, and other herbaceous plants. The restoration and enhancement of these areas are the primary Refuge missions, as they provide crucial feeding and breeding grounds for the sandhill crane. Other habitat types occur within the refuge, including pine scrub, forested swamps, and tidal marshes.

Regulation:

Most of the interior of the Refuge is closed to the public to protect the endangered sandhill cranes. The FWS prohibits hunting, fishing, and the removal of plants, animals, and archeological material. Hiking is permitted in designated areas and the FWS leads scheduled tours to blinds overlooking crane feeding areas in January and February.

Primary Information Source: Mississippi Sandhill Crane NWR website - <http://mississippisandhillcrane.fws.gov/>

FEDERAL-STATE COOPERATIVES

Grand Bay National Estuarine Research Reserve

Authorizing Legislation: Coastal Zone Management Act of 1972 (16 U.S.C. 1461); Notice of Designation of Grand Bay NERR, Mississippi, 64 Fed. Reg. 48142 (Sept. 2, 1999).

Date of Designation: June 16, 1999

Management Agencies: Mississippi Department of Marine Resources; Office of Ocean and Coastal Resource Management, National Ocean Service, NOAA

Management Goals: To protect the unique natural habitat of Grand Bay and manage the site for long-term research, education, and compatible public uses.

Site Description:

The National Estuarine Research Reserve Program was established to develop a system of reserves representative of the nation's various estuarine environments. The Grand Bay National Estuarine Research Reserve represents the Mississippi Deltaic Subregion of the Louisianian Biogeographic Region. The Reserve consists of approximately 18,400 acres between Pascagoula and the Mississippi/Alabama state line and contains a variety of habitats, including coastal swamp, estuarine tidal marsh, oyster reefs, shallow-water open bays, wet pine savanna, and pitcher plant bogs. The eastern portion of the Reserve lies within the Grand Bay National Wildlife Refuge.

The Reserve includes both publicly and privately owned land. The Fish and Wildlife Service owns 5,000 acres associated with the Grand Bay Wildlife Refuge and the State of Mississippi owns approximately 9,100 acres. 5,100 acres are state-owned bottom lands and the other 4,000 acres lie within the Grand Bay Coastal Preserve. Funding from the Fish and Wildlife Service and the Mississippi State Tidelands Trust Fund Program is being used to purchase the remaining Reserve land in private hands.

The Reserve is a management, research, and education partnership between the state of Mississippi and the federal government. NOAA develops guidelines for the conduct of research within the System and provides funding for the operation and management of the reserves within the System. The State of Mississippi, through the DMR, manages the Reserve.

Regulation:

The Federal regulations for the National Estuarine Research Reserve System are located at 15 C.F.R. Part 921. NERRs are open to the public to the extent permitted by state and federal law. The Grand Bay NERR is open for day use activities, such as fishing, both commercial and recreational, boating, and hunting.

Primary Information Source: Grand Bay NERR website - <http://nerrs.noaa.gov/GrandBay/>



Pitcher Plant
Courtesy of NEP

State-Managed Areas

Bayou La Croix Coastal Preserve

Authorizing Legislation: Miss. Code §§ 49-27-1 - 49-27-69 (2003)

Date of Designation: May 1992

Management Agency: MS Department of Marine Resources

Management Goal: To preserve the coastal wetlands of Bay St. Louis in their natural state.

Site Description:

This 1,478 acre preserve follows the edge of a brackish marsh in Hancock County. Bayou La Croix Coastal Preserve encompasses a variety of habitats. Upper Bayou La Croix is tidally influenced, containing cypress/gum swamps, freshwater marshes, and floating aquatic vegetation. Lower Bayou La Croix is dominated by cordgrass marshes.

Regulation:

Subject to general state regulations and the rights of private property owners, traditional recreational uses are allowed, such as boating, fishing, and fowling.

Primary Information Source:

DMR GEMS website - <http://www.dmr.state.ms.us/Coastal%20Ecology/Gems/Bayou%20La%20Croix.htm>



*River Cooter
Courtesy of NOAA National Estuarine Research
Reserve Collection*

Blue-winged Teal
Courtesy of USFWS
Photograph by Dave Menke



Bayou Portage Coastal Preserve

Authorizing Legislation: Miss. Code §§ 49-27-1 - 49-27-69 (2003)

Date of Designation: May 1992

Management Agency: MS Department of Marine Resources

Management Goal: To preserve the coastal wetlands of Bayou Portage in their natural state.

Site Description:

This 1,137 acre preserve follows the edge of an estuarine marsh along Bayou Portage in Harrison County. The Preserve is dominated by needle rush and cordgrass. Bayou Portage Coastal Preserve contains both low marshes, tidally-influenced wetlands located below the mean high water mark, and high marshes, areas covered only during higher-than-average tidal events.

Regulation:

Subject to general state regulations and the rights of private property owners, traditional recreational uses are allowed, such as boating, fishing, and fowling.

Primary Information Source:

DMR GEMS website - <http://www.dmr.state.ms.us/Coastal%20Ecology/Gems/Bayou%20Portage.htm>

Bellefontaine Marsh Coastal Preserve

Authorizing Legislation: Miss. Code §§ 49-27-1 - 49-27-69 (2003)

Date of Designation: May 1992

Management Agency: MS Department of Marine Resources

Management Goal: To preserve the coastal wetlands of Bellefontaine Marsh in their natural state.

Site Description:

This 1,305 acre salt marsh and maritime forest preserve is located in Jackson County. The salt marsh and maritime forest environment resembles that of a barrier island. Within the Preserve there is a marine, mesohaline marsh/dune system which receives no major freshwater input. A marsh area is also located between a narrow beach dune system (5-10 m) and a coastal oak/pine forest. This marsh area is a patchwork of a variety of habitats, including high marshes and shallow water ponds. The plant species within the Preserve range from cordgrass to live oak trees. Much of the land within the Preserve is state-owned tidal wetlands.

The Bellefontaine Marsh Coastal Preserve is a prime waterfowl overwintering area due to bulrush-dominated marshes and shallow ponds. Several rare and endangered species can be found within the Preserve, including the American alligator, American white pelican, gray kingbird, Mississippi diamond-back terrapin, sandhill bean, and southern red cedar.

Regulation:

Subject to general state regulations and the rights of private property owners, traditional recreational uses are allowed, such as fishing, birding, and boating.

Primary Information Source:

DMR GEMS website - <http://www.dmr.state.ms.us/Coastal%20Ecology/Gems/Bellefontaine%20Marsh.htm>



*American Alligator
Photograph from ©Nova Development
Corp. Collection*

*Aerial View of Biloxi River Marshes
Courtesy of Mississippi DMR*



Biloxi River Marshes Coastal Preserve

Authorizing Legislation: Miss. Code §§ 49-27-1 - 49-27-69 (2003)

Date of Designation: May 1992

Management Agency: MS Department of Marine Resources

Management Goal: To preserve the coastal wetlands at the mouth of the Biloxi River in their natural state.

Site Description:

This 4,020 acre preserve is located in Harrison County. The Preserve boundary follows the edge of the marsh along the Biloxi River, the Tchoutacabouffa River and Bernard Bayou. A mixture of freshwater and brackish species exist within the Biloxi River marshes. The lower marshes are dominated by needlerush. The upper marshes contain tidal freshwater marsh, water-lily beds, and submerged coontail beds. Portions of the Preserve are tidal wetlands owned by the State.

The Biloxi River Marshes are excellent feeding, resting, and wintering habitat for migratory birds, including pelicans and cormorants. The Preserve is a known osprey rookery. Rare and endangered species such as the coastal shiner, mottled duck, and white pelican can be found within the Preserve.

Regulation:

Subject to general state regulations and the rights of private property owners, traditional recreational uses are allowed, such as boating, fishing, and fowling.

Primary Information Source:

DMR GEMS website -

<http://www.dmr.state.ms.us/Coastal%20Ecology/Gems/Biloxi%20River%20Marshes.htm>

Davis Bayou Coastal Preserve

Authorizing Legislation: Miss. Code §§ 49-27-1 - 49-27-69 (2003)

Date of Designation: May 1992

Management Agency: MS Department of Marine Resources

Management Goal: To preserve the coastal wetlands of Davis Bayou in their natural state.

Site Description:

This 1,410 acre preserve in Jackson County is primarily a non-forested estuarine marsh. The upper portion of Davis Bayou is a needle rush-dominated marsh, bordering a portion of the Mississippi Sandhill Crane National Wildlife Refuge. Cordgrass and salt-meadow grass are also common throughout the Preserve. The middle portion of Davis Bayou is still dominated by needle rush, but some cypress and sawgrass occurs along the upland edge and some open portions of the marsh are densely covered with spikerush. The lower portion of the Preserve contains similar wetland plants. Brown and white pelicans are commonly seen on the sand spit at the tip of the peninsula forming the southern border of Davis Bayou.

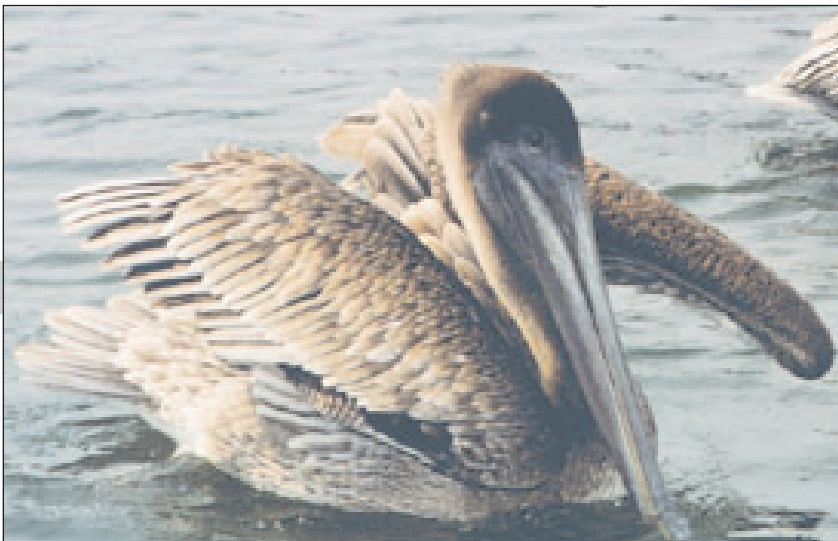
Some of the rare and endangered species that can be found in the Preserve include the alligator snapping turtle, brilliant hibiscus, brown pelican, chalky broomsedge, coastal shiner, gulf salt marsh snake, and Mississippi diamondback terrapin.

Regulation:

Subject to general state regulations and the rights of private property owners, traditional recreational uses are allowed, such as boating and fishing.

Primary Information Source:

DMR GEMS website - <http://www.dmr.state.ms.us/Coastal%20Ecology/Gems/Davis%20Bayou.htm>



*Brown Pelican
Courtesy of NOAA Restoration Center
Photograph by Louise Kane*

*Deer Island Coastal Preserve
Courtesy of Mississippi DNR*



Deer Island Coastal Preserve

Authorizing Legislation: Miss. Code §§ 49-27-1 - 49-27-69 (2003)

Date of Designation: May 1992

Management Agency: MS Department of Marine Resources

Management Goal: To preserve Deer Island in its natural state.

Site Description:

This 674 acre barrier island, located in Harrison County has white sand beaches, tall pines in the interior, and marshes on the eastern end. Deer Island serves as a feeding, resting, and overwintering ground for a variety of migratory birds, including brown pelicans and cormorants. The Preserve is also a known rookery for the great blue heron. A variety of rare and endangered species can be found on Deer Island, including the American alligator, American kestrel, American oystercatcher, loggerhead turtle, merlin, Mississippi diamondback terrapin, mottled duck, osprey, piping plover, and snowy plover.

Deer Island was originally privately owned. In 2002, the Mississippi Senate authorized the acquisition of 90 percent of the island by DMR. (MS Senate Bill 2273 (March 25, 2002)).

Regulation:

Subject to general state regulations and the rights of private property owners, traditional recreational uses are allowed, such as boating, fishing, and fowling.

Primary Information Source:

DMR GEMS website - <http://www.dmr.state.ms.us/Coastal%20Ecology/Gems/Deer%20Island.htm>

Escatawpa River Marsh Coastal Preserve

Authorizing Legislation: Miss. Code §§ 49-27-1 - 49-27-69 (2003)

Date of Designation: May 1992

Management Agency: MS Department of Marine Resources

Management Goal: To preserve the Escatawpa River marshes in their natural state.

Site Description:

This 2,826 acre preserve in Jackson County represents the lower portion of Escatawpa River, which contains sawgrass-dominated estuarine marshes. A large portion of the marsh has been degraded or lost due to pollution and saltwater intrusion. In some areas, needle rush is replacing sawgrass, which is oligohaline and can tolerate the increased salinity. The Preserve functions as a feeding, resting, and overwintering ground for migratory birds, such as pelicans, osprey, and cormorants. The marshes are also a known osprey rookery. The brilliant hibiscus is one of the rare species that can be found within the Preserve.

