# Weeks Bay
# National Estuarine Research Reserve

# Management Plan

January 2007

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Acknowledgements

This management plan has been developed in accordance with NOAA regulations, including all provisions for public involvement. It is consistent with the congressional intent of Section 315 of the Congressional Zone Management Act of 1972, as amended, and provisions of the Alabama Coastal Area Management Program.

The revision of the 1998 Weeks Bay National Estuarine Research Reserve Management Plan was made possible through the cooperative efforts of the Weeks Bay NERR staff, the Weeks Bay Advisory Committee, the Alabama Department of Conservation and Natural Resources State Lands Division-Coastal Section, and National Oceanic and Atmospheric Administration Estuarine Reserves Division staff.

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This publication is available for downloading at http://nerrs.noaa.gov/WeeksBay/welcome.html.

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**List of Abbreviations**

| | |
|---|---|
| ACAMP | Alabama Coastal Area Management Plan |
| ACES | Alabama Cooperative Extension System |
| ADAI | Alabama Department of Agriculture and Industries |
| ADCNR | Alabama Department of Conservation and Natural Resources |
| ADECA | Alabama Department of Economic and Community Affairs |
| ADEM | Alabama Department of Environmental Management |
| ADID | Baldwin County Wetland Advanced Identification |
| AL | University of Alabama |
| ARP | Area for Preservation and Restoration |
| AU | Auburn University |
| AUMERC | Auburn University Marine Extension and Research Center |
| AWW | Alabama Water Watch |
| BCC | Baldwin County Commission |
| BCBE | Baldwin County Board of Education |
| BMP | Best Management Practice |
| CAC | Weeks Bay Watershed Project Citizens Advisory Committee |
| CDMO | Central Data Management Office |
| CICEET | Cooperative Institute for Coastal & Estuarine Environmental Technology |
| COE | U.S. Army Corps of Engineers |
| CRP | Conservation Reserve Program |
| CTP | Coastal Training Program |
| CWA | The Clean Water Act |
| CZM | Coastal Zone Management |
| CZARA | Coastal Zone Act Reauthorization Amendments |
| CZMA | Coastal Zone Management Act |
| DISL | Dauphin Island Sea Lab (see also Marine Environmental Sciences Consortium) |
| EIS | Environmental Impact Statement |
| ERD | Estuarine Reserve Division |
| EPA | Environmental Protection Agency |
| EQIP | Environmental Quality Incentives Program |
| ESA | Endangered Species Act |
| FDA | Food and Drug Administration |
| GAPC | Geographic Area of Particular Concern |
| GEMS | Gulf Ecological Management Sites |
| GIS | Geographical Information System |
| GOMF | Gulf of Mexico Foundation |
| GPS | Global Positioning System |
| GRF | Graduate Research Fellowship |
| GSA | Geological Survey of Alabama |
| MASG | Mississippi-Alabama Sea Grant |
| MBA | Migratory Bird Treaty Act |

| | |
|---|---|
| MESC | Marine Environmental Sciences Consortium (see also Dauphin Island Sea Lab) |
| MMPA | Marine Mammal Protection Act |
| MOU | Memorandum of Understanding |
| NCP | National Contingency Plan |
| NEP | National Estuary Program |
| NEPA | National Environmental Policy Act |
| NERR | National Estuarine Research Reserve |
| NERRS | National Estuarine Research Reserve System |
| NMFS | National Marine Fisheries Service |
| NMSP | National Marine Sanctuary Program |
| NOAA | National Oceanic and Atmospheric Administration |
| NOS | National Ocean Service |
| NPDES | National Pollutant Discharge Elimination System |
| NPS | Non-Point Source (Pollution) |
| NRCS | Natural Resources Conservation Service |
| OCRM | Office of Ocean and Coastal Resource Management |
| ONRW | Outstanding National Resource Water |
| OSDS | Onsite Sewage Disposal Systems |
| RCD | Resource Conservation and Development |
| SAV | Submerged Aquatic Vegetation |
| SLD | State Lands Division |
| SWCD | Soil and Water Conservation District |
| SWMP | System-wide Monitoring Program |
| TIC | Technical Interagency Committee |
| TNC | The Nature Conservancy |
| USCG | United States Coast Guard |
| USDA | United States Department of Agriculture |
| USFWS | United States Fish and Wildlife Service |
| WHIP | Wildlife Habitat Incentives Program |
| WMA | Watershed Management Authority |
| WRP | Wetlands Reserve Program |
| WBWP | Weeks Bay Watershed Project |

# Executive Summary

In 1972, Congress passed the Coastal Zone Management Act (CZMA). In the CZMA, and in subsequent re-authorizations, Congress officially recognizes that resources of the coastal zone are of national significance, and are rapidly disappearing. The CZMA also recognizes the interrelationships between uplands and tidelands -- the "coastal zone" was defined in the Act as including all uplands "to the extent necessary to control shore lands." Section 315 of the CZMA establishes the National Estuarine Research Reserve System (NERRS). Under the System, healthy estuarine ecosystems which typify different regions of the U.S. can be designated and managed as sites for long-term research, and used as a base for estuarine education and interpretation programs. The System also provides a framework through which management approaches, research results, and techniques for estuarine education and interpretation can be shared with other programs. The NERRS was established by the CZMA to help address the problem of current and potential degradation of coastal resources brought about by increasing and competing demands for these resources. Prior to establishment of the NERR system, the management of estuarine resources was inadequate, and scientific understanding of estuarine processes necessary for improving management was increasing slowly and without national coordination. There were no ready mechanisms to detect trends in estuarine conditions, or to provide information on these trends, the overall significance of estuaries, and possible solutions to the growing problems. The NERRS is one part of the solution for maintaining healthy coastal resources. NERRS research, education, and resource stewardship programs are tools that can help fill gaps in knowledge, and guide decision-making so that our estuaries can sustain multiple uses over the long term.

In February, 1986, Weeks Bay was officially designated as the nation's 16th National Estuarine Sanctuary. In April, 1986, concomitant with 1986 amendments, the name of the Sanctuary was changed to the Weeks Bay National Estuarine Research Reserve (WBNERR). The Alabama Department of Conservation and Natural Resources (ADCNR), State Lands Division (SLD), Coastal Section is the cooperating state agency. The mission of the Weeks Bay National Estuarine Research Reserve is to:

> Provide leadership to promote informed management of estuarine and coastal habitats through scientific understanding and encourage good stewardship practices through partnerships, public education, and outreach programs.

Weeks Bay is an estuarine system, located along the eastern shore of Mobile Bay in Baldwin County between the major metropolitan areas of Mobile, Alabama and Pensacola, Florida. The Weeks Bay National Estuarine Research Reserve (here after referred to as the Reserve) contains 6,525 acres of land and water habitat which supports a wide variety of plant and animal species.

The Reserve can be characterized as representative of the greater Mobile Bay system and the Mississippi delta subcategory of the Louisiana biogeographic province. It is one of five Reserves in the Gulf of Mexico region. Habitats included in the Reserve are tidal wetlands and swamps, salt marshes, aquatic grass beds, maritime and palustrine upland forests, a pitcher plant bog and benthic estuarine sediments. It is an environment of great importance to the eastern Mobile Bay System, and possesses numerous species of plants and animals, including rare, threatened and endangered species such as the brown pelican eastern indigo snake, and Alabama red-bellied turtle. It is a highly productive area that serves as a nursery for commercially important shellfish and finfish, as well as a diverse array of other flora and fauna. Weeks Bay acts as a filter for pollutants, provides shoreline stabilization, and offers recreational and educational opportunities for the people of this coastal area.

Located in south Baldwin County 30 miles southeast of Mobile, the Reserve (Figure 6 ) is accessible by U.S. Highway 98 and County Roads 17, 27,and 1, as well as by boat. Bon Secour National Wildlife Refuge is located to the south of the Reserve. The Reserve includes five tracts of State-owned land: the Foley tract (178 acres) on the northeast side of Weeks Bay on the eastern shore of Fish River; the Ogburn tract (157 acres) directly south of the Foley parcel extending approximately to the mouth of

the Magnolia River; the Swift tract (615 acres) approximately 1.5 miles south of the mouth of Weeks Bay; and the Damson tract (360 acres) south of Highway 98 which extends along the western shore of Weeks Bay, and Viewpoint Park (2 acres) at the mouth of Weeks Bay.