Regulation:

Subject to general state regulations and the rights of private property owners, traditional recreational uses are allowed, such as boating, fishing, and fowling.

Primary Information Source:

DMR GEMS website - <http://www.dmr.state.ms.us/Coastal%20Ecology/Gems/Escatawpa%20River.htm>



*Osprey Nest
Courtesy of NOAA National Estuarine
Research Reserve Collection*

Hibiscus
Photograph from
©Nova Development Corp. Collection



Grand Bay Savanna Coastal Preserve

Authorizing Legislation: Miss. Code §§ 49-27-1 - 49-27-69 (2003)

Date of Designation: May 1992

Management Agency: MS Department of Marine Resources

Management Goal: To preserve the Grand Bay Savanna Bioreserve in its natural state.

Site Description:

This 3,970 acre preserve is located in Jackson County. The Preserve is part of the Grand Bay National Estuarine Research Reserve and the Grand Bay National Wildlife Refuge. The Preserve boundaries are: the Escatawpa River and Bangs Lake Marsh in the west, Interstate 10 to the north, the Alabama-Mississippi state line in the east, and the Mississippi Sound in the south.

The Preserve protects one of the largest relatively undisturbed Gulf coastal savanna ecosystems. A variety of habitats occur within the Preserve, from open herbaceous communities to estuarine marshes. Considered a high priority site by DMR, the Preserve supports numerous orchids and insectivorous plants. Many rare and endangered species can be found within the preserve, including the American alligator, crimson pitcher-plant, the Mississippi diamondback terrapin, and yellow fringeless orchid.

Regulation:

In the portions of the Preserve which fall within the Grand Bay NERR, fishing, boating, and hunting are allowed. In the remaining areas, traditional recreational uses are allowed, such as boating, fishing, and fowling, subject to general state regulations and the rights of private property owners.

Primary Information Source:

DMR GEMS website - <http://www.dmr.state.ms.us/Coastal%20Ecology/Gems/Grand%20Bay.htm>



*Grand Bayou Coastal Preserve
Courtesy of Mississippi DMR*

Grand Bayou Coastal Preserve

Authorizing Legislation: Miss. Code §§ 49-27-1 - 49-27-69 (2003)

Date of Designation: May 1992

Management Agency: MS Department of Marine Resources

Management Goal: To preserve the coastal wetlands of Grand Bayou in their natural state.

Site Description:

This 565 acre preserve in Hancock County is primarily open brackish marshes. This marsh system represents a largely marine area with only local freshwater runoff. The narrow bayou within the Preserve is flanked by a small levee covered with groundsel bush and cordgrass near the water's edge. Some of the rare and endangered species which can be found within the Preserve include the Gulf coast toad, the river frog, and the scissor-tailed flycatcher.

A major portion of the Preserve is managed by the Mississippi Department of Wildlife, Fisheries, and Parks as Buccaneer State Park located in Waveland, Mississippi. Buccaneer State Park features a seasonal wave pool, water slide, wading pool, game room, tennis courts, basketball courts, a nature trail, an outdoor amphitheater, and a seasonal camp store. There are 50 tent sites, 149 camping pads (80 with sewer connections available) and additional sites for overflow and accommodations of large groups.

Regulation:

Fishing, hiking, camping, and other recreational activities are allowed within Buccaneer State Park. In the remaining areas of the Preserve, traditional recreational uses are allowed, such as boating, fishing, and fowling, subject to general state regulations and the rights of private property owners.

Primary Information Source:

DMR GEMS website - <http://www.dmr.state.ms.us/Coastal%20Ecology/Gems/Grand%20Bayou.htm>

Graveline Bay Coastal Preserve

Authorizing Legislation: Miss. Code §§ 49-27-1 - 49-27-69 (2003)

Date of Designation: May 1992

Management Agency: MS Department of Marine Resources

Management Goal: To preserve the coastal wetlands of Graveline Bay in their natural state.

Site Description:

This 2,330 acre preserve in Jackson County represents one of the few undisturbed estuarine bays and small tidal creeks in Mississippi. The Preserve supports a variety of habitats, including salt and brackish marshes and oyster beds. The estuarine system consists largely of needle rush and smooth cordgrass is generally only found as narrow bands along the creeks and bayous. Marshes and undeveloped beach front near the mouth of Graveline Bayou are important landing areas for neotropical migratory birds. The Mississippi diamondback terrapin and the southern red cedar are also found within the Preserve.

Regulation:

Subject to general state regulations and the rights of private property owners, traditional recreational uses are allowed, such as boating, fishing, and fowling. Commercial fishing and crabbing are also allowed within the Preserve.

Primary Information Source:

DMR GEMS website - <http://www.dmr.state.ms.us/Coastal%20Ecology/Gems/Graveline%20Bay.htm>

Diamondback Terrapin
Courtesy of NOAA
Photograph by Mary Hollinger, NODC biologist



Hancock County Marsh Coastal Preserve

Authorizing Legislation: Miss. Code §§ 49-27-1 - 49-27-69 (2003)

Date of Designation: May 1992

Management Agency: MS Department of Marine Resources

Management Goal: To preserve the Hancock County marshes in their natural state.

Site Description:

This 13,570 acre preserve in Hancock County includes all the adjoining marshlands bordering the Mississippi Sound from the Pearl River to Point Clear. This Preserve protects the second largest continuous marsh area in Mississippi. Within the marsh system, there are several low ridges and small hammocks above the mean high tide mark. Point Clear and Campbell Island are sandy areas with habitat characteristics similar to barrier islands. Islands within the marsh system support several rare plant species, including one of the rarest shrubs in the U.S., the tiny-leaved buckthorn, which is found on Cedar Island. The Pearl River and the associated river swamp are tidally influenced and contain bald-cypress, blackgum, and wild rice. The marsh areas throughout the Preserve are known for the abundant waterfowl. The following rare and endangered species can be found within the Preserve: American alligator, black-crowned night heron, Mississippi diamondback terrapin, and royal tern.

The Preserve is also home to a historically significant captured relic barrier island, Campbell Island, and a shell midden, Cedar Island, which is over 1,600 years old.

Regulation:

Subject to general state regulations and the rights of private property owners, traditional recreational uses are allowed, such as boating, fishing, and fowling. The commercial harvest of shrimp and oysters is also allowed within the Preserve.

Primary Information Source:

DMR GEMS website - <http://www.dmr.state.ms.us/Coastal%20Ecology/Gems/Hancock%20County.htm>



*Aerial View of Hancock County
Marsh Coastal Preserve
Courtesy of Mississippi DMR*

Ducks
Courtesy of NOAA National Estuarine
Research Reserve Collection



Jourdan River Coastal Preserve

Authorizing Legislation: Miss. Code §§ 49-27-1 - 49-27-69 (2003)

Date of Designation: May 1992

Management Agency: MS Department of Marine Resources

Management Goal: To preserve the coastal wetlands of the Jourdan River in their natural state.

Site Description:

This 6,423 acre preserve in Hancock and Harrison counties consists of open saline marshes from the mouth of the Jourdan River to where the land becomes forested. The upper Jourdan River is a tidal fresh-water marsh adjacent to a cypress/gum swamp. The middle and lower sections contain saltgrass, needle rush, and cordgrass. Mottled ducks and scarlet kingsnakes are found within the Preserve. The area is also a feeding, resting, and overwintering ground for migratory birds.

Regulation:

Subject to general state regulations and the rights of private property owners, traditional recreational uses are allowed, such as boating, fishing, and fowling.

Primary Information Source:

DMR GEMS website - <http://www.dmr.state.ms.us/Coastal%20Ecology/Gems/Jourdan.htm>



*Wetlands
Courtesy of NOAA National
Estuarine Research Reserve Collection*

Old Fort Bayou Coastal Preserve

Authorizing Legislation: Miss. Code §§ 49-27-1 - 49-27-69 (2003)

Date of Designation: May 1992

Management Agency: MS Department of Marine Resources

Management Goal: To preserve the coastal wetlands of the Old Fort Bayou in their natural state.

Site Description:

This 1,459 acre coastal plain preserve in Jackson County is an estuarine marsh dominated by needle rush, cordgrass and saltgrass. A variety of rare and endangered species can be found within the Preserve including the American alligator, coastal shiner, Mississippi diamondback terrapin, saltmarsh topminnow, and southern red cedar.

Regulation:

Subject to general state regulations and the rights of private property owners, traditional recreational uses are allowed, such as boating, fishing, and fowling.

Primary Information Source:

DMR GEMS website - <http://www.dmr.state.ms.us/Coastal%20Ecology/Gems/Old%20Fort%20Bayou.htm>

Pascagoula River Marsh Coastal Preserve

Authorizing Legislation: Miss. Code §§ 49-27-1 - 49-27-69 (2003)

Date of Designation: May 1992

Management Agency: MS Department of Marine Resources

Management Goal: To preserve the Pascagoula River marshes in their natural state.

Site Description:

This 11,150 acre preserve in Jackson County is a brackish, coastal marsh at the mouth of the Pascagoula River. The habitat evolves from brackish marsh in the south to tidal freshwater marsh and forested islands at the northernmost extreme of the Preserve. The estuaries serve as nursery grounds for species important to the seafood industry, as hurricane buffers, and as a pollution filter.

The Preserve contains nesting sites for the Mississippi redbelly turtle and the gopher tortoise. The marshes and adjacent areas serve as feeding, resting, and overwintering grounds for migratory birds. Some of the rare and endangered species that can be found within the Preserve include the American swallow-tailed kite, bald eagle, Florida flatcoil, gulf sturgeon, and Mississippi diamondback terrapin.

Regulation:

Subject to general state regulations and the rights of private property owners, traditional recreational uses are allowed, such as boating, fishing, and fowling.

Primary Information Source:

DMR GEMS website - <http://www.dmr.state.ms.us/Coastal%20Ecology/Gems/Pascagoula%20River.htm>

*Red-bellied Turtle
Courtesy of NOAA,
Photograph by Mary Hollinger,
NODC biologist*





*Great Blue Heron
Courtesy of NOAA
Photograph by Mary Hollinger, NODC biologist*

Round Island Coastal Preserve

Authorizing Legislation: Miss. Code §§ 49-27-1 - 49-27-69 (2003)

Date of Designation: May 1992

Management Agency: MS Department of Marine Resources

Management Goal: To preserve Round Island in its natural state.

Site Description:

This 65 acre barrier island is located in Jackson County. Round Island is mostly covered in slash pine forest with interior marshes. The Preserve is a feeding, resting, and overwintering ground for migratory birds and is the site of a great blue heron rookery. The American alligator, night-flowering ruellia, and nesting osprey can be found on the island.

Regulation:

Subject to general state regulations and the rights of private property owners, traditional recreational uses are allowed, such as boating, fishing, and fowling.

Primary Information Source:

DMR GEMS website - <http://www.dmr.state.ms.us/Coastal%20Ecology/Gems/Round%20Island.htm>

Wolf River Marsh Coastal Preserve

Authorizing Legislation: Miss. Code §§ 49-27-1 - 49-27-69 (2003)

Date of Designation: May 1992

Management Agency: MS Department of Marine Resources

Management Goal: To preserve the Wolf River marshes in their natural state.

Site Description:

This 2,426 acre preserve is located in Harrison County and contains non-forested marshes. Both brackish and tidal freshwater marshes are found within the Preserve. The freshwater marshes are dominated by sawgrass. The remainder of the marshes are dominated by needle rush with a mixture of duck-potato and big cordgrass. The Preserve is a feeding, resting, and overwintering ground for migratory birds, such as the brown pelican, double-crested cormorant, osprey, and white pelican. Numerous rare and endangered species can be found within the Preserve including the American alligator, black rail, coastal shiner, Gulf salt marsh snake, Mississippi diamondback terrapin, mottled duck, osprey, yellow rail, and southern red cedar.

In early 2003, DMR expanded the Wolf River Coastal Preserve with the purchase of 462 acres along the north shore of Bay St. Louis. The acquisition was funded by the Mississippi Secretary of State's office and a grant from the U.S. Fish and Wildlife Service.

Regulation:

Subject to general state regulations and the rights of private property owners, traditional recreational uses are allowed, such as boating, fishing, and fowling.