A boundary expansion is herein documented that will include eight additional tracts acquired by the State of Alabama totaling 333 acres. These include the Fish River Marina tract (22 acres) at Fish River Bridge on U.S. Highway 98, Turkey Branch tract (20 acres) adjacent to and west of County Road 27, Harris tract (64 acres) and Worchester tract (49 acres), adjacent to each other located on Fish River, the Riverlands tract (90 acres) located south of Keeney Road, the Safe Harbor tract (81 acres) across U.S. Highway 98 from the Weeks Bay Interpretive Center, the Lott tract (3 acres) at the end of County Road 1, and the Meador tract (4 acres) at the County Road 32 bridge.

Every reserve is required by the Federal NERR regulations, 15 C.F.R. Part 921.13 to have an ERD-approved management plan that is updated every 5 years. A management plan is important for a variety of reasons: it provides a framework for the direction and timing of a Reserve's programs; it allows Reserve managers to assess how successfully a Reserve's goals have been met and to determine necessary changes in direction; and, it is used to guide Section 312 programmatic evaluations of the Reserve. The plan must describe the Reserve's goals, objectives, and management issues, and must identify the Reserve's intended strategies or actions for research, education/interpretation, public access, construction, acquisition, and resource preservation, restoration, and manipulation. Staff roles in each of these areas must also be addressed.

The Weeks Bay management plan provides a framework to guide the activities of the Reserve. The Reserve management goals and objectives are long-term. The management strategies used to achieve these goals are implemented in 2-5 year periods. Unanticipated changes in funding levels may require adjustments in the programs. Successful implementation of this plan depends substantially on the cooperation and coordination among the government agencies and the private sector. Roles and responsibilities for implementation are assigned to the key agencies and staff participating in the Reserve management.

Three goals have been established to guide management, program development, and implementation. They are to protect and improve habitat and biological diversity within the boundary of the Reserve, improve decisions affecting estuarine and coastal resources, and promote education, stewardship, and scientific research focusing on estuarine ecosystems.

The management plan was developed in accordance with NOAA regulations and follows the established NERR management plan structure and content. It is consistent with the Congressional intent of Section 315 of the Coastal Zone Management Act of 1972, as amended, and the provisions of the Alabama Coastal Area Management Program.

This plan establishes the programmatic goals of Weeks Bay Reserve consistent with the mission to provide leadership and promote informed management of coastal habitats. This is accomplished through facilitating scientific research, encouraging stewardship, and addressing the community needs of education and outreach. Through partnerships and staff activities exemplifying energy and enthusiasm, the Reserve will strive to accomplish the vision of promoting Weeks Bay as a healthy and flourishing estuary.

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## I. INTRODUCTION

THE NATIONAL ESTUARINE RESEARCH RESERVE SYSTEM:
CREATION OF THE NATIONAL ESTUARINE RESEARCH RESERVE SYSTEM

The Coastal Zone Management Act.

In 1972, Congress passed the Coastal Zone Management Act (CZMA). In the CZMA, and in subsequent re-authorizations, Congress officially recognizeds that resources of the coastal zone are of national significance, and are rapidly disappearing. The CZMA also recognizes the interrelationships between uplands and tidelands -- the "coastal zone" was defined in the Act as including all uplands "to the extent necessary to control shore lands."

Section 315 of the CZMA establishes the National Estuarine Research Reserve System (NERRS). Under the System, healthy estuarine ecosystems which typify different regions of the U.S. can be designated and managed as sites for long-term research, and used as a base for estuarine education and interpretation programs. The System also provides a framework through which management approaches, research results, and techniques for estuarine education and interpretation can be shared with other programs. The NERRS was established by the CZMA to help address the problem of current and potential degradation of coastal resources brought about by increasing and competing demands for these resources. Prior to establishment of the NERR system, the management of estuarine resources was inadequate, and scientific understanding of estuarine processes necessary for improving management was increasing slowly and without national coordination. There were no ready mechanisms to detect trends in estuarine conditions, or to provide information on these trends, the overall significance of estuaries, and possible solutions to the growing problems. The NERRS is one part of the solution for maintaining healthy coastal resources. NERRS research, education, and resource stewardship programs are tools that can help fill gaps in knowledge, and guide decision-making so that our estuaries can sustain multiple uses over the long term.

Section 302 of the CZMA states:

"The increasing and competing demands upon the lands and waters of our coastal zone have resulted in the loss of living marine resources, wildlife, nutrient-rich areas, permanent and adverse changes to ecological systems, decreasing open space for public use and shoreline erosion."

"The habitat areas of the coastal zone, and the fish, shellfish, other living marine resources, and wildlife therein, are ecologically fragile and consequently extremely vulnerable to destruction by man's alteration."

In recognition of these growing problems, section 303 of the CZMA establishes a national goal:

"...to preserve, protect, develop, and where possible, to restore and enhance the resources of the Nation's coastal zone for this and succeeding generations."

Section 302 of the CZMA also recognizes that coastal waters are significantly affected by land uses:

"Land uses in the coastal zone, and the uses of adjacent lands which drain into the coastal zone, may significantly affect the quality of coastal waters and habitats, and efforts to control coastal water pollution from land use activities must be improved."

Under the CZMA, participating coastal states receive grant money to develop and administer plans for coastal management. The CZMA also authorizes the provision of federal technical assistance to support state coastal zone management planning and plan implementation. A National Oceanic and

Atmospheric Administration (NOAA) approved coastal management plan gives states some control over federal actions affecting the state's coastal zone. Known as "federal consistency," this control includes actions proposed by a federal agency or which require federal approval, funding, or permits.

MISSION AND GOALS OF THE NATIONAL ESTUARINE RESEARCH RESERVE SYSTEM

The National Estuarine Research Reserve System (NERRS) was created by the CZMA of 1972, as amended, 16 U.S.C. Section 1461, to augment the Federal CZM Program. The reserve system is a network of protected areas established to promote informed management of the Nation's estuaries and coastal habitats. The reserve system currently consists of 27 reserves in 22 states and territories, protecting over one million acres of estuarine lands and waters. Under the system, healthy estuarine ecosystems which typify different regions of the U.S. can be designated and managed as sites for long-term research, and used as a base for estuarine education and interpretation programs. The NERRS was established to help address the problem of current and potential degradation of coastal resources brought about by increasing and competing demands for these resources. Prior to the establishment of the NERR system, the management of estuarine resources was inadequate, and scientific understanding of estuarine processes necessary for improving management was increasing slowly and without coordination.

Mission

As stated in the NERRS Strategic Plan 2005-2010, the mission of the National Estuarine Research Reserve System is

> "to practice and promote coastal and estuarine stewardship through innovative research and education, using a system of protected areas."

The goals established in the strategic plan are to:

1. Strengthen the protection and management of representative estuarine ecosystems to advance estuarine conservation, research and education.
2. Increase the use of reserve science and sites to address priority coastal management issues.
3. Enhance peoples' ability and willingness to make informed decisions and take responsible actions that affect coastal communities and ecosystems.

NERR System Administrative Framework

The Estuarine Reserves Division of the Office of Ocean and Coastal Resource Management (OCRM) administers the reserve system (Figure 1). The Division establishes standards for designating and operating reserves, provides support for reserve operations and system-wide programming, undertakes projects that benefit the reserve system, and integrates information from individual reserves to support decision-making at the national level. As required by Federal regulations, 15 C.F.R. Part 921.40, OCRM periodically evaluates reserves for compliance with Federal requirements and with the individual reserve's Federally-approved management plan.

The Estuarine Reserves Division currently provides support for three system-wide programs: the System-Wide Monitoring Program, the Graduate Research Fellowship Program, and the Coastal Training Program. They also provide support for reserve initiatives on restoration science, invasive species, K-12 education, and reserve specific initiatives and programs.