Primary Information Source:

DMR GEMS website - <http://www.dmr.state.ms.us/Coastal%20Ecology/Gems/Wolf%20River.htm>

Osprey
Courtesy of NOAA
Photograph by Mary Hollinger, NODC biologist



TEXAS

Introduction

The purpose of the Texas Coastal Management Program is to “preserve the natural resources of the surface estate of coastal public land.”¹ Federally approved in 1997, the Texas Coastal Management Program (CMP) is administered by the Coastal Coordination Council.² The Council is a multi-agency organization charged with adopting general rules and policies for the management of the Texas coast, reviewing agency actions, and overseeing the CMP grant programs. The Council is chaired by the Commissioner of the General Lands Office, the lead state agency. The remainder of the seats on the Council are held by representatives from the Parks and Wildlife Commission, the Texas Commission on Environmental Quality, the Texas Water Development Board, the Texas Transportation Commission, and the State Soil and Water Conservation Board. The five remaining seats are filled by the Director of Texas Sea Grant and four gubernatorial appointees. The Program is implemented by the Texas School Land Board with assistance from the General Land Office.³ The School Land Board is also authorized to lease coastal public lands to the Parks and Wildlife Department for the management of estuarine preserves.⁴

The Texas Parks and Wildlife Department manages the four Texas Coastal Preserves and coordinates Texas’s activities with regard to the Gulf of Mexico GEMS program. The GEMS Program is an initiative of the EPA’s Gulf of Mexico Program and the five Gulf States to provide a regional framework for the recognition of unique habitats or habitats ecologically significant for the production of fish, wildlife, and other natural resources in the Gulf of Mexico. TPWD nominated sixteen sites for inclusion in the GEMS program: Aransas National Wildlife Refuge, Armand Bayou Coastal Preserve, Candy Abshier Wildlife Management Area, Christmas Bay Coastal Preserve, Flower Garden Banks National Marine Sanctuary, Freeport Liberty Ship Reef Complex, Guadalupe Delta Wildlife Management Area, Laguna Atascosa National Wildlife Refuge, Matagorda Island Wildlife Management Area, Murphree Wildlife Management Area, North Deer Island Sanctuary, Padre Island National Seashore, South Bay Coastal Preserve, Sea Rim State Park, and Welder Flats Coastal Preserve.

The Texas Parks and Wildlife Department is also authorized to acquire land and water and interests in land and water for outdoor recreation areas and facilities.⁵ The Department is likewise authorized to develop, operate, and maintain such outdoor recreation acres.⁶ The TPWD may also acquire, develop, maintain, and operate wildlife management areas and may manage, along sound biological lines, wildlife and fish found on any land the department has or may acquire as a wildlife management area.⁷

General Programs

Coastal Wetlands

Texas coastal wetlands are protected by the Coastal Wetland Acquisition Act.⁸ The General Lands Office and the Parks and Wildlife Department are required to certify coastal wetlands that are most essential to the public interest. Upon certification, the Parks and Wildlife Department is authorized to acquire those lands, either by purchase or condemnation. Coastal wetlands acquired under this program are to be “managed in a manner that will preserve and protect the productivity and integrity of the land as coastal wet-

1. Texas Natural Resources Code § 33.001 (2003).

2. *Id.* § 33.201.

3. *Id.* §§ 33.011 - 33.012.

4. Texas Natural Resources Code § 33.105 (2003).

5. Texas Parks & Wildlife Code § 13.002 (2003).

6. *Id.*

7. Texas Parks & Wildlife Code § 81.401 (2003).

8. Texas Natural Resources Code §§ 33.231-33.238 (2003).

land.”⁹ In 1991, the GLO and the TPWD were required to develop a State Wetlands Conservation Plan for state-owned wetlands, which must include such items as a policy framework for achieving a goal of no net loss of state-owned wetlands, an inventory of sites, mitigation policies and guidelines, and a plan for the acquisition of wetlands.¹⁰

Texas Artificial Reef Program

Under the National Fishing Enhancement Act of 1984,¹¹ permits may be issued for the siting and construction of artificial reefs if they are managed in a manner which will enhance fishery resources; facilitate access and utilization of those resources by recreational and commercial fishermen; minimize conflicts between competing uses; minimize environmental, health, and safety risks; be consistent with international law; and not create an unreasonable obstruction to navigation.¹²

The Artificial Reef Act of 1989 authorized the Texas Parks and Wildlife Department to develop and enhance the artificial reef potential in state waters, by reviewing artificial reef permit applications, overseeing placement of artificial reefs, and issuing rules and guidelines for such reefs.¹³ The Department may also apply for a federal permit and serve as permittee for an artificial reef located in state waters if the establishment of the reef complies with Texas state law and the National Fishing Enhancement Act.¹⁴ The Texas Artificial Reef Program officially began in 1990, with the adoption of the Texas Artificial Reef Plan. The TPWD maintains and enforces this plan.

There are forty-nine permitted artificial reef sites in Texas offshore waters.¹⁵ Reefs were created from a variety of materials. Pipe structures, steel buoys, concrete “reef balls,” barges, tugboats, and tankers were sunk to provide habitat for fish and improve fishing and diving opportunities. In addition, seventy-two petroleum platforms have been donated by the oil and gas industry through the federally-approved Rigs to Reef Program.¹⁶ The Texas Artificial Reef Program commenced in the 1970’s with the state’s acquisition of twelve Liberty Ships. Five artificial reefs were created with the twelve ships: the Freeport Liberty Ship Reef, George Vancouver Liberty Ship Reef, Matagorda Island Liberty Ship Reef, Mustang Island Liberty Ship Reef, and Port Mansfield Liberty Ship Reef.

*Birds at Atkinson Island Wildlife Management Area
Courtesy of TPWD
Photograph by K. J. Lodrigue, Jr.*



9. *Id.* § 33.234.

10. Texas Parks & Wildlife Code § 14.002 (2003).

11. 33 U.S.C. §§ 2101 - 2106 (2003).

12. 33 U.S.C. § 2102 (2003).

13. Texas Parks & Wildlife Code §§ 89.002 (2003).

14. *Id.* § 89.003.

15. Correspondence from Dale Shively, Coordinator Texas Artificial Reef Program, Texas Parks and Wildlife Department to author (Sept. 23, 2003) (on file with Mississippi-Alabama Sea Grant program).

16. *Id.*

FEDERALLY-MANAGED AREAS

Anahuac National Wildlife Refuge

Authorizing Legislation: Migratory Bird Conservation Act (16 USC § 715 - 715(s)); National Wildlife Refuge System Administration Act (16 U.S.C. § 668dd)

Date of Designation: February 27, 1963

Management Agency: U.S. Fish and Wildlife Service

Management Goal: To provide wintering and migration habitat for ducks, geese, and other migratory bird species of the Central Flyway.

Site Description:

The 34,296 acre Anahuac National Wildlife Refuge is located along East Galveston Bay, approximately one and half hours east of Houston. Coastal marshes and prairies support thousands of migratory birds and abundant wildlife. American alligators, bobcats, coyotes, muskrats, nutria, and river otters are some of the common Refuge animals. Egrets, ibis, and roseate spoonbills can be seen year-round at the Refuge. The waterfowl are most common around Shoveler Pond and in the winter, visitors may see over twenty-five species of ducks. During spring migrations, the wooded areas near Shoveler Pond and Teal Slough offer the best opportunities to view migratory songbirds. Many varieties of fish live in Anahuac's waters, including bass, catfish, gar, redfish, speckled trout, and southern flounder.

Regulation:

The Fish and Wildlife Service prohibits the use of airboats, ATVs, and jet skis. Both freshwater and salt-water fishing is permitted at the Refuge in designated areas and subject to some gear restrictions. Although boats are not allowed on most inland waters, three fishing piers and two boat ramps provide fishermen access to East Bay and Oyster Bayou. Visitors with valid licenses are permitted to hunt for ducks, geese, and coots in designated areas of the Anahuac National Wildlife Refuge. Only shells containing non-toxic shot are permitted with the Refuge. Waterfowl hunters are allowed to use retriever dogs. The FWS regulations for hunting within the Refuge are located at 50 C.F.R. §§ 32.63.

Primary Information Source:

Anahuac NWR Refuge website - <http://southwest.fws.gov/refuges/texas/anahuac/index.html>



Pintails
Courtesy of USFWS
Photograph by Wyman Meinzer

Whooping Cranes
Courtesy of USFWS
Photograph by Steve Hillebrand



Aransas National Wildlife Refuge

Authorizing Legislation: Exec. Order No.7784 Establishing the Aransas Migratory Waterfowl Refuge, Texas, 3 Fed. Reg. 13 (Dec. 31, 1937); Migratory Bird Conservation Act (16 USC § 715 - 715(s))

Date of Designation: December 31, 1937

Management Agency: U.S. Fish and Wildlife Service

Management Goal: To provide habitat for and assist in the recovery of the Whooping crane.

Site Description:

Aransas National Wildlife Refuge (ANWR) comprises 58,982 acres, covering the Texas counties of Aransas, Refugio, and Calhoun. It is located 60 miles northeast of Corpus Christi. The Refuge contains many different habitats, including bluestem grasslands, live oak stands, marsh/barrier islands, redbay thickets, saltwater bays to the south and east, and tidal marshes. ANWR is a wintering grounds for the endangered Whooping Crane, and home to numerous other endangered or threatened species including the brown pelican, coastal gay-feather, Eskimo curlew, Gulf saltmarsh snake, jaguarundi, piping plover, scarlet snake, southern bald eagle, and threeflower broomweed.

The sand-covered Blackjack Peninsula makes up the majority of the refuge. ANWR hosts 850 plant species and Karankawa Indians burial grounds are scattered throughout the area. The Refuge has cooperated with area agencies to install cement mats to slow habitat-destroying erosion along the Gulf Intracoastal Waterway.

Regulation:

Hunting, fishing, wildlife observation, photography, and environmental education are allowed, subject to regulation. Special use permits are available for farming, grazing, and oil and gas activity, though only on an exceptionally limited basis.

Primary Information Source:

Aransas NWR website - <http://southwest.fws.gov/refuges/texas/aransas.html>



Roseate Spoonbill
Courtesy of USFWS
Photograph by Richard Martin

Big Boggy National Wildlife Refuge

Authorizing Legislation: Migratory Bird Conservation Act (16 U.S.C. §§ 715 - 715s (2003)); National Wildlife Refuge System Administration Act (16 U.S.C. § 668dd (2003))

Date of Designation: July 8, 1983

Management Agency: U.S. Fish and Wildlife Service

Management Goals: (1) To maintain viable habitats for waterfowl; (2) regenerate forage vegetation through the use of controlled burns, and (3) control invasive species.

Site Description:

Established to provide habitat for migratory waterfowl and other bird species, Big Boggy National Wildlife Refuge is located on the north shore of East Matagorda Bay and includes Dressing Point Island, a major rookery along the Texas coast for colonial nesting birds. At 4,526 acres, the Refuge is the smallest of the Texas Midcoast Refuges Complex.

Big Boggy National Wildlife Refuge, with San Bernard NWR and Brazoria NWR, forms the Texas Mid-Coast National Wildlife Refuge Complex. The Complex protects vital coastal wetlands serving as the end point of the Central Flyway and an entry point for migrating songbirds arriving from South and Central America. The Western Hemisphere Shorebird Reserve Network has designated the Complex an internationally significant shorebird site because the Complex houses over 100,000 shorebirds during spring migrations.

Big Boggy National Wildlife Refuge consists of flat coastal prairies, salt marshes, and two large salt-water lakes. Up to 55,000 geese and 15,000 ducks visit the Refuge annually. Big Boggy also serves as a resting place for up to 30 warbler species who use the area to regain their strength after an arduous migration across the Gulf of Mexico.

Regulation:

Big Boggy National Wildlife Refuge is open to the public daily for waterfowl hunting in accordance with applicable state and federal regulations. (50 C.F.R. § 32.7). Hunters are required to use non-toxic shot. The FWS regulates hunting on the Refuge in accordance with 50 C.F.R. §§ 32.1 - 32.72.

Primary Information Source:

Big Boggy NWR website - <http://southwest.fws.gov/refuges/texas/texasmidcoast/bigboggy.htm>

Brazoria National Wildlife Refuge

Authorizing Legislation: Migratory Bird Conservation Act (16 U.S.C. §§ 715 - 715s (2003)); National Wildlife Refuge System Administration Act (16 U.S.C. § 668dd (2003))

Date of Designation: October 17, 1996

Management Agency: U.S. Fish and Wildlife Service.

Management Goal: To conserve, manage, and restore the fish, wildlife, and plant resources of Brazoria National Wildlife Refuge.

Site Description:

Located 10 miles east of Lake Jackson, Brazoria National Wildlife Refuge is part of the Mid-Coast National Wildlife Refuge Complex, along with Big Boggy and San Bernard National Wildlife Refuges. The Complex protects vital coastal wetlands serving as the end point of the Central Flyway and an entry point for migrating songbirds arriving from South and Central America. The Western Hemisphere Shorebird Reserve Network has designated the Complex an internationally significant shorebird site because the Complex houses over 100,000 shorebirds during spring migrations.

The Refuge's 5,000 acres of native bluestem prairie represent one of the last coastal prairies in Texas. The freshwater and salt marshes, ponds, and bottomland forest support a variety of plant and animal species. Alligators, bobcats, coyotes, and otters are just some of the animals present in the Refuge. Atlantic croaker, red drum, southern flounder, and speckled trout are popular targets for fishermen.

The Refuge's coastal wetlands provide food and shelter to over 300 bird species. In the winter, more than 100,000 geese, ducks, and other avian species, including sandhill cranes, arrive at Brazoria National Wildlife Refuge. During the summer months, rosette spoonbills, mottled ducks, seaside sparrows, and many other birds nest in Brazoria fertile habitats.



Alligator
Courtesy of Brazoria National Wildlife Refuge
Photograph by R. Hickner

Regulation:

Big Slough Recreation Area is open full-time to the public for hiking and other recreational activities. ATV use and off road vehicle travel is prohibited by the FWS. Hunting of coots, ducks, geese, and mergansers is permitted in designated areas of the Refuge, but pits and permanent blinds are prohibited and permits are required in certain areas. (50 C.F.R. § 32.63). Hunters are required to use non-toxic shot. Sport fishing is permitted only on Nick's Lake, Salt Lake, Lost Lake, and along Salt Lake Weir Dike and Bastrop Bayou Public Fishing Area. (50 C.F.R. § 32.63). Bastrop Bay Area is available to fishermen and crabbers 24 hours a day, but no camping is permitted.

Primary Information Source:

Brazoria NWR website - <http://southwest.fws.gov/refuges/texas/texasmidcoast/brazoria.htm>

Flower Garden Banks National Marine Sanctuary

Authorizing Legislation: Marine Protection, Research, and Sanctuaries Act of 1972 (16 U.S.C. § 1431 - 1445c-1); An Act to Provide for the Designation of the Flower Garden Banks National Marine Sanctuary, Pub. Law 102-251, 106 Stat. 60 (1992); National Marine Sanctuaries Preservation Act (Pub. Law 104-283, 110 Stat. 3363 (1996))

Date of Designation: January 17, 1992

Management Agency: National Ocean Service, National Oceanic and Atmospheric Administration

Management Goal: To protect and manage the conservation, ecological, recreational, research, educational, historic, and esthetic resources and qualities of the East and West Flower Garden Banks and Stetson Bank.

Site Description:

The Flower Garden Banks National Marine Sanctuary is located in the northwestern Gulf of Mexico. The Sanctuary consists of three distant ocean areas: the East Bank, West Bank, and Stetson Bank. The 19.20 square nautical mile East Bank is approximately 120 nautical miles south-southwest of Cameron, Louisiana. The 22.50 square nautical mile West Bank is approximately 110 nautical miles southeast of Galveston, Texas. In October 1996, Congress expanded the Sanctuary to include the small Stetson Bank, 70 miles southeast of Galveston, Texas.

The Flower Garden reefs are the northernmost living coral reefs on the United States continental shelf. Isolated from other coral reef systems by over 300 nautical miles, the East and West Banks favor hard corals and support twenty-one species. Eight species of corals are found on the Stetson Bank, where the cooler water temperatures favor non-reef forming corals and sponges. The Sanctuary is also home to the only known oceanic brine seep in continental shelf waters in the Gulf of Mexico.

Over 300 different fish species frequent Sanctuary waters and three species of sea turtles: hawksbill, leatherback, and loggerhead. Macro-algae, crustaceans, sharks, skates, rays, and a variety of sea birds thrive in the protected waters of the Flower Gardens and Stetson Bank.

Regulation:

NOAA's regulations for the Flower Garden Banks National Marine Sanctuary are located at 15 C.F.R. §§ 922.210 - 922.123. The exploration, development, and production of oil, gas, or minerals is prohibited, except outside designated no-activity zones. Vessels may not be anchored within the Sanctuary and the discharge or deposit of materials is restricted to: chum and bait associated with conventional hook and line fishing; biodegradable effluents incidental to vessel use and in accordance with the Clean Water Act; water generated by routine vessel operations, engine exhaust; and drilling cuttings and fluids discharged from drilling activities outside no-activity zones. It is illegal to drill into or alter the seabed of the Sanctuary. Visitors must not injure, remove, or possess any coral or bottom formation, coralline algae or other plant, marine invertebrate, brine-seep biota or carbonate rock. The taking of marine mammals is permitted only in accordance with the Marine Mammal Protection Act.

The Sanctuary is open to the public for a variety of recreational opportunities, including snorkeling, SCUBA diving, and fishing. Fishing is permitted, but fishermen must rely solely on conventional hook and line gear. The possession of other types of fishing gear is prohibited, as is the possession of fish, coral, or other organism harvested with prohibited gear. It is also illegal to possess or use explosives or release electrical charges within the Sanctuary.

Primary Information Source:

Flower Garden Banks NMS website - <http://www.flowergarden.nos.noaa.gov/>

Laguna Atascosa National Wildlife Refuge

Authorizing Legislation: Migratory Bird Conservation Act (16 U.S.C. §§ 715 - 715s (2003)); National Wildlife Refuge System Administration Act (16 U.S.C. § 668dd (2003))

Date of Designation: March 29, 1946

Management Agency: U.S. Fish and Wildlife Service

Management Goals: (1) To provide habitat for migrating and wintering waterfowl; (2) to preserve endangered species, and (3) to provide public use of the Refuge for interpretive and recreational purposes.

Site Description:

The Laguna Atascosa National Wildlife Refuge (LANWR) is located in Cameron and Willacy counties, on the southern portion of the Texas Gulf Coast. This 45,187 acre refuge is the southernmost waterfowl refuge in the United States. Typical of the Texas coastal plain, the refuge is virtually flat with most elevations below five feet above sea level. LANWR is a semiarid and subtropical ecosystem, representing a biological transition zone of coastal prairies, salt flats, and low vegetated ridges supporting thick brushlands composed mainly of mesquite, ebony, cacti, and yucca. At slightly higher elevations, changes in soil moisture and salinity favor thorny-brush and savanna.

LANWR supports very high biological diversity, including over 400 species of birds. Eighty percent of the North American population of redhead ducks winter in the Lower Laguna Madre area, a portion of which adjoins the refuge. Two species of endangered cats, the ocelot and the jaguarundi, are the best known of LANWR's species. Breeding of ocelots has been documented and several den sites have been located on the refuge. Two kittens were seen in the summer of 1997.

Regulation:

The U.S. Fish and Wildlife Service has management authority within the Refuge. Areas of LANWR are open to the public for wildlife-oriented recreational activities, including wildlife observation, photography, and hiking. Camping and fishing are available in Thomas County Park located on the north end of the refuge.

Primary Information Source:

Laguna Atascosa NWR website - <http://southwest.fws.gov/refuges/texas/laguna.html>

Great-tailed Grackle
Courtesy of USFWS
Photograph by John and Karen Hollingsworth





*River Otters
Courtesy of USFWS
Photograph by Jim Leopold*

McFaddin National Wildlife Refuge

Authorizing Legislation: Migratory Bird Conservation Act (16 USC § 715 - 715(s) (2003)); National Wildlife Refuge System Administration Act (16 U.S.C. § 668dd (2003))

Date of Designation: January 2, 1980

Management Agency: U.S. Fish and Wildlife Service

Management Goal: To provide wintering and migration habitat for ducks, geese, and other migratory bird species.

Site Description:

Located near the Louisiana border, McFaddin National Wildlife Refuge is the site of one of the largest freshwater marshes on the Texas coast. This 55,000 acre refuge serves as an important resting and feeding ground for thousands of migrating and winter populations of waterfowl. Over two dozen species of ducks and thousands of geese arrive in the Refuge during the winter months. In the spring, migratory songbirds, such as buntings, grosbeaks, orioles, tanagers, warblers, and vireos, rest in the refuge after flying across the Gulf of Mexico.

McFaddin National Wildlife Refuge boasts the highest density of American alligators in the state of Texas. Bobcats, coyotes, gray foxes, musk rats, and river otters are a few of the resident mammal species at McFaddin.

Regulation:

The U.S. Fish and Wildlife Service regulates hunting on the Refuge in accordance 50 C.F.R. §§ 32.1 - 32.72. Hunting for coots, ducks, and geese is permitted in designated areas at McFaddin National Wildlife Refuge. Shotguns are the only types of firearms permitted by the Fish and Wildlife Services and non-toxic shells are required. Hunters may access the hunting areas on foot or by boat. Fishing, primarily for blue crab, catfish, flounder, and red drum, is also permitted. Boating is allowed on open water bodies, such as inland lakes and ponds.

Primary Information Source:

McFaddin NWR website - <http://southwest.fws.gov/refuges/texas/mcfaddin/index.html>

Moody National Wildlife Refuge

Authorizing Legislation: Migratory Bird Conservation Act (16 USC § 715 - 715(s) (2003)); National Wildlife Refuge System Administration Act (16 U.S.C. § 668dd (2003))

Date of Designation: Original refuge established on November 9, 1961; Transfer of fee interest to private sector and creation of easement refuge approved in 1982.

Management Agency: U.S. Fish and Wildlife Service

Management Goal: FWS does not have a management role in Moody NWR.

Site Description:

Dominated by coastal marshes, Moody National Wildlife Refuge, located near Anahuac NWR, provides essential resting areas for migrating neotropical songbirds and wintering grounds for migratory waterfowl and other bird species. Cormorants, herons, ibis, and other wading birds are seen throughout the refuge and endangered species such as bald eagles, peregrine falcons, and piping plovers are present occasionally. American alligators and river otters are common animal species.

Regulation:

Moody National Wildlife Refuge is a conservation easement refuge. The Fish and Wildlife Service owns only the development rights to the property, not the property itself. Moody NWR is not open to the public and the FWS does not have a management role. However, the FWS does monitor the area for easement violations and advises the property owners with regard to oil and gas development.

Primary Information Source: Anahuac NWR Refuge website (Moody National Wildlife Refuge does not have public access and is managed with Anahuac NWR) - <http://southwest.fws.gov/refuges/texas/anahuac/index.html>

Scarlet Tanager
Courtesy of USFWS
Photograph by Steve Maslowski



Padre Island National Seashore

Authorizing Legislation: Act to Provide for the Establishment of Padre Island National Seashore, Pub. Law. 87-712, § 1, 76 Stat. 650 (1962) (*codified at* 16 U.S.C. §§ 459d - 549d-7 (2003)).

Date of Designation: September 28, 1962

Management Agency: National Park Service

Management Goal: To save and preserve, for the purposes of public recreation, benefit, and inspiration, a portion of the diminishing seashore of the United States that remains undeveloped

Site Description:

Located near Corpus Christi, Texas, Padre Island National Seashore encompasses 130,454 acres of barrier islands, the longest section of undeveloped barrier island in the world. The designation of Padre Island as a National Seashore protects complex dune systems, coastal plains, and the Laguna Madre, a rare hypersaline lagoon. A variety of ecosystems are present within the Seashore, including grassland, marshes, mud flats, and 65.5 miles of Gulf beach.

Padre Island National Seashore is located along the Central Flyway, a major avian migration route, and is an important resting, feeding, and overwintering ground for over 350 bird species. Large numbers of colonial nesting waterbirds, including Foster's terns, great blue herons, great egrets, laughing gulls, snowy egrets, white-faced ibis, and white pelicans, breed within the Seashore's boundaries. Numerous species of shorebirds also forage within Padre Island National Seashore. Approximately 125 species of neotropical birds migrate through the park during the fall and spring migrations.

As part of the vast Laguna Madre, Padre Island National Seashore provides nursery habitat to a variety of fish species. Two longshore currents meet near the center of the island, bringing nutrients and fish to the area. Kemp's Ridley and Loggerhead sea turtles come onshore the Seashore's islands to lay their eggs.

In addition to providing food, water, and shelter to a multitude of diverse wildlife, the islands are a mecca for tourists. The Seashore receives an average of 900,000 visitors per year.

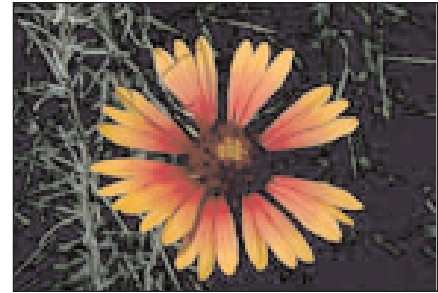
Regulation:

The Seashore is open to the public for a variety of recreational activities, including fishing, swimming, camping, and sailing. The National Park Service's regulations for the Padre Island National Seashore are located at 36 C.F.R. § 7.75. In general, hunting is prohibited. However, waterfowl hunting is allowed within the Laguna Madre during open seasons and in designated areas as prescribed by state and federal officials. Some wildlife hunting is also authorized by state and federal officials. Commercial fishing is prohibited. The Park Service also prohibits the use of personal watercraft. (36 C.F.R. 3.24).

One of the unique regulatory aspects of Padre Island National Seashore is oil and gas development. When the area was designated a National Seashore in 1962, Congress reserved the mineral rights for the original owners of the land, the State of Texas and private individuals. The National Park Service regulations, therefore, "provide for the occupation and use of so much of the surface of the land and waters within the Padre Island National Seashore - for all purposes reasonably incident to the mining and removal of oil and gas minerals . . . - in a manner that will be consistent with development of recreational facilities . . . and the area's natural features and values." (36 C.F.R. 7.75(h) (2003)). Along with several other state and federal agencies, the Park Service regulates the development of oil and gas within the Seashore to minimize the impact on the natural and cultural resources of the area.