# Federal

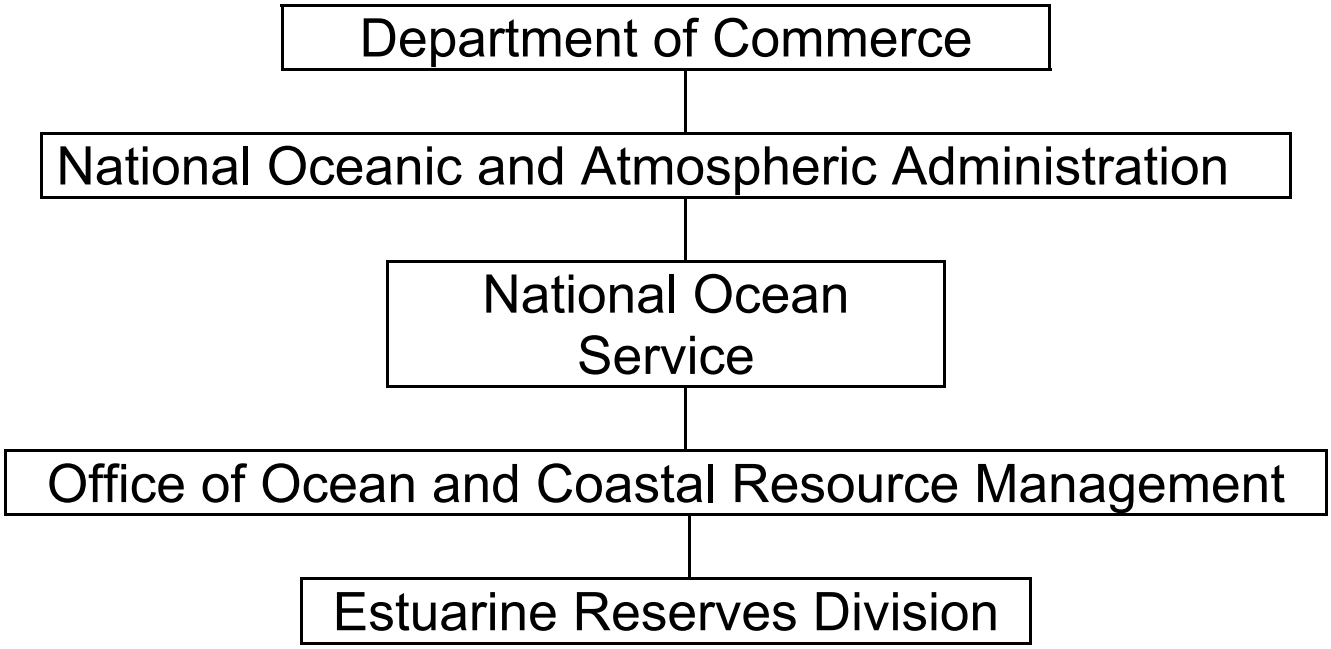


Figure 1: National Estuarine Research Reserve System Administrative Framework

Weeks Bay National Estuarine Research Reserve Administrative Framework

In February, 1986, Weeks Bay was officially designated as the nation's 16th National Estuarine Sanctuary. In April, 1986, concomitant with 1986 amendments, the name of the Sanctuary was changed to the Weeks Bay National Estuarine Research Reserve (WBNERR). The Alabama Department of Conservation and Natural Resources (ADCNR), State Lands Division (SLD), Coastal Section is the cooperating state agency and provides the administrative framework for operation of the Reserve (Figure 2).

BIOGEOGRAPHIC REGIONS

NOAA has identified eleven distinct biogeographic regions and 29 subregions in the U.S., each of which contains several types of estuarine ecosystems. When complete, the reserve system will contain examples of estuarine hydrologic and biological types characteristic of each biogeographic region. As of 2006, the NERR System contains twenty-seven reserves (Figure 3) and several states pursuing a designation.

Under Federal law (16 U.S.C. Section 1461), a state can nominate an estuarine ecosystem for Research Reserve status so long as the site meets the following conditions:

1) The area is representative of its biogeographic region, is suitable for long-term research and contributes to the biogeographical and typological balance of the System;
2) The law of the coastal State provides long-term protection for the proposed Reserve's resources to ensure a stable environment for research;
3) Designation of the site as a Reserve will serve to enhance public awareness and understanding of estuarine areas; and provide suitable opportunities for public education and interpretation; and
4) The coastal State has complied with the requirements of any regulations issued by the Secretary of Commerce.

Reserve boundaries must include an adequate portion of the key land and water areas of the natural system to approximate an ecological unit and to ensure effective conservation.

If the proposed site is accepted into the reserve system, it is eligible for NOAA financial assistance on a cost-share basis with the state. The state exercises administrative and management control, consistent with its obligations to NOAA, as outlined in a memorandum of understanding. A reserve may apply to NOAA's ERD for funds to help support operations, research, monitoring, education/interpretation, stewardship, development projects, facility construction, and land acquisition.

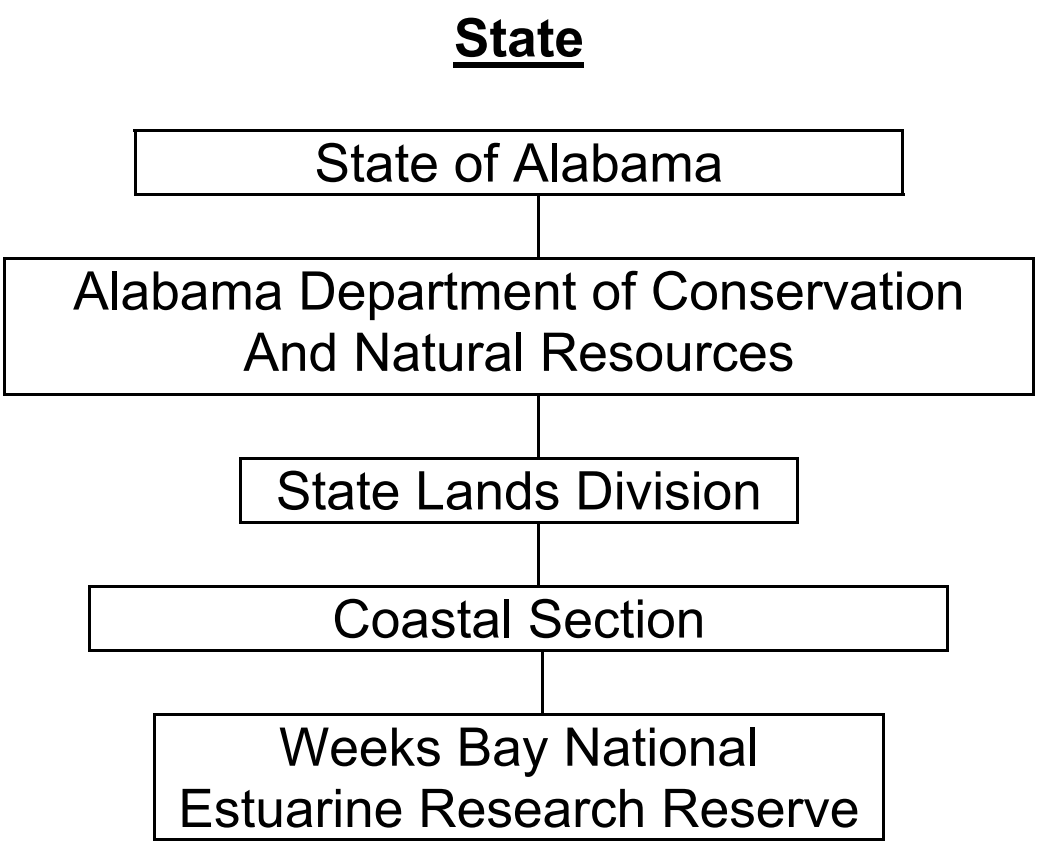


Figure 2: Weeks Bay National Estuarine Research Reserve System Administrative Framework

Figure 3. Designated and Proposed NERR Sites.

## RESERVE MANAGEMENT PLANS

Every reserve is required by the Federal NERR regulations, 15 C.F.R. Part 921.13 to have an ERD-approved management plan that is updated every 5 years. A management plan is important for a variety of reasons:

- it provides a framework for the direction and timing of a Reserve's programs;
- it allows Reserve managers to assess how successfully a Reserve's goals have been met and to determine necessary changes in direction; and,
- it is used to guide Section 312 programmatic evaluations of the Reserve.

The plan must describe the Reserve's goals, objectives, and management issues, and must identify the Reserve's intended strategies or actions for research, education/interpretation, public access, construction, acquisition, and resource preservation, restoration, and manipulation. Staff roles in each of these areas must also be addressed.

Development of and revisions to reserve management plans are subject to the National Environmental Policy Act (NEPA) because designation of and management changes in estuarine reserves are considered federal actions. NOAA has provided guidance to program offices on how to conduct the NEPA process for management plans. A Reserve's initial management plan, and any major proposed changes to a plan, are made available for public comment at national and local levels before receiving ERD's final approval.

## WEEKS BAY RESERVE MANAGEMENT PLAN

The Weeks Bay Reserve Management plan describes the Reserve's goals, objectives, and management issues, and identifies intended strategies or actions for research, education/interpretation, public access, construction, acquisition, and resource preservation, restoration, and manipulation. Staff roles in each of these areas are also addressed. A proposed boundary expansion is described that includes additional lands under state management leading to greater conservation consistent with established goals of the National Estuarine Research Reserve System as established in Federal Register 15 CFR Part 921.1(b).