Primary Information Source:

Padre Island National Seashore website - <http://www.nps.gov/pais/>



Indian Blanket Flower
Courtesy of USFWS
Photograph by Gary M. Stolz

San Bernard National Wildlife Refuge

Authorizing Legislation: Migratory Bird Conservation Act (16 U.S.C. §§ 715 - 715s); National Wildlife Refuge System Administration Act (16 U.S.C. § 668dd)

Date of Designation: November 7, 1968

Management Agency: U.S. Fish and Wildlife Service

Management Goal: To provide wintering and migration habitat for ducks, geese, and other migratory bird species.

Site Description:

San Bernard National Wildlife Refuge, with Big Boggy NWR and Brazoria NWR, forms the Texas Mid-Coast National Wildlife Refuge Complex. The Complex protects vital coastal wetlands serving as the end point of the Central Flyway and an entry point for migrating songbirds arriving from South and Central America. The Western Hemisphere Shorebird Reserve Network has designated the Complex as internationally significant shorebird site because the Complex houses over 100,000 shorebirds during spring migrations.

Located ten miles west of Freeport, the 24,454 acres San Bernard NWR is dominated by salt marshes and coastal prairies. The shoreline supports oyster reefs and populations of many species of shorebirds, including heron, ibis, sandpipers, and stilts. Inland waters support nesting pairs of laughing gulls and royal terns. Rarer species such as brown pelicans, roseate spoonbills, and yellow rails are sometimes spotted. American alligators, bobcats, and coyotes are a few of the mammals present in the refuge.

Regulation:

The U.S. Fish and Wildlife Service regulates hunting on the Refuge in accordance 50 C.F.R. §§ 32.20 - 32.72. Waterfowl hunting for coots, ducks, geese, and mergansers is permitted in San Bernard National Wildlife Refuge. The use of blinds is prohibited, non-toxic shot is required, and the public hunting areas may only be accessed by boat. ATVs may not be used within the Refuge. Saltwater fishing and crabbing is allowed in designated areas in accordance with applicable state and federal regulations.

Primary Information Source:

San Bernard NWR website - <http://southwest.fws.gov/refuges/texas/texasmidcoast/sanbernard.htm>

Coyote
Courtesy of USFWS





*Blue Crab
Courtesy of NOAA
Photograph by Mary Hollinger, NODC biologist*

Texas Point National Wildlife Refuge

Authorizing Legislation: Migratory Bird Conservation Act (16 USC § 715 - 715(s)); National Wildlife Refuge System Administration Act (16 U.S.C. § 668dd)

Date of Designation: December 21, 1978

Management Agency: U.S. Fish and Wildlife Service

Management Goal: To provide wintering and migration habitat for ducks, geese, and other migratory bird species.

Site Description:

Located fifteen miles south of Port Arthur adjacent to Sabine Pass, the 8,900 acre Texas Point National Wildlife Refuge is an important resting and feeding ground for migratory waterfowl and songbirds. The habitats of Texas Point range from salt marsh to wooded uplands. Over two dozen species of ducks and thousands of geese arrive in the Refuge during the winter months. In the spring, migratory songbirds, such as buntings, grosbeaks, orioles, tanagers, warblers, and vireos, rest in the refuge after flying across the Gulf of Mexico. A variety of species live in the refuge, including American alligators, bobcats, coyotes, gray foxes, musk rats, and river otters.

Regulation:

The U.S. Fish and Wildlife Service regulates hunting on the Refuge in accordance 50 C.F.R. §§ 32.1 - 32.72. Hunting for coots, ducks, and geese is permitted in designated areas. Shotguns are the only types of firearms permitted by the Fish and Wildlife Service and non-toxic shells are required. Hunters may access the hunting areas on foot or by boat. Fishing, primarily for blue crab, catfish, flounder, and red drum, is also permitted. Boating is allowed on open water bodies, such as inland lakes and ponds.

Primary Information Source:

Texas Point NWR website - <http://southwest.fws.gov/refuges/texas/mcfaddin/index.html>

FEDERAL AND STATE COOPERATIVES

Coastal Bend Bay National Estuary Program

Authorizing Legislation: National Estuary Program (33 U.S.C. §1330); Texas Estuaries Act (Texas Water Code §§ 5.601 - 5.609)

In 1999, Texas recognized the significance of Texas estuaries and the cooperative efforts of the National Estuary Program. Approved NEP implementation programs are eligible to receive state funding through a grant from the Texas Natural Resource Conservation Committee (TNRCC). The TNRCC is the lead agency for the implementation of the approved Comprehensive Conservation and Management Plans developed by the management conferences. In 2002, the TNRCC changed its name to the Texas Commission on Environmental Quality.



*Coastal Bend Bay National Estuary
Courtesy of TPWD
Photograph by K. J. Lodrigue, Jr.*

Date of Designation: 1992

Management Agency: Texas Commission on Environmental Quality; Coastal Bend Bays and Estuaries Program Office

Management Goals: (1) To promote healthy and diverse economic, social, and ecological systems; (2) to facilitate public action; (3) to achieve equity among competing uses, and (4) to seek and implement sustainable solutions.

Site Description:

Originally referred to as the Corpus Christi Bay Estuary, the Coastal Bend Bay National Estuary Program now encompasses three of the seven Texas estuaries - the Aransas, Corpus Christi, and upper Laguna Madre. The Coastal Bend "bay system" extends from Mesquite Bay in San Antonio Bay to Baffin Bay in upper Laguna Madre. The Coastal Bend Bay NEP project area covers over 11,500 square miles and includes all of the water, submerged habitat, wetlands, and upland environments of a 12-county area known as the Coastal Bend. The watershed's total area is 65,987 square kilometers. The habitats of the Coastal Bend Bay NEP include barrier islands, bays, coastal prairies, pastureland, and a hypersaline lagoon, one of only three in the world.

The Coastal Bend Bays Plan, a comprehensive conservation and management plan, was issued in August 1998. The Plan identifies six focus areas: freshwater resources, habitat and living uses, human uses, such as tourism, maritime commerce and dredging, public education and outreach, and water and sediment quality. There are Action Plans for each area and a guidance document, the *Implementation Strategy for the Coastal Bend Bays Plan*. The priority issues for the Coastal Bend Bays include altered freshwater inflows into bays and estuaries, wetland loss, water quality degradation, and bay debris.

Regulation:

The Coastal Bend Bay and Estuaries Program office has no regulatory authority. The Coastal Bend Bays Plan is implemented by the Texas Commission on Environmental Quality in coordination with other state agencies with regulatory authority over coastal lands and resources, such as the General Land Office and the Texas Parks and Wildlife Department.

Primary Information Source: Coastal Bend Bay NEP website - <http://www.cbbep.org/>

Galveston Bay National Estuary Program

Authorizing Legislation: National Estuary Program (33 U.S.C. §1330); Texas Estuaries Act (Texas Water Code §§ 5.601 - 5.609)

In 1999, Texas recognized the significance of Texas estuaries and the cooperative efforts of the National Estuary Program. Approved NEP implementation programs are eligible to receive state funding through a grant from the Texas Natural Resource Conservation Committee (TNRCC). The TNRCC is the lead agency for the implementation of the approved Comprehensive Conservation and Management Plans developed by the management conferences. In 2002, the TNRCC changed its name to the Texas Commission on Environmental Quality.



*Dolphins
Courtesy of NOAA*

Date of Designation: 1988

Management Agencies: Texas Commission on Environmental Quality; The Galveston Bay Council

Management Goal: To protect and restore the health of the Galveston Bay while addressing threats to the Bay from development, pollution, and overuse.

Site Description:

The area of the Galveston Bay watershed is approximately 63,306 square miles. The Bay yields over 11 million pounds of shellfish every year. The open waters and estuaries of Galveston Bay account for almost one-third of the state's commercial fishing income and one-half of the state expenditures for recreational fishing. Encompassing industrial areas, including the Port of Houston, and densely populated residential areas, Galveston Bay is threatened by increasing development, pollution, and tourism. The highest priority management issue, however, is habitat loss.

The habitats of the Galveston Bay Estuary range from coastal wetlands and seagrass meadows to prairies and woodlands. There are also barrier islands and oyster reefs. These diverse habitats support a wide variety of species, including the American alligator, bald eagle, brown pelican, dolphins, green sea turtle, Kemp's Ridley sea turtle, leatherback sea turtle, loggerhead sea turtle, peregrine falcon, and piping plover.

Issued in 1994, the Galveston Bay Plan focuses on the lower watersheds of five Texas counties - Brazoria, Chambers, Galveston, Harris, and Liberty. The Plan identifies three main action areas: habitat destruction, competing human uses, and water and sediment quality.

Regulation:

The Galveston Bay Council has no regulatory authority. The Galveston Bay Plan is implemented by the Texas Commission on Environmental Quality in coordination with other state agencies with regulatory authority over coastal lands and resources, such as the General Land Office and the Texas Parks and Wildlife Department.

Primary Information Source: Galveston Bay NEP website - <http://gbep.tamug.edu/>

STATE-MANAGED AREAS

Armand Bayou Coastal Preserve and Nature Center

Authorizing Legislation: Texas Natural Resources Code § 33.105

Date of Designation: 1993

Management Agencies: Texas Parks and Wildlife Division; Texas General Land Office

Management Goals: (1) To protect the ecological conditions of the Preserve and (2) to achieve and maintain optimum water quality and quantity of instream freshwater for human health, biological needs, and aesthetic quality.

Site Description:

This 319 acre coastal preserve is located along Armand Bayou in Harris County. Armand Bayou is a tributary of Clear Creek and a tidewater stream component of the Galveston Bay estuarine complex. The complex encompasses some 2,800 acres and is composed of coastal prairies, riparian woodlands, fresh and saltwater lakes, marshes, aquatic grasses, loblolly pines, several varieties of nearly endangered plants, and polluted inland streams. The acidic, sandy clay soil provides little drainage, but does support one of the most extensive growths of coastal tallgrass prairie in the lower Galveston Bay watershed. The Preserve serves many sedentary and migratory species as valuable wildlife habitat in the middle of highly developed lands.

The Preserve is home to many endangered and threatened species, including the alligator snapping turtle, American alligator, bald eagle, brown pelican, osprey, and paddlefish, along with substantial native prairie populations, including big bluestem, little bluestem, Indiangrass, and little bluestem-brownseed paspalum. Armand Bayou is also a breeding ground for birds, mammals, reptiles, and amphibians, as well as a nursery for finfish and shellfish. Many Native American archaeological sites are also found within the Preserve.

Regulation:

The General Land Office leases the public lands of the South Bay to the Texas Parks and Wildlife Department for management as a preserve. Research, educational activities, recreation, fishing, crabbing, hiking, bird watching, and some minimal logging and hay cutting, as part of prairie restoration efforts, are allowed, subject to state and federal regulations. No boats with gasoline powered motors are allowed.

Primary Information Source:

Texas Coastal Preserves website - <http://www.glo.state.tx.us/coastal/coastpres.html>



Osprey with Prey
Courtesy of TPWD
Photograph by Ann Brinly



*Atkinson Island Wildlife Management Area
Courtesy of TPWD
Photograph by K. J. Lodrigue, Jr.*

Atkinson Island Wildlife Management Area

Authorizing Legislation: Texas Parks & Wildlife Code § 81.401 (2003).

Date of Designation: Land donated in 1990.

Management Agency: Texas Parks and Wildlife Department

Management Goals: To preserve the wildlife of Atkinson Island.

Site Description:

Atkinson Island Wildlife Management Area is located on the southern end of Atkinson Island in Galveston Bay, east of Morgan's Point and the Houston Ship Channel. Three miles long and less than a half-mile wide, Atkinson Island contains forty acres composed mainly of hackberry and yaupon, ninety acres of brackish marsh, and twenty acres of dredged spoils from a channel dredging project.

A variety of waterfowl and migrating raptors and neotropical songbirds use Atkinson Island to feed, rest, and breed, including horned larks, Nelson's sharp-tailed sparrows, and white-tailed kites. In September, large numbers of hummingbirds arrive in the area.

Regulation:

Atkinson Island WMA is open year round, but the area may only be accessed by boat. Visitors over 17 must possess one of the following: an Annual Public Hunting Permit, a Limited Public Use Permit, or a Texas Conservation Passport. Fishing is permitted with a valid license and the park is open to the public for wildlife observation.

Primary Information Source:

Atkinson Island WMA website - http://www.tpwd.state.tx.us/wma/find_a_wma/list/?id=57

Boca Chica State Park

Authorizing Legislation: Texas Parks & Wildlife Code § 13.002 (2003).