## THE WEEKS BAY NERR: SETTING

Weeks Bay is an estuarine system, located along the eastern shore of Mobile Bay in Baldwin County between the major metropolitan areas of Mobile, Alabama and Pensacola, Florida (Figure 4). The Weeks Bay National Estuarine Research Reserve (here after referred to as the Reserve) contains 6,525 acres of land and water habitat which supports a wide variety of plant and animal species.

The Reserve can be characterized as representative of the greater Mobile Bay system and the Mississippi delta subcategory of the Louisiana Biogeographic province. It is one of three Reserves in the Gulf of Mexico region. Habitats included in the Reserve are tidal wetlands and swamps, salt marshes, aquatic grass beds, maritime and palustrine upland forests, a pitcher plant bog and benthic estuarine sediments. It is an environment of great importance to the eastern Mobile Bay System, and possesses numerous species of plants and animals, including rare, threatened and endangered species such as the brown pelican, eastern indigo snake, and Alabama red-bellied turtle. It is a highly productive area that serves as a nursery for commercially important shellfish and finfish, as well as a diverse array of other flora and fauna. Weeks Bay acts as a filter for pollutants, provides shoreline stabilization, and offers recreational and educational opportunities for the people of this coastal area.

Located in south Baldwin County 30 miles southeast of Mobile, the Reserve is accessible by U.S. Highway 98 and County Roads 17, 27,and 1, as well as by boat (Figure 5). Bon Secour National Wildlife Refuge is located to the south of the Reserve. The Reserve includes five tracts of State-owned land (Figure 6): the Foley tract (178 acres) on the northeast side of Weeks Bay on the eastern shore of Fish River; the Ogburn tract (157 acres) directly south of the Foley parcel extending approximately to the mouth of the Magnolia River; the Swift tract (615 acres) approximately 1.5 miles south of the mouth of Weeks Bay; and the Damson tract (360 acres) south of Highway 98 which extends along the western shore of Weeks Bay, and Viewpoint Park (2 acres) at the mouth of Weeks Bay.

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This Boundary expansion supports the goals of the NERRS as established in the Federal Register 15 CFR part 921.1(b). This states that Reserves will promote long-term protection of estuaries, address management issues, and encourage stewardship, research, and education. The boundary expansion will offer greater protection of the Weeks Bay estuarine system and promote conservation of coastal resources. Expansion of the Reserve boundary will offer greater protection to the coastal area. Greater protection and management of these expanded areas will protect and improve habitat resulting in conservation of biological diversity. Management of these areas will also facilitate research through the protection offered by being within the Reserve boundary. Education and Stewardship will also benefit from the boundary expansion as these protected areas can more easily be incorporated into various projects.

### Weeks Bay Core and Buffer Area

The Weeks Bay Reserve establishes those areas dedicated to education, research and resource protection and subject to the policies, management strategies and rules of the Reserve as set forth in the Management Plan and as agreed upon by ADCNR, ADEM, and other applicable agencies. The water bottoms within the Reserve, up to mean high tide, are considered to be the core areas of critical

habitat where no disturbance should occur that would affect the integrity of that area. Any property owners who seek to build piers must build according to the pier criteria. Expanded core includes: 1) the water bottoms of Fish and Magnolia Rivers, and their tributaries, to the mean high tide line and to the termination of tidal influence, and 2) the water bottoms of Bon Secour Bay adjacent to the Swift tract and north across the mouth of Weeks Bay to the mean high tide line. All other lands within the Reserve boundary should serve as a buffer to protect the core and provide additional protection for estuarine-dependent species (Figure 6).

Weeks Bay Coastal Area

The Alabama coastal area as delineated in the Alabama Coastal Area Management Plan (ACAMP) established under the Coastal Zone Act of 1972, as amended, consists of that land seaward of the continuous ten (10) foot contour to the limits of the State's territorial waters. Accordingly, the Weeks Bay Coastal Area is delineated as that portion of the Alabama coastal area surrounding Weeks Bay extending from the mouth of the Bon Secour River to Mullet Point Park at the intersection of U.S. Highway 98 and County Road 1 (Figure 7). This delineation will provide for consistency of interaction between the Alabama Coastal Area Management Program as administered by ADCNR ADEM and the Reserve. Within the Weeks Bay Coastal Area the highest priority exists for land acquisition and for resource protection activities. In the Weeks Bay Coastal Area, every effort will be made to develop cooperative management strategies with state and local agencies and with local government. The majority of the Reserve boundary falls within the Weeks Bay Coastal Area (Figure 7).

The Weeks Bay Coastal Area as delineated above is designated a Geographic Area of Particular Concern (GAPC) in the Alabama Coastal Area Management Plan (ACAMP).

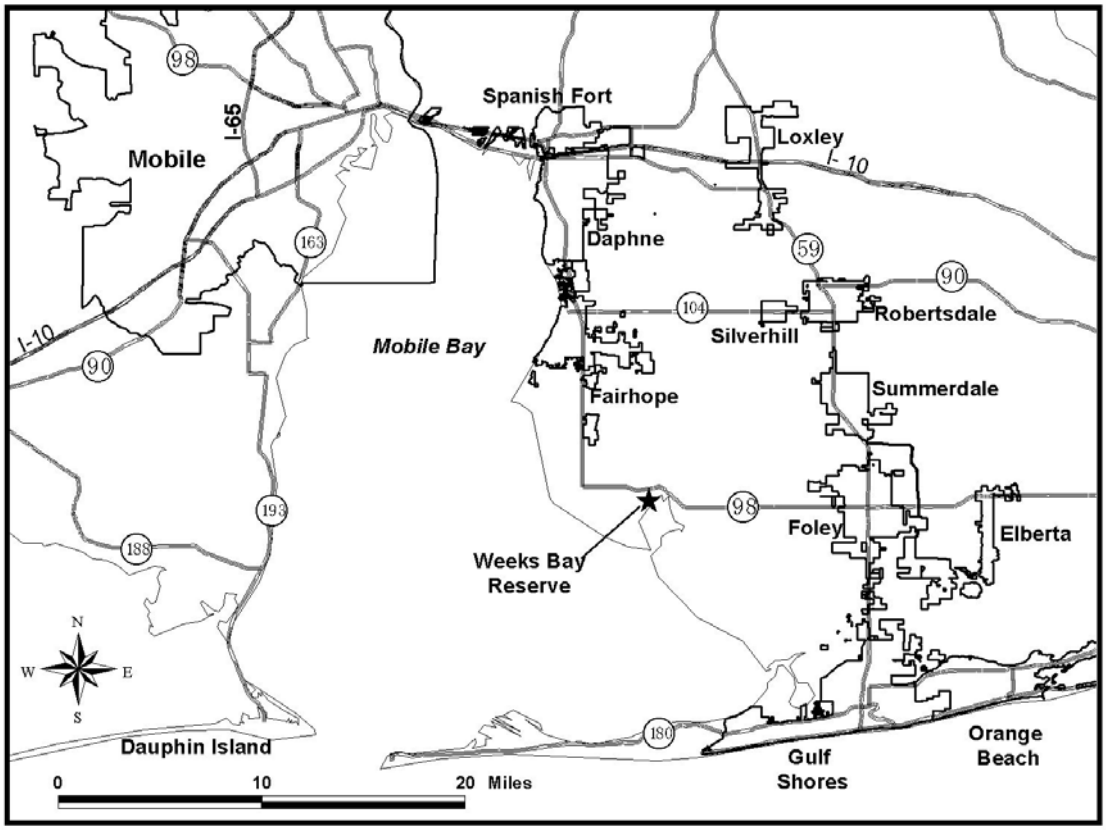


Figure 4. Mobile Bay System.