Date of Designation: May 1994

Management Agency: Texas Parks and Wildlife Department

Management Goals: To protect the geological structure and the flora and fauna of the area in its natural state.

Site Description:

This 1,055 acre state park is located in southeastern Cameron County near Brownsville. Boca Chica State Park includes the northern end of Boca Chica Island, the western shore of Boca Chica Bay, the southern shore of South Bay, and a flat upland area, Mesa De Gavilan. A wide range of habitats are present, from salt-tolerant vegetative areas to newly-forming sand dunes. The South Bay is an important nursery area for fish and shellfish and dolphins frequent the adjacent waters of the Gulf of Mexico. A variety of rare and endangered birds are found within the park, including brown pelicans, ospreys, reddish egrets, roseate spoonbills, and snowy plovers. The park is also a wintering ground for peregrine falcons and piping plovers.

Regulation:

General regulations for visitor activities within Texas state parks are located at 31 Texas Admin. Code § 59.134. The TPWD permits birding, fishing, swimming, and surfing on the Del Mar and Boca Chica Beaches, adjacent to Boca Chica State Park. Vehicles are prohibited on all roads and public beaches within the park boundaries.

Primary Information Source:

Boca Chica State Park website - <http://www.tpwd.state.tx.us/park/boca/>

Western Grebe with Chicks
Courtesy of National Resources Conservation Service
Photography by Tim McCabe





*Wild Rose Thicket
Courtesy of TPWD
Photograph by K. J. Lodrigue, Jr.*

Candy Cain Abshier Wildlife Management Area

Authorizing Legislation: Texas Parks & Wildlife Code § 81.401 (2003).

Date of Designation: 1989

Management Agency: Texas Parks and Wildlife Department

Management Goals: To preserve the coastal prairie and oak woodlot habitat vital to wildlife, with a special emphasis on enhancing habitat utilized by neotropical migratory birds.

Site Description:

This 208 acre wildlife management area is located approximately seventy miles southeast of Houston along Galveston and Trinity Bays. The habitat of the area is mostly coastal plain with several freshwater ponds and a 60 acre live oak stand.

A variety of migratory birds and raptors, such as red-tail hawks, stop at Candy Cain Abshier WMA during their annual migrations. Visitors can annually see broad-wing hawks, doves, hummingbirds, kestrels, merlins, Mississippi kites, peregrine falcons, swallows, and wood storks. The rare Texas diamondback terrapin can also be found in the WMA.

Five petroleum leases and one cattle grazing lease exist within the area. The TPWD uses the cattle grazing as a management tool for the control of woody vegetation.

Regulation:

The area is open to the public year-round. Bird watching, research, and public tours are common visitor activities. Visitors over 17 must possess one of the following: an Annual Public Hunting Permit, a Limited Public Use Permit, or a Texas Conservation Passport.

Primary Information Source:

Candy Cain Abshier WMA website - http://www.tpwd.state.tx.us/wma/find_a_wma/list/?id=36

Christmas Bay Coastal Preserve

Authorizing Legislation: Texas Natural Resource Code § 33.105

Date of Designation: 1993

Management Agencies: Texas Parks and Wildlife Division; Texas General Land Office

Management Goal: To protect the unique coastal areas and fragile biological communities, including important colonial bird nesting sites, of Christmas Bay.

Site Description:

Christmas Bay Coastal Preserve is located in the southwestern portion of Galveston Bay adjacent to Brazoria National Wildlife Refuge. Also known as Oyster Bay, the Preserve encompasses 5,660 acres in Texas' Galveston Bay estuarine complex. It is separated from the Gulf of Mexico only by Follets Island. The Preserve is made up of many freshwater and salt marshes, prairies, tidal flats and marshes, rare sea-grasses like turtle-grass, and significant smooth cordgrass populations. Its location adjacent to Brazoria National Wildlife Refuge helps to protect Christmas Bay's better-than-average water quality. The Bay averages less than four feet in depth, and the ample seagrasses provide valuable nursing and feeding areas for a plethora of species, as well as reducing soil erosion. The large areas of widgeon-grass are important for providing food for the Bay's baby ducks. Three of the four Christmas Bay seagrass species are found nowhere else in Galveston Bay.

142 bird types are recognized in the Preserve, as well as fifty-one species of fish, twenty-three types of crustaceans, fifty-two types of mollusks, and many varieties of algae. The Attwater greater prairie chicken, brown pelican, bald eagle, and interior least tern are a few of the endangered species that call Christmas Bay home, as do the threatened wood stork, white-tailed hawk, alligator snapping turtle and timber rattlesnake. Both resident and migratory waterfowl and shore-birds rely on the resources and habitats of Christmas Bay.



Attwater's Prairie Chicken
Courtesy of USFWS
Photograph by Gary Halvorsen

Regulation:

The General Land Office leases the public lands of the South Bay to the Texas Parks and Wildlife Department for management as a preserve. Fishing, boating, waterfowl hunting, education, bird watching, scientific research, light recreation, and the construction of private and public fishing cabins are allowed uses in the Preserve, subject to state and federal regulation. No trawling, netting, shell fishing, or boats with motors are allowed in the seagrass beds. Wheeled and tracked vehicles are also prohibited on marshes and submerged grassbeds. No permanent waterfowl blinds are allowed. Mineral, oil and gas exploration and development is also allowed, subject to special use restrictions.

Primary Information Source:

Texas Coastal Preserves website - <http://www.glo.state.tx.us/coastal/coastpres.html>



*Fulvous Whistling Duck
Courtesy of USFWS
Photograph by Milton Friend*

D. R. Wintermann Wildlife Management Area

Authorizing Legislation: Texas Parks & Wildlife Code § 81.401 (2003).

Date of Designation: 1995

Management Agency: Texas Parks and Wildlife Department

Management Goal: The area is managed primarily to allow students and landowners to observe wetlands management in action.

Site Description:

This 246 acre wildlife management area is located in Wharton County. The 37 acres of wetlands located within the D. R. Wintermann WMA were created using water from the Colorado River. The remaining land is mainly coastal prairie. Dominant vegetation includes bluestem, duck potato, Indian grass, marsh elder, paspalum, smartweed, spike rush, and switchgrass.

A variety of migratory bird species are attracted to the WMA, including bald eagles, doves, ibis, sand-hill cranes, and teal. Black-bellied whistling, fulvous, and mottle ducks nest in the WMA.

Regulation:

The general public has limited access to D. R. Wintermann WMA. Visitors can schedule wildlife observation sessions with the area manager to learn more about the wetlands and the species which rely on them. Visitors over 17 must possess one of the following: an Annual Public Hunting Permit, a Limited Public Use Permit, or a Texas Conservation Passport.

Primary Information Source:

D.R. Wintermann WMA website - http://www.tpwd.state.tx.us/wma/find_a_wma/list/?id=44

Freeport Liberty Ship Reef Complex

Authorizing Legislation: National Fishing Enhancement Act (33 U.S.C. § 2102 (2003)); Texas Parks & Wildlife Code §§ 89.001 - 89-061 (2003)

Date of Designation: 1976

Management Agency: Texas Parks and Wildlife Department

Management Goals: To promote, develop, maintain, monitor, and enhance the artificial reef potential in state waters and federal waters adjacent to Texas to enhance fishery resources and commercial and recreational fishing (and diving) opportunities.

Site Description:

This .5 square mile "hard bottom artificial reef structure" off the coast of Texas near Brazoria County consists of six different reefs constructed from a variety of materials. The six reefs are the *V. A. Fogg*, a sunken ship, HL&P Reef, consisting of 300 one ton coal-ash blocks, Star Reef, made up of six rigs, Conoco/Galveston County Reef, a pipe structure, and two Liberty Ship Reefs, the *B. F. Shaw* and *William F. Allen*. The Mineral Management Service holds the lease to the lands upon which the artificial reefs are located and the Texas Parks and Wildlife Department serves as the permittee for the reef under the National Fisheries Enhancement Act.

The water depth at the reef is 100-102 feet. The artificial reef structure provides substrate for natural encrusting organisms. The Freeport Liberty Ship Reef Complex supports a biota and reef fish community similar to those of natural reefs. The Complex has become a breeding/nursing habitat for reef fish, including red snapper, grouper, gag/scamp/rock hind, butterflyfish, cocoa damsel, juvenile blue angel, french angel, amberjack, blue runner, and triggerfish. It also serves as an important feeding area for whale sharks, sharks, turtles, and dolphins.

Regulation:

The Texas Parks and Wildlife Department monitors the area and controls placement of materials into the reef. The materials used to build the Liberty Ship Reef Complex are owned by the state of Texas. The reef complex is open for diving, fishing, and photography. Commercial fishing for red snapper is permitted within the area. Federal fishing regulations also apply.

Primary Information Source:

Texas GEMS - Freeport Liberty Ship Reef Complex website - <http://www.tpwd.state.tx.us/texaswater/txgems/freeport/freeport.phtml>

French Angelfish
Courtesy of OAR/National Undersea
Research Program (NURP)
Photograph by Reese



Galveston Island State Park

Authorizing Legislation: Texas Parks & Wildlife Code § 13.002 (2003).

Date of Designation: Land acquired in 1969; Park opened in 1975

Management Agency: Texas Parks and Wildlife Department

Management Goals: (1) To manage and conserve the natural and cultural resources of Texas, and (2) to provide hunting, fishing and outdoor recreation opportunities for the use and enjoyment of present and future generations.

Site Description:

Galveston Island State Park is located on the western end of Galveston Island. Encompassing 2,013 acres, this state park offers over four miles of mountain biking and hiking trails. Within the boundaries of the park, opportunities abound for wildlife viewing. A variety of wading and shore birds, such as egrets, sandpipers, skimmers, and spoonbills, can be seen in the park. Other wildlife includes armadillos, coyotes, marsh rabbits, raccoons, and tree frogs. The waters surrounding the western end of Galveston Island teem with black drum, croaker, flounder, redfish, sandtrout, and spotted seatrout.

Regulation:

General regulations for visitor activities within Texas state parks are located at 31 Texas Administrative Code § 59.134. The TPWD permits camping, fishing, and swimming in Galveston Island State Park.

Primary Information Source:

Galveston Island State Park website - <http://www.tpwd.state.tx.us/park/galvesto/>



Armadillo
Courtesy of USFWS
Photograph by John and Karen Hollingsworth

*Canada Geese and Broods
Courtesy of USFWS*



Goose Island State Park

Authorizing Legislation: Texas Parks & Wildlife Code § 13.002 (2003).

Date of Designation: Land acquired from 1931-1935

Management Agency: Texas Parks and Wildlife Department

Management Goals: (1) To manage and conserve the natural and cultural resources of Texas and (2) to provide hunting, fishing and outdoor recreation opportunities for the use and enjoyment of present and future generations.

Site Description:

Surrounded by Aransas and St. Charles Bays at the southern tip of Lamar Peninsula, this 321.4 acre state park is home to the "Big Tree." The official website for Goose Island State Park states that the "Big Tree," a live oak (*Quercus virginiana*), may be over 1,000 years old. With a circumference of thirty-five feet and height of forty-four feet, the "Big Tree" is thought to be one of the biggest in the United States.

Goose Island State Park encompasses a variety of habitats, including live oak stands, marshes, meadows, open bays, and shoreline. Due to its location along the great Central Flyway, bird watching is the main attraction at the park. During winter months, American white pelicans, common loons, double-crested cormorants, gadwalls, geese, goldeneyes, shovelers, teals, and whooping cranes frequent the waters around the park. Some of the birds who nest within the park boundaries are: clapper rails, egrets, herons, inca doves, scissor-tailed flycatchers, and spoonbills.

Regulation:

General regulations for visitor activities within Texas state parks are located at 31 Texas Administrative Code § 59.134. Swimming is prohibited in Goose Island State Park. The TPWD permits camping, fishing, wildlife observation, and boating, both motorized and non-motorized.

Primary Information Source:

Goose Island State Park website - <http://www.tpwd.state.tx.us/park/galvesto/>



Indigo Bunting
Courtesy of USFWS
Photograph by Dave Menke

Guadalupe Delta Wildlife Management Area

Authorizing Legislation: Texas Parks & Wildlife Code § 81.401

Date of Designation: Land purchased from 1985-1994.

Management Agency: Texas Parks & Wildlife Department

Management Goals: (1) To develop and manage habitats for indigenous and migratory species, with special emphasis on waterfowl, and (2) to expand and improve the WMA facilities to accommodate intensive research and management activities to gain a complete understanding of coastal ecosystem functions.

Site Description:

In 1997, the Texas Parks and Wildlife Department identified the wetlands of the Guadalupe Delta as a high priority for acquisition. The 6,594 acre Guadalupe WMA is located in Calhoun, Refugio, and Victoria counties. The WMA is basically a freshwater marsh subject to flooding from the Guadalupe River and its adjacent bayous. It consists of three units, Mission Lake Unit (4,447.62 acres), Hynes Bay Unit (1007.72 acres), and San Antonio River unit (700 acres).