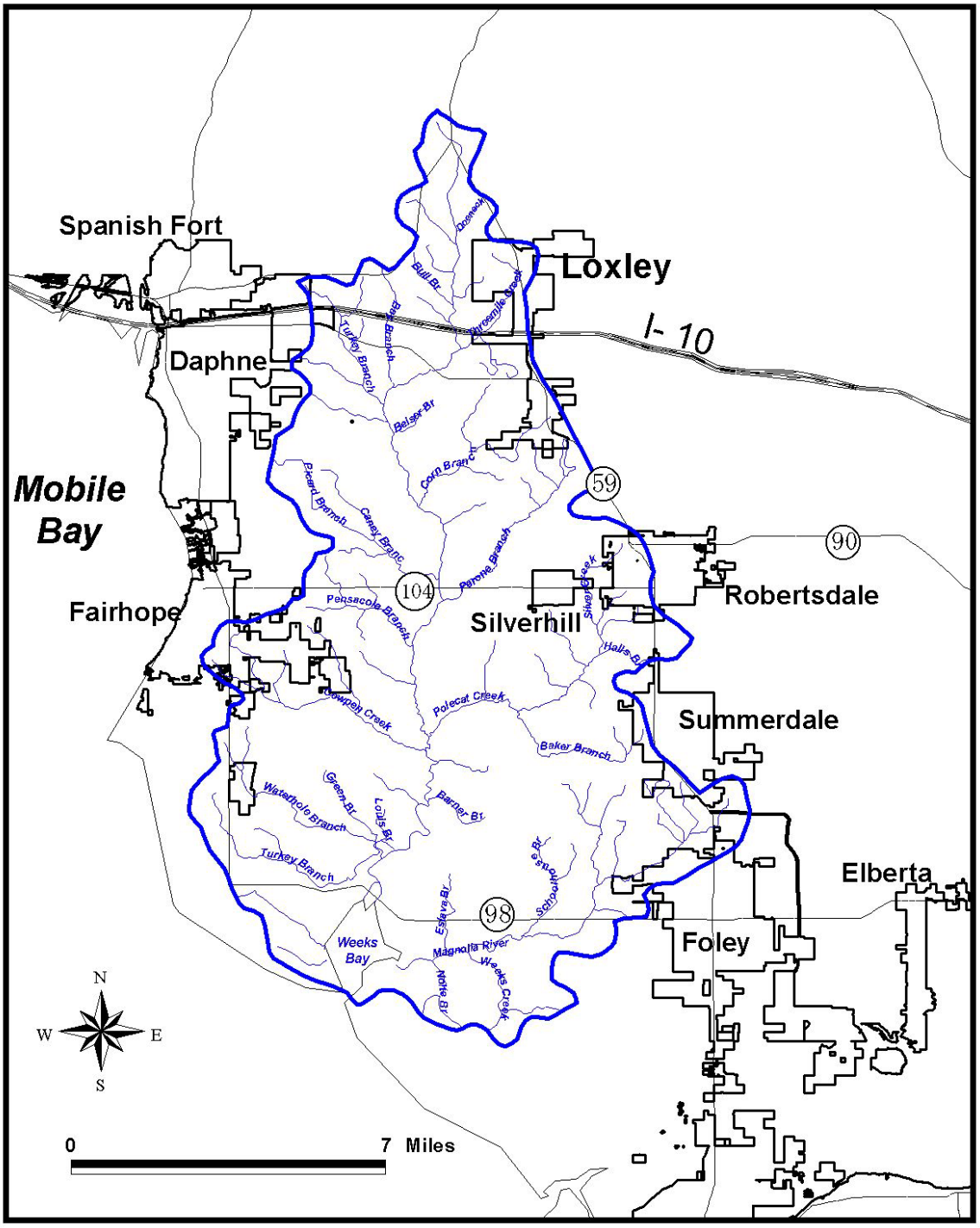


Figure 5. Weeks Bay Watershed and Access

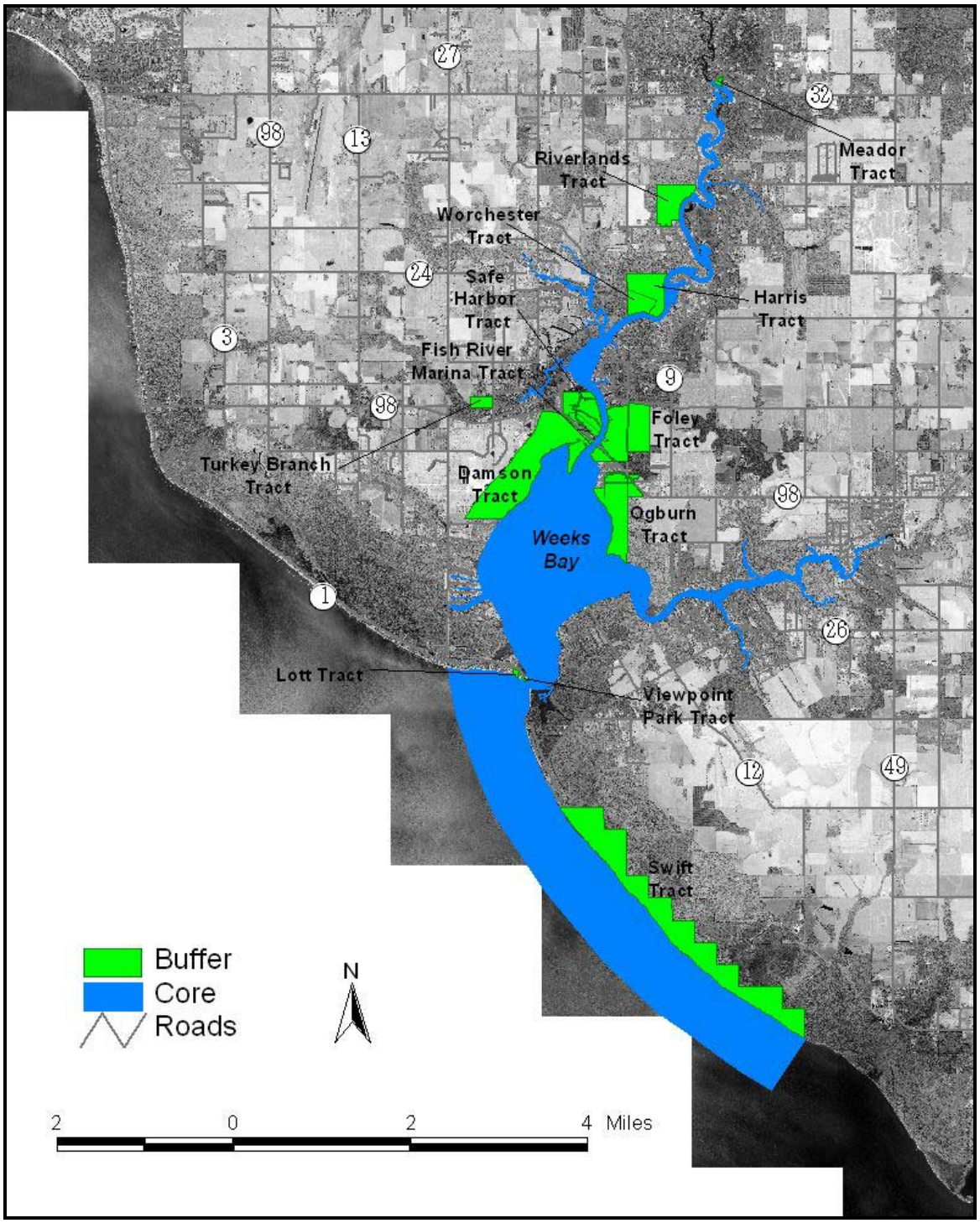


Figure 6. Expanded Reserve Boundary

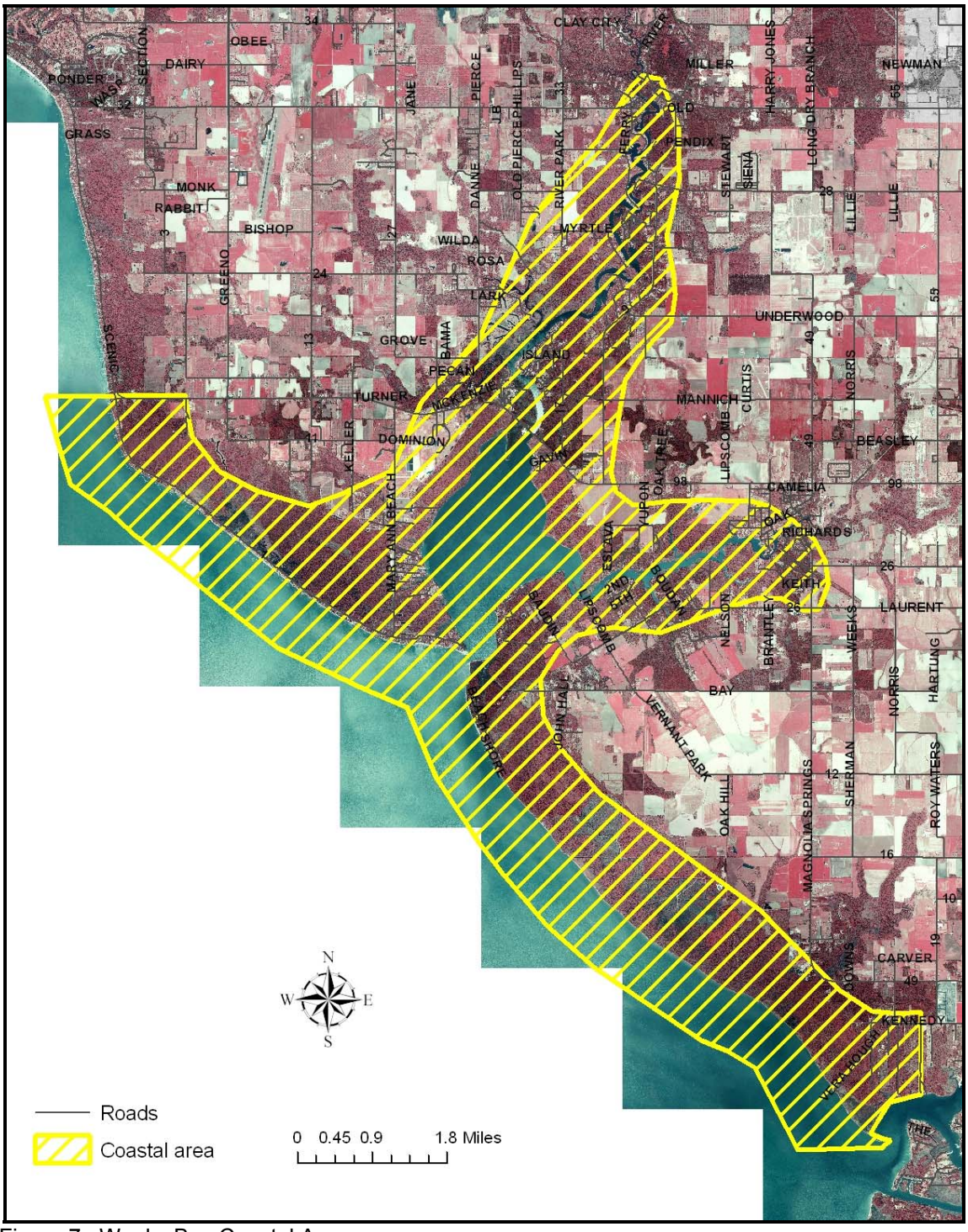


Figure 7. Weeks Bay Coastal Area

## Physical Aspects

### General Physiography

Coastal Alabama lies within parts of two major physiographical provinces; the East Gulf Coastal Plain section of the Coastal Plain province, and the Mississippi-Alabama shelf section of the Continental Shelf province. Land areas in coastal Alabama are within the Southern Pine Hills and the Coastal Lowlands subdivisions of the East Gulf Coastal Plain section.

The Coastal Lowlands are an essentially flat to gently undulating plain extending along the coast adjacent to the Mississippi Sound and along the margins of Mobile, Bon Secour, and Perdido Bays. The lowlands are indented by many tidal creeks, rivers, and estuaries fringed by tidal marshes which are subject to inundation at high tide.

### Climate

The Reserve lies in the humid sub-tropical climate region (Trewartha and Horn 1980), a climate that dominates the Gulf Coast states and Florida Peninsula. Summers are characteristically warm while winters are relatively mild with occasional cold waves. In the contiguous United States, this region is second only to the Pacific Northwest in total annual rainfall (Baldwin 1973), receiving precipitation from a combination of winter storms, thunderstorms and tropical systems with an average accumulation of 65 inches.

### Geology

The Reserve lies in the Southern Pine Hills subdivision of the Gulf Coastal Plain physiographic province (Chermock et al. 1974). Sediments in this region are composed of quartz-rich sand interlayered with clays and silts. The Weeks Bay embayment was believed to have been formed at least 11,000 