The Guadalupe Delta has formed a diverse environment of lakes, fresh, brackish, and saline marshes, and riparian areas. Riparian areas along the numerous small bayous form "corridor forests" of American elm, black willow, cedar, hackberry, green ash, and pecan and provide excellent forage area for neotropical songbirds. White-faced ibis, white-tailed hawks, and peregrine falcons can be observed foraging in the WMA.

The estuary at the upper end of San Antonio Bay provides valuable spawning and nursery habitat for Atlantic croaker, blue crab, brown shrimp, red drum, spotted seatrout, white shrimp, and other marine species.

Regulation:

Recreational hunting and fishing are allowed in the WMA, except in Zone C of the Guadalupe River Unit, on a seasonal basis. Hiking and wildlife viewing is permitted, as well as commercial freshwater fishing and crabbing.

Primary Information Source:

Guadalupe Delta WMA website - http://www.tpwd.state.tx.us/wma/find_a_wma/list/?id=37

J.D. Murphree Wildlife Management Area

Authorizing Legislation: Texas Parks & Wildlife Code § 81.401 (2003)

Date of Designation: Big Hill Unit - 1958; Lost Lake Unit - 1983; Hillebrandt Unit - 1987; Salt Bayou Unit - 1997

Management Agency: Texas Parks and Wildlife Department

Management Goal: To provide suitable winter waterfowl habitat

Site Description:

The 12,267 acre J.D. Murphree Wildlife Management Area, located to the southwest of Port Arthur, Texas in Jefferson County, is part of the Texas Chenier Plain, the westernmost geologic delta of the Mississippi River. The WMA consists of three distinct units: the Big Hill Unit (8,312 acres), the Hillebrandt Unit (591 acres), and the Salt Bayou Unit (11,231 acres). The Lost Lake Unit (4,074) is encompassed by the Salt Bayou Unit.

The WMA is a highly diverse coastal wetland community, with freshwater, intermediate, brackish, and saline wetlands. The freshwater wetlands, unfortunately, support expanding populations of exotic and noxious wetlands plants. The WMA is also a nesting and breeding area for black-bellied, fulvous, mottled, and whistling ducks. Numerous mammals make their homes in the WMA including the American alligator, armadillo, bobcat, cotton rat, coyote, eastern cottontail, mink, muskrat, nutria, opossum, raccoon, rice rat, river otter, striped skunk, swamp rat, and white-footed mouse. The American alligator is the key predator in the area.

The Big Hill Unit is primarily a freshwater marsh divided by levees. Bass, bream, catfish, and crappie are the predominant fish species. Unlike the Big Hill Unit, the Salt Bayou Unit does not have levees. Flounder, redfish, and speckled trout are the primary fish species in that unit. Blue crabs are also plentiful.

Regulation:

The WMA is a wildlife viewing area on the Great Texas Coastal Birding Trail. In general, the Texas Parks and Wildlife Department permits public hunting for alligator, gallinule, rail, snipe, and waterfowl. Waterfowl hunts are scheduled by the TPWD and the construction of permitted blinds is prohibited. Use of dogs is discouraged because of alligator activity. An Annual Public Hunting Permit is required to fish within the WMA, unless all activity is confined to a boat within navigable waters. No commercial fishing or crabbing is permitted in the WMA, except in Keith Lake. Airboats are prohibited in the Murphree WMA, except in Taylors, Hildebrandt, Big Hill, and Blind Bayous, and on Keith Lake. On the Salt Bayou Unit, airboats cannot have a motor of more than ten horsepower and may only be used by permitted waterfowl hunters.

The Big Hill Unit is open to hunters on designated days and to fishermen during daylight hours from March 1 to August 31. Big Hill Bayou is open to fishermen until October 31. The Unit is open to the public for wildlife viewing on any non-hunting day. The Hillebrandt Unit is open to hunters on designated days and for wildlife viewing on non-hunting days. The Salt Bayou Unit is open to hunters on designated days and to fishermen during daylight hours from March 1 to August 31. Keith Lake, Johnson Lake and Salt Bayou are open to fishing 24 hours a day year-round. The unit is also open to the public for wildlife viewing on any non-hunting day.

Camping is available at adjacent Sea Rim State Park and Sabine Pass Battleground State Park and Historic Site.

Primary Information Source:

J.D. Murphree WMA website - http://www.tpwd.state.tx.us/wma/find_a_wma/list/?id=40

Gadwall Duck with Duckling
Courtesy of USFWS
Photograph by Dave Menke



Laguna Madre

Authorizing Legislation: Because it encompasses such a large area, the Laguna Madre has no specific legislative designation.

Date of Designation: N/A

Management Agency: While no agency has authority over the entire area, the U.S. Fish and Wildlife Service manages the National Wildlife Refuges located with the Laguna Madre and the Texas General Lands Office owns and manages some areas.

Management Goal: (1) To control the significant quantities of agricultural pesticides and other environmental contaminants from the Arroyo Colorado; (2) to control oil spills from barges and address threats posed by the high volume of commercial activities taking place on Laguna Madre; and (3) to control and prevent the accidental release of exotic shrimp and effluent from commercial shrimp farms.

Site Description:

Located near Cameron, Willacy, Kenedy, Kleberg, and Nueces counties, the Lagune Madre is a large body of shallow water separating Padre Island from the South Texas mainland. It covers 609 square miles consisting of estuarine and coastal marine systems. Approximately 20,000 acres of the Laguna Madre fall within Padre Island National Seashore.

A 110-mile long saltwater lagoon, a unique ecological community, exists in Laguna Madre. The lagoon supports marshes and a variety of seagrasses. Shoal grass is the key species of the bay habitat. It is the principal winter food for ducks, particularly redheads, and serves as a spawning, foraging, and nursery area for fish and shrimp. Broad killifish, pinfish, skipjacks, and striped mullet forage in the shoal grass areas. Mollusks and crustaceans are also plentiful.

The Laguna Madre is an important overwintering, feeding, resting, and breeding ground for many aquatic and migratory birds. Shallow areas of the Laguna Madre provide excellent feeding grounds for winter duck populations which can number in the thousands.

Regulation:

Recreational and commercial fishing is permitted within Laguna Madre. The Texas General Lands Office operates fishing cabins as well as camping sites on the spoil islands.

Primary Information Source:

Laguna Madre Coastal Preserve website -
<http://www.tpwd.state.tx.us/texaswater/txgems/lagmadr/lagmadr.phtml>

Lower Neches Wildlife Management Area

Authorizing Legislation: Texas Parks & Wildlife Code § 81.401 (2003)

Date of Designation: Land donated from 1987 - 1993

Management Agency: Texas Parks and Wildlife Department

Management Goal: The area is managed for wildlife and public recreation.

Site Description:

Located near Bridge City, Lower Neches WMA consists of 7,888 acres of coastal plains surrounding rivers, bayous, and the shoreline. Sabine Lake forms the eastern border of the WMA and the Neches River in the north. Intermediate and brackish marshes dominated the area. Man-made canals and ditches criss-cross the area. Lower Neches WMA is divided into three units: the Adam Bayou Unit, the Nelda Stark Unit, and the Old River Unit.

In October, monarch butterflies migratory through Lower Neches WMA. In the Nelda Stark Unit, common wildlife include migratory waterfowl, colonial waterbirds, shorebirds, alligators, hawks, minks, muskrats, raccoons, and river otters. Alligators, minks, muskrats, raccoons, and river otters are also present in the Old River Unit.

Regulation:

The TPWD requires all visitors over 17 years old to possess one of the following permits: an Annual Public Hunting Permit, a Limited Public Use Permit, or a Texas Conservation Passport. The Old River Unit is open to the public year-round, but the use of airboats and horses is prohibited. The TPWD permits fishing for black drum, flounder, and redfish with a valid license.

The TPWD manages the Nelda Stark Unit as a wildlife sanctuary. In this unit, airboats are permitted only in non-vegetative areas and the use of ATVs and horses is prohibited. During hunting season, portions of the Nelda Stark Unit are closed to non-hunters.

Primary Information Source:

Lower Neches WMA website - http://www.tpwd.state.tx.us/wma/find_a_wma/list/?id=58

Lower Neches Wildlife Management Area
Courtesy of TPWD
Photograph by K. J. Lodrigue, Jr.



Mad Island Wildlife Management Area

Authorizing Legislation: Texas Parks & Wildlife Code § 81.401 (2003)

Date of Designation: Land purchased in 1987-1992

Management Agency: Texas Parks and Wildlife Department

Management Goal: To preserve coastal wetlands for wintering waterfowl.

Site Description:

Located on the upper Texas coast, Mad Island Wildlife Management Area is 7,200 acres of fresh to brackish marshland with some coastal prairie environments. The Gulf of Mexico and the Gulf Intercoastal Waterway serve as the southern boundary of the WMA.

Among the many species found within the WMA are alligators, armadillos, bobcats, mottled ducks, sandhill cranes, and swamp rabbits. Numerous birds may be spotted including comorants, doves, egrets, herons, ibis, quail, sandhill cranes, and warblers.

Regulation:

Mad Island is only open to the public during hunting season and scheduled wildlife tours. The TPWD schedules special hunts for alligators, feral hogs, and waterfowl. Camping and open fires are prohibited.

Primary Information Source:

Mad Island WMA website - http://www.tpwd.state.tx.us/wma/find_a_wma/list/?id=39



Marsh
Courtesy of TPWD
Photograph by K. J. Lodrigue, Jr.

Matagorda Island Wildlife Management Area and State Park

Authorizing Legislation: Texas Parks & Wildlife Code §§ 22.201, 81.401 (2003)

Matagorda Island Wildlife Management Area and State Park was established by § 22.201 of the Texas Parks & Wildlife Code under the authority of the Texas Parks and Wildlife Department. The Park consists of all land, including tideland, submerged land, and beaches, on Matagorda Island in Calhoun County owned or acquired by the TPWD.

Date of Designation: December 1984

Management Agency: Texas Parks and Wildlife Department

Management Goals: To provide habitat for wildlife and plants and public recreational opportunities.

Site Description:

The 38 mile long Matagorda Island, located off the central coast of Texas at Port O'Connor, is separated from the Texas mainland by San Antonio and Espiritu Santo Bays. 43,893 acres of the Island is public land (24,893 - state, 19,000 - federal), while the remaining 11,500 acres is privately owned. The Matagorda Island State Park encompasses approximately 7,325 acres.

The Island's primary habitats are gulf dunes, island prairies, sand dunes, sand flats, and salt marshes. Dominate vegetation includes marshhay cordgrass, dewberry vine, and macartney rose. Trees are scarce, although honey mesquite, Mexican persimmon, and salt cedar are present. Wildflowers, including white daises and prickly pear, bloom in abundance during spring months.

The Island is a foraging area for deer and neo-tropical migratory birds and a breeding and nursery ground for fish. Endangered species are present throughout the Wildlife Management Area, including the brown pelican, piping plover, whooping crane, and five species of sea turtles. Wild turkeys are stocked by the U.S. Fish and Wildlife Service.



Wild Turkeys
Courtesy of USDA NRCS, Photograph by Lynn Betts

Regulation:

Matagorda Island is jointly managed by the TPWD and the FWS. In 1983, all state lands on Matagorda Island were added to the National Wildlife Refuge System and all federal lands became part of the Matagorda Island WMA and State Park. (Pub. Law 98-66, 97 Stat. 368 (Aug. 4, 1983)). Under a 1990 Memorandum of Understanding, the TPWD has primary responsibility for public use and the FWS is responsible for wildlife and habitat management.

A variety of recreational activities are permitted on the Island, including camping, fishing, hiking, hunting, and swimming.

Primary Information Sources:

Matagorda Island State Park website - <http://www.tpwd.state.tx.us/park/matagisl/> and

Matagorda Island WMA website - http://www.tpwd.state.tx.us/wma/find_a_wma/list/?id=48



Raccoon
Courtesy of USFWS
Photography by John and Karen Hollingsworth

Mustang Island State Park

Authorizing Legislation: Texas Parks & Wildlife Code § 13.002 (2003).

Date of Designation: Texas acquired the land for Mustang Island State Park in 1972; Park opened to the public in 1979

Management Agency: Texas Parks and Wildlife Department

Management Goals: (1) To manage and conserve the natural and cultural resources of the park and (2) to provide hunting, fishing and outdoor recreation opportunities.

Site Description:

This 3,954 acre state park located in Nueces County includes five miles of beaches. Mustang Island is a coastal barrier island boasting sand dunes with an average height of fifteen to twenty feet. The dunes are stabilized primarily by beach panic grass, sea oats, and soilbind morning glory. Although a small coyote population is present on the Island, small mammals, such as opossums, pocket gophers, rabbits, raccoons, and spotted ground squirrels, dominate. Numerous shorebirds and waterfowl frequent the park, as well as migratory species of hawks and songbirds. Hundreds of fish species are present in the waters surrounding Mustang Island.

Regulation:

General regulations for visitor activities within Texas state parks are located at 31 Texas Administrative Code § 59.134. A variety of recreational activities are permitted at Mustang Island State Park, including camping, fishing, hiking, and swimming.

Primary Information Source:

Mustang Island State Park website - <http://www.tpwd.state.tx.us/park/mustang/>

North Deer Island Sanctuary

Authorizing Legislation: None, the Sanctuary's only designation is as a Texas GEMS

Date of Designation: N/A

Management Agency: N/A

Management Goal: To prevent disturbance of nesting sites to ensure breeding success of the wide variety of birds that inhabit the Sanctuary.

Site Description:

This 10 acre natural island, located in West Galveston Bay, is privately-owned. North Deer Island habitats range from salt marshes to uplands. The practice of depositing dredged spoils on the island has resulted in two types of upland communities. Dredged spoils have been deposited on approximately one-third of the island. These areas support cactus, cedars, and grasses. The unspoiled uplands are dominated by cactus, lantana, mesquite, mulberry, paloverde, and prickly ash.

The island is an important nesting area for colonial waterbirds, including reddish egrets, roseate spoonbills, and white-faced ibis and a wintering ground for migratory waterfowl. Between 10,000 to 30,000 pairs of birds nest annually on North Deer Island. The salt marshes on the island's southeastern side serves as nursery areas for fish and shellfish.

Regulation:

Two-thirds of North Deer Island is owned by the National Audubon Society and the Houston Audubon Society. These non-profit organizations have designated North Deer Island as a bird sanctuary. Houston Audubon Society posts "No Trespassing" signs and removes predators. One-third of North Deer Island, however, remains in private hands.

The general public, does have access to North Deer Island. Fishing is permitted in the surrounding waters subject to state and federal regulations. Although not permitted to dock and walk around, bird watchers may approach the island by boat to view the many species of waterbirds. In addition, educational field trips to the island are available during nesting season.

Primary Information Source:

North Deer Island Sanctuary website -
<http://www.tpwd.state.tx.us/texaswater/txgems/northde/northde.phtml>

*Prickly Pear Cactus
Courtesy of USFWS
Photograph by Gary M. Stolz*



Peach Point Wildlife Management Area

Authorizing Legislation: Texas Parks & Wildlife Code § 81.401 (2003).

Date of Designation: 1987

Management Agency: Texas Parks and Wildlife Department

Management Goals: To provide for sound biological conservation of the wildlife resources within the central coast of Texas for the common benefit of the public, through habitat management, research activities, facility improvement, and public outreach and recreation.

Site Description:

This 11,938 acre wildlife management area is located between the San Bernard and Brazos Rivers near Jones Creek in Brazoria County. Representative of the Gulf Coast Prairies and Marshes Ecoregion, Peach Point WMA contains a variety of environments including marshes and tidal flats. Trees dominate the entrance area, with stands of live oak, water oak, pecans, hack berries, elms, and Chinese tallow. The brackish marshes support cordgrass, saltgrass, and bulrushes. Freshwater ponds contain sedges, millet, senna bean, and cattails. The coastal prairies support Gulf cordgrass, seacoast bluestem, little bluestem, switchgrass, tallow trees, and pepper vines.

A variety of bird species depend on Peach Point for food and shelter, including Canada geese, gadwalls, pintails, shovelers, snow geese, white-fronted geese, and widgeons. Mottled ducks are the primary game species. Saltwater intrusion is a significant problem at Peach Point because the area's natural drainage patterns were altered to improve transportation and flood control and to construct the Gulf Intercoastal Waterway.

Regulation:

Portions of Peach Point WMA are open year-round for public recreation. Fishing and waterfowl and feral pig hunting is permitted with the proper permits. Camping is available at the Bryon Beach Unit.

Primary Information Source:

Peach Point WMA website - http://www.tpwd.state.tx.us/wma/find_a_wma/list/?id=41



*Snow Geese and Sandhill Cranes
Courtesy of USFWS
Photograph by Gary M. Stolz*

*Avocets Landing
Courtesy of USFWS*



Redhead Pond Wildlife Management Area

Authorizing Legislation: Texas Parks & Wildlife Code § 81.401 (2003)

Date of Designation: 1990's

Management Agency: Texas Parks and Wildlife Department

Management Goal: To protect freshwater wetland habitat for wintering waterfowl and other avian species.

Site Description:

Redhead Pond Wildlife Management Area is located in Flour Bluff, Nueces County near Corpus Christi. Although the entire WMA is classified as a wetland, the only permanent water feature is a 7.8 acre pond, which is an important freshwater source of the area's wildlife. Along the center of the pond are small islands.

As one of the viewing sites along the Great Texas Coastal Birding Trail, bird watching opportunities abound. Black-crowned night herons, common goldeneyes, grebes, hooded mergansers, and redheads are a few of the species which frequent the area. Wading and shorebirds include avocets, black-necked stilts, egrets, herons, roseate spoonbills, and sandpipers.

Regulation:

Redhead Pond WMA is open to the public for wildlife observation, hunting, and fishing. Visitors over 17 must possess one of the following: an Annual Public Hunting Permit, a Limited Public Use Permit, or a Texas Conservation Passport.

Primary Information Source:

Redhead Pond WMA website - http://www.tpwd.state.tx.us/wma/find_a_wma/list/?id=42



*Sea Rim State Park
Courtesy of TPWD
Photograph by K. J. Lodrigue, Jr.*

Sea Rim State Park

Authorizing Legislation: Texas Parks & Wildlife Code § 13.002 (2003)

Date of Designation: Property acquired in 1973; officially opened to the public in 1977

Management Agency: Texas Parks and Wildlife Department

Management Goal: To restore and maintain the diversity and productivity of the natural plant and animal communities.

Site Description:

Sea Rim State Park is located in Jefferson County, ten miles west of Sabine Pass. The 15,109 acre park extends west to McFaddin Beach and east to Minyak Corporation Road. Sea Rim State Park is divided into two units: the D. Roy Harrington Beach Unit and the Marshlands Unit. The Beach Unit contains two miles of open beach primitive camping and six miles of open beaches for recreation. The Marshlands Unit is accessible only by boat. The Unit has primitive camping platforms and observation blinds. Fishing is permitted during the day.

Sea Rim State Park contains 5.2 miles of coastline. Along 2.2 miles of that coast, tidal marshes directly meet the Gulf waters. The remaining three miles are made up of sand beaches separated from marshlands by small dunes. The Marshlands Unit is comprised of tidal saltmarshes and shallow lakes. American alligators, bald eagles, bobcats, coyotes, river otters, shrimp, crabs, and a variety of sport fish are found within the Park. Sea Rim State Park is located along the Greater Texas Coastal Birding Trail and is a critical resting and feeding area for migratory birds traveling the Central Flyway, including buntings, flycatchers, grosbeaks, swallows, vireos, and warblers. The mottled duck is the only avian species that remains in the park year-round.

Regulation:

Sea Rim State Park is open to the public for a variety of recreational activities. Camping, fishing, hiking, kayaking, and swimming are all permitted. Subject to certain restrictions, waterfowl hunting is permitted during open seasons designated by the TPWD. (Texas Parks & Wildlife Code § 62.0631; 31 Texas Admin. Code. § 59-.201 - 59.215).

Primary Information Source: Sea Rim State Park website - <http://www.tpwd.state.tx.us/park/searim/>

South Bay Coastal Preserve

Authorizing Legislation: Texas Natural Resources Code § 33.105

Date of Designation: February 26, 1986

Management Agency: Texas Parks and Wildlife Division

Management Goal: To protect the unique coastal areas and fragile biological communities, including important colonial bird nesting sites, of South Bay.

Site Description:

Part of the vast Laguna Madre, South Bay is the southernmost bay in Texas. Located near Port Isabel in Cameron County, this 3,400 acre Coastal Preserve is bordered by the riparian edge of the Rio Grande in the south, the Brownsville Ship Channel in the north, and Brazos Island in the east.

A wide variety of habitat types are found within the Preserve. Algal flats, black mangrove swamps, oyster reefs, seagrass beds, and tidal sand and mud flats all contribute to the productivity of South Bay, home to forty-one species of finfish and nine species of shellfish. The South Bay ecosystem supports the largest concentration of oysters in the Lower Laguna Madre. The area also serves as an important feeding, resting, and overwintering ground for migratory and resident bird species, such as brown pelicans, cormorants, gadwalls, green-winged teals, redheads, and white pelicans.

Regulation:

The General Land Office leases the public lands of the South Bay to the Texas Parks and Wildlife Department for management as a preserve. The Coastal Preserve is open to the public for fishing, hunting, and recreation. Commercial oyster harvesting is also permitted in the Preserve.

Primary Information Source:

Texas Coastal Preserves website - <http://www.glo.state.tx.us/coastal/coastpres.html>



*Immature Brown Pelicans
Courtesy of USFWS
Photography by John Turner*

Tony Houseman Wildlife Management Area

Authorizing Legislation: Texas Parks & Wildlife Code § 81.401 (2003)

Date of Designation: Land purchased in the mid-1990's

Management Agency: Texas Parks and Wildlife Department

Management Goals: The area is managed for wildlife and public recreation.

Site Description:

Tony Houseman WMA is located in Orange County on the Louisiana border where the Sabine River joins the Gulf of Mexico. 80 percent of the WMA is covered with bald cypress - water tupelo swamp. Sandbanks support pines and water oaks. Numerous canals are present throughout the WMA from industrial logging activities. Common species include feral hogs, mallards, minks, rabbits, raccoons, squirrels, white-tailed deers, and wood ducks. Raptors, neo-tropical songbirds, and wading birds are also numerous.

Regulation:

Tony Houseman WMA is open to the public for camping, fishing, hiking, and hunting. Visitors over 17 must possess one of the following: an Annual Public Hunting Permit, a Limited Public Use Permit, or a Texas Conservation Passport. Hunting is permitted for waterfowl, feral pigs, and small game. Fishing is permitted with a valid license. A 600-foot boardwalk provides easily accessible wildlife viewing opportunities. The TPWD prohibits the use of ATVs, airboats, and horses.

Primary Information Source:

Tony Houseman WMA website - http://www.tpwd.state.tx.us/wma/find_a_wma/list/?id=38



*Tony Houseman Wildlife Management Area
Courtesy of TPWD
Photograph by K. J. Lodrigue, Jr.*

*Whooping Cranes
Courtesy of USFWS*



Welder Flats Coastal Preserve

Authorizing Legislation: Texas Natural Resource Code § 33.105

Date of Designation: June 7, 1988

Management Agency: Texas Parks and Wildlife Department

Management Goals: To protect the unique coastal areas and fragile biological communities, including important colonial bird nesting sites, of Welder Flats.

Site Description:

Located on the eastern shore of middle San Antonio Bay in Calhoun County near Aransas National Wildlife Refuge, this 1,480 acre preserve contains submerged aquatic vegetation, saltwater marshes, mud flats, ponds, and lagoons. The estuary ranges in elevation from sea level to 1.2 meters. Thirty-nine marine species are present in the Welder Flats ecosystem. The Preserve provides vital habitat for a variety of wading and shore birds, including the endangered whooping crane.

Regulation:

The General Land Office leases the public lands of Welder Flats to the Texas Parks and Wildlife Department for management as a preserve. The Coastal Preserve is open to the public for fishing, hunting, and recreation.

Primary Information Source:

Texas Coastal Preserves website - <http://www.glo.state.tx.us/coastal/coastpres.html>



Spiderwort
 Courtesy of TPWD
 Photograph by K. J. Lodrigue, Jr.

Welder Flats Wildlife Management Area

Authorizing Legislation: Texas Parks & Wildlife Code § 81.401 (2003).

Date of Designation: 1988

Management Agency: Texas Parks and Wildlife Department

Management Goals: (1) To maintain the ecological integrity and (2) to manage the natural resources of Welder Flats.

Site Description:

The Welder Flats Wildlife Management Area consists of 1480 acres of submerged coastal wetlands in San Antonio Bay. The WMA extends approximately 1.5 miles along the Victoria Barge Canal and 4.5 miles along the Gulf Coast Intercoastal Canal. The WMA's dominate vegetation includes shoal grass and wideon grass. A variety of waterfowl and wading and shore birds can be found within the WMA, including the endangered whooping crane which is present in December and January. Welder Flats WMA is designated critical habitat for the whooping crane, because of the birds' use of the area as a wintering ground. San Antonio Bay is stocked with red drum and spotted sea trout from state fish hatcheries and provides food and shelter to many bird species, such as pelicans, ducks, and geese.

Regulation:

The TPWD manages the state-owned tidelands under a lease from the Texas General Lands Office. The Welder Flats WMA is open year-round, but may only be accessed by boat. Saltwater fishing is permitted with a valid license and saltwater stamp.

Primary Information Source:

Welder Flats WMA website - http://www.tpwd.state.tx.us/wma/find_a_wma/list/?id=43