years ago during the Pleistocene Epoch (Smith 1986). Benthic sediments within Weeks Bay are a combination of silts and clays found throughout most of the interior of the bay and relatively clean quartz sands found in three areas of the bay system (Haywick et al. 1994). The source of the silt and clay material, as well as the sand is principally from the Fish and Magnolia Rivers. However, the sands around the periphery of the bay are mostly the result of erosional processes along the shoreline. The sands in the vicinity of the inlet at the mouth of the bay are likely derived from bedload inputs from the rivers, shoreline erosion within the bay and material transported into Weeks Bay from Mobile Bay.

## Habitats

### Forested Wetlands and Swamp Habitats

Much of the land around Weeks Bay is forested wetlands and swamps. For example, the Foley and Ogburn Tracts and part of the Swift Tract are primarily comprised of a forested wetland type known as moist pine forest (Figure 8). The moist pine line is prevalent in areas of low relief and poor drainage between streams. It forms a more or less extensive strip between flood plain swamps and upland pine-oak forest. Despite its apparent monotony, the vegetation of moist pinelands is diverse and rich in species. The common trees are slash pine (*Pinus elliotti*), and sweet bay (*Magnolia virginiana)* although longleaf pine (*Pinus palustris*) also grows there. The understory may be very dense, consisting largely of gallberry (*Ilex glabra*), wax myrtle (*Myrica cerifera*), saw palmetto (*Serenoa repens*), St. John's-wort,

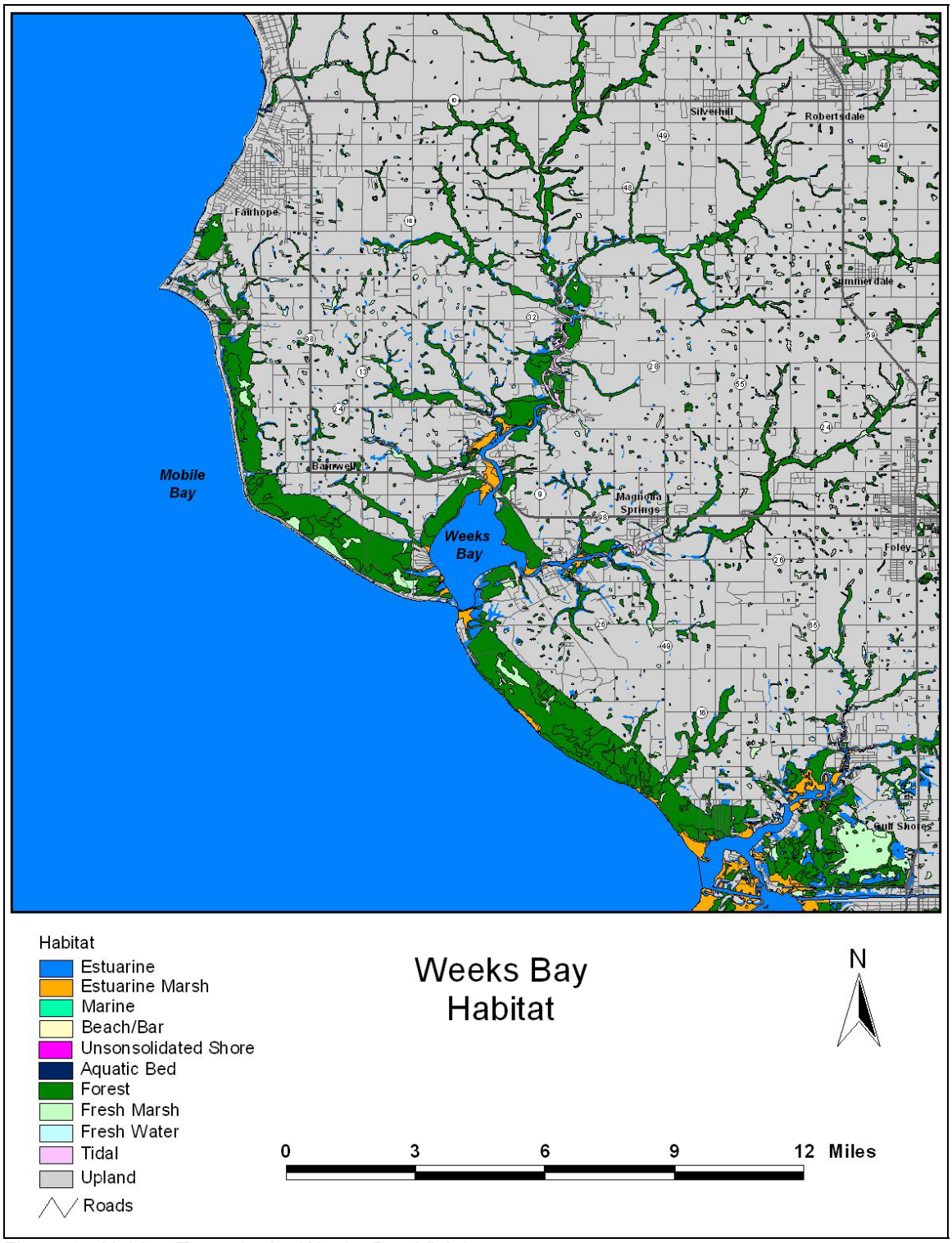


Figure 8. Habitat Types in the Weeks Bay Vicinity

*Hypericum fasciculatum* and sweet bay (*Magnolia virginiana*),wamp bay (*Persea palustris*), and swamp tupelo (*Nyssa sylvatica* var. *biflora*).

The Fish River, Magnolia River, and several small tidal streams in the Weeks Bay area are bordered by a forested wetland type known as bay, tupelo, and cypress swamp. The vegetation of these swamps varies depending partly on the amount and duration of flooding. If flooding is extensive, pond cypress (*Taxodium distichum nutans*) and swamp tupelo may dominate the canopy. Usually under moderate flooding the dominant tree is sweet bay. Red maple (*Acer rubrum*), swamp tupelo, swamp bay and tulip tree (*Liriodendron tulipifera*) may also occur there. White cedar (*Chamaecyparis thyoides*) becomes increasingly more common in swamps along upper reaches of streams, especially along the Fish and Magnolia Rivers.

Few plants grow under the dense shade of such trees. Among these trees are shrubs such as Virginia willow (*Itea virginica*), star anis (*Illicium floridanum*), and fetterbush (*Leucothoe axillaris*). Netted chain fern (*Woodwardia areolata*), and cinnamon fern (*Osmunda cinnamonea*) are among the few tolerant herbs growing there.

The more open borders of these swampy woods may be covered by dense thickets of swamp cyrilla (*Cyrilla racemifora*), black titi (*Cliftonia monophylla*), and large gallberry (*Ilex coriacea*). Wax myrtle (*Myrica cerifera*) and yaupon (*Ilex vomitoria*) also grow in this habitat and are especially common along the brackish waters of Weeks Bay and on the Swift Tract.

The transition zone between these forested wetlands and upland pine-oak forests may support growth of plants adapted to somewhat better drained condition such as water oak (*Quercus nigra*), laurel oak (*Quercus laurifolia*), sweet gum (*Liquidambar styraciflua*), southern magnolia (*Magnolia grandiflora*), and devilwood (*Osmanthus americana*).

Marshes

The shoreline of Weeks Bay supports marshes dominated by salt-tolerant herbs and grasslike plants. These marshes occur as narrow shoreline fringes and extend up the tidal mouths of the Fish and Magnolia Rivers. The needle rush (*Juncus roemerianus*) is an abundant species, and dominates portions of marsh in the area.

Two species of cordgrass (*Spartina alterniflora* and *S. cynosuroides*) are locally abundant in the intertidal zone. Other common species are salt grass (*Distichlis spicata*), saltmeadow cordgrass (*Spartina patens*), salt marsh aster (*Aster tenuifolius*), marsh gerardia (*Agalinis maritima*), and sea lavender (*Limonium nashii*).

Within the less saline, brackish marshes, a greater diversity of species occurs. Of the saline marsh species, only needle rush and saltmeadow cordgrass are found frequently in the brackish environment. Common brackish species include cattails (*Typha* spp.), spike rush (*Eleocharis* spp.), reed (*Phragmites australis*), bull rushes (*Scirpu*s spp.), and sawgrass (*Cladium jamaicense*).

Submerged Aquatic Vegetation (SAV)

Four species of plants dominate the submerged grassbeds in Weeks Bay. The most abundant species is widgeon grass (*Rupia maritima*). The other species are Eurasian watermilfoil (*Myriophyllum spicatum*), tapegrass (*Vallisneria americana*), and slender pondweed (*Potamogeton pusillus*). The occurrence of these grass beds is restricted to relatively quiet waters along shorelines.

Due to high turbidity conditions and subsequent reduction of available light, beds occur only in shallow waters less than two meters deep, most in less than one-half meter.

Invasive Species

A number of non-native invasive species are present in the Reserve and pose a significant threat to the integrity and community structure of Reserve habitats. Terrestrial species observed are

*Sapium sebiferum* – Popcorn or Tallow tree
*Imperata cylindrical* – cogon grass
*Lygodium japonicum*- Japanese Climbing Fern
*Cinnamomum camphora* – Camphor
*Colocasias sp.* – Elephant ear
*Dioscorea bulbifera* – Air potato
*Pueraria Montana* – Kudzu
*Ligustrum sinense* – Chinese privet

Aquatic species observed are

*Eichhornia sp.* – Water hyacinth
*Salvinia minima* – Water fern
*Pistia stratiotes* – Water lettuce
*Panicum repens L.* – Torpedo grass (can also occur on land)
*Alternanthera philoxeroides* – Alligator weed (can also occur on land)
*Myocaster Coypus* – Nutria

The sub-aquatic species *Hydrilla verticillata* has been observed in Barner Branch and efforts to control its proliferation are ongoing. Additionally, within a sixty acre tract that encompasses the nature trail, control efforts have successfully reduced the presence of a variety of terrestrial invasive species. Plans are in place to map exotic invasive flora species within the watershed for management purposes.

Hydrilla (*Hydrilla verticillata*) or water thyme in Barner Branch

Hydrilla is a submerged aquatic perennials and is viable under a variety of environmental conditions. Stems typically grow rooted in the bottom substrate, but fragment easily into free-floating pieces that root at nodes. Fragments may start new colonies when carried elsewhere. Hydrilla can aggressively invade new aquatic environments, displace native aquatic vegetation by forming dense stands or large sub-surface mats, and alter the dynamics of aquatic ecosystems. Other detrimental impacts from heavy infestations can include water flow impediment in waterways, increased flooding, clogged pumps and boat propellers, diminished water clarity, reduced use of waterways for recreational activities, and economic loss.

The Alabama coastal area has some 400,000 acres of bay and estuarine waters, 121,000 acres of vegetated wetlands, 330 identified species of birds, a commercial fishing catch with a value exceeding $148 million, and a registration of over 23,300 recreational boats.

Within the coastal area, the Weeks Bay watershed encompasses about 149,000 acres in Baldwin County. Parts of the city limits of Fairhope, Robertsdale, Foley and Loxley are located in the area (Figure 5). According to the U.S. Census 2000, these towns have populations of 12,480; 3,782; 7,590; and 1,348, respectively. Activities such as fishing, boating, crabbing, hunting, and wildlife photography/observation are common in Weeks Bay. The watershed is primarily rural, but it is within commuting distance from the cities of Mobile and Pensacola. As a result, a substantial increase in residential and commercial development within the watershed continues to occur, especially along the Eastern Shore, adjacent to Highway 98 and on the outskirts of the city of Foley.

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Impacts to Weeks Bay

The history of Weeks Bay has its beginning with American Indians. Indian tribes dwelling in southwest Alabama lived around the bay. The area remained relatively unspoiled for years but the recent push for coastal development has led to a need for preservation.

Impacts on the Alabama coastal environment include:

- Point Source Pollution – Major industrial and municipal sources discharging 170 million gallons of various waste products each day into coastal waters.
- Coastal Development – a booming second home construction business throughout the area's waterfront.
- Dredging – a maintenance dredging requirement producing 7million cubic yards of spoil materials annually.
- Energy Development – prospect of increased oil and gas development in the area of Weeks Bay.
- Population Growth and Associated Development - Mobile and Baldwin Counties are both experiencing rapid population increases as well as urban growth. Baldwin County, recently identified one of the fastest growing county in the state of Alabama, had an overall population increase of 43% during the period of 1990-2000. This population explosion can detrimentally affect Weeks Bay and the Reserve. According to a Remote Sensing and GIS analysis of landuse/landcover in the Weeks Bay watershed performed by Cartwright (Cartwright, 2002), there have been significant increases in land use in the watershed. Table 1 shows a summary of landuse and landcover and the amount of change between 1990 and 2000. One of the most dramatic changes can be seen in the Urban/Built-Up classification. Cartwright's research showed that the amount of urban or developed land in the watershed increased by 92.47% during the study period.

| | 1900 | | 2000 | | |
|---|---|---|---|---|---|
| **Classification** | **Percent of Watershed** | **Acres** | **Percent of Watershed** | **Acres** | **Percent Change** |
| Water | 1.84% | 2,302 | 1.89% | 2,365 | 2.74% |
| Forested Vegetation | 33.12% | 16,781 | 31.49% | 39,431 | -4.91% |
| Herbaceous Vegetation | 28.94% | 14,664 | 21.00% | 26,292 | -27.44% |
| Seasonal Herbaceous Vegetation | 19.72% | 9,994 | 23.20% | 29,043 | 17.60% |
| Transitional/Mixed Vegetation | 7.08% | 3,587 | 12.22% | 15,296 | 72.56% |
| Urban/Built-Up | 1.34% | 679 | 2.58% | 3,228 | 92.47% |
| Sparse/Built-Up | 7.96% | 4,034 | 7.63% | 9,557 | -4.13% |

Table 1. Changes in Land Use and Land Cover between 1990 and 2000
Source: (Cartwright, 2002).

# MISSION AND GOALS OF THE WEEKS BAY NERR

## MISSION

Weeks Bay National Estuarine Research Reserve mission is to:

Provide leadership to promote informed management of estuarine and coastal habitats through scientific understanding, and encourage good stewardship practices through partnerships, public education, and outreach programs.

This management plan provides a framework to guide the activities of the Reserve. The Reserve management goals and objectives are long-term. The management strategies used to achieve these goals are implemented in 2-5 year periods. Unanticipated changes in funding levels may require adjustments in the programs. Successful implementation of this plan depends substantially on the cooperation and coordination among the government agencies and the private sector. Roles and responsibilities for implementation are assigned to the key agencies and staff participating in the Reserve management.

## WEEKS BAY NERR GOALS AND OBJECTIVES:

Three goals have been established to guide management, program development, and implementation. They are to:

- Protect and improve habitat and biological diversity within the boundary of the Reserve.
- Improve decisions affecting estuarine and coastal resources.
- Promote education, stewardship, and scientific research focusing on estuarine ecosystems.

The following tables outline the objectives developed by each program to support the goals of the Reserve. Action plans are described in more detail in the sections of the plan that pertain to each program.

| | | | | |
|---|---|---|---|---|
| **Mission**<br>**Provide leadership to promote informed management of estuarine and coastal habitats through scientific understanding and encourage good stewardship practices through partnerships, public education, and outreach programs.** | | | | |
| **Vision**<br>**Promote a healthy flourishing Weeks Bay** | | | | |
| Goals | | **Protect and improve habitat and biological diversity within the boundary of the Reserve.** | **Improve decisions affecting estuarine and coastal resources.** | **Promote education, stewardship, and scientific research focusing on estuarine ecosystems.** |
| Objectives | Administration | Solicit and obtain funds to support habitat and biological diversity. | | Facilitate administrative and financial management of Reserve research, education, and outreach programs. |
| | | | | Provide administrative staffing and facilities to support Reserve programs. |
| | | | | Improve and enhance partnerships to benefit Reserve programs. |
| | Stewardship | The Reserve will manage natural resources to maintain and restore ecosystem function. | Research and monitoring data will become the basis for better informed coastal management decisions. | Improve exhibits and outreach initiatives to support Reserve programs. |
| | | Restore and protect habitat, through land acquisition, education, and incentive programs. | | Provide for long-term support and involvement of watershed residents in watershed planning and management activities. |

Table 2. Goals and Objectives by Program

| Goals | | **Protect and improve habitat and biological diversity within the boundary of the Reserve.** | **Improve decisions affecting estuarine and coastal resources.** | **Promote education, stewardship, and scientific research focusing on estuarine ecosystems.** |
|---|---|---|---|---|
| Objectives | Boundary & Acquisition | Prioritize habitat areas and land tracts for acquisition within the Weeks Bay Coastal Area according to their contributions to ecosystem function. | | |
| | | Develop land acquisition methods and conservation initiatives to protect ecologically valuable habitats and expand the Reserve boundaries. | | |
| | Public Access | Designate areas and guidelines for public access to reduce impact on resources and maximize public outreach. | | Improve and enhance water access to facilitate Reserve programs. |

Table 2. Goals and Objectives by Program

| **Goals** | | **Protect and improve habitat and biological diversity within the boundary of the Reserve.** | **Improve decisions affecting estuarine and coastal resources.** | **Promote education, stewardship, and scientific research focusing on estuarine ecosystems.** |
|---|---|---|---|---|
| Objectives | Facilities and Construction | | | Develop buildings and boardwalks that have a low impact on natural resources within the Reserve. |
| | | | | Existing resources will be improved and enhanced to better accommodate Reserve programs. |
| | Research and Monitoring | | Make baseline data on habitats and water quality available to local, state, and national entities. | Provide resources support, and background data to independent research projects within the Reserve and adjacent associated waters. |
| | | | Monitoring and research data will be translated and disseminated to local, state, and federal partners and other private and public users through education and outreach programs. | Increase understanding of watershed functions and methods of resource protection and restoration through applied research and monitoring projects. |

Table 2. Goals and Objectives by Program

| Goals | | **Protect and improve habitat and biological diversity within the boundary of the Reserve.** | **Improve decisions affecting estuarine and coastal resources.** | **Promote education, stewardship, and scientific research focusing on estuarine ecosystems.** |
|---|---|---|---|---|
| Objectives | Education | Provide resources to maintain, develop and implement educational programs. | Use the training, and outreach center for the capacity building of coastal resource managers. | Develop and implement comprehensive education and interpretation programs to increase knowledge of target audiences. |
| | | | | Develop needs assessment and evaluation tools to measure effectiveness of education programs. |
| | Volunteers | | Trained volunteers will transfer knowledge and enthusiasm to wider audiences. | The Reserve will utilize volunteers to enhance and expand programs. |
| | | | | Provide opportunities for volunteers to be involved with education, stewardship, and research programs. |

Table 2. Goals and Objectives by Program

Integrating Research, Stewardship, and Education Activities through Partnerships

Reserve staff will interact with the community and local agencies to coordinate efforts to make informed decisions in the area of resource management. Issues such as U.S. Army Corps of Engineers (COE) permits, rezoning, hazardous materials, sediment and erosion control, septic treatment, habitat modification and restoration, and water quality will be reviewed and relevant information disseminated to the public. Information obtained through research and monitoring activities will be made available to the public via a variety of transfer mechanisms. The Reserve will promote stewardship based on scientific information and expressed as an integration of research and education. The Reserve will continue to strive for resource protection and promote stewardship through an integration of research and education by:

- Cooperating with various agencies and institutions to positively impact and support the coastal resources of Alabama
- Partnering with other similar projects to respond to informational needs of decision makers and coastal managers
- Evaluating COE permits stating the effect on the Reserve and making comments when appropriate
- Managing Reserve properties to restore and maintain natural habitats
- Providing educational exhibits which reflect current scientific information on the estuarine environment
- Promoting Best Management Practices (BMP) for various land use activities through brochures, pamphlets, displays, demonstration projects, and workshops
- Continuing to schedule workshop topics which are responsive to educators, decision makers, technical professionals, and the interested public at large
- Evaluating methods and techniques used to insure short and long term goals are met
- Utilizing the Coastal Training Program (CTP) for information transfer to promote best management decisions to conserve resources

The Reserve will continue to interpret scientific information and present it to the public in a usable format. The Weeks Bay Advisory Committee (WBAC) will provide input and guidance on relevant issues of concern. This advisory committee will meet on a quarterly basis and will give valuable input on the development of major projects. The committee will assist the Reserve staff on technical topics and will make recommendations when need be. As the need arises, the WBAC will establish sub-committees to evaluate these issues, projects, and topics. For example, subcommittees have previously been formed to address issues concerning research and education.

Linkages between Coastal Zone Management (CZM) and NERRS, transfer of Information to Coastal Decision Makers

1. The Reserve and Alabama CZM Program coordinate and support each other. Coordination is assured by several means:

    a. The Reserve Manager reports to the CZM Program Manager who is also the Coastal Section Chief of the Lands Division, ADCNR.

    b. The Reserve is represented on the CZM Technical Interagency Committee (TIC).

    c. The CZM Program is represented on the Weeks Bay Advisory Committee.

d. The Reserve Manager and the CZM Program Manager and staffs interact regularly in the coastal area and with the Lands Division Director and staff in Montgomery to coordinate and support conservation efforts.

e. The CTP will be used as a common ground for discussion and transfer of information useful to coastal decision makers.

2. The CZM Program supports the Reserve through funding, program policy, and regulations:

a. Where funds are available and their use not prohibited by federal or state guidelines, the CZM Program supports the activities of the Reserve financially. An example is the funding of the Pitcher Plant Bog Boardwalk with CZM Section 306 (a) funds in FY96/97.

b) Program policy of the CZM Program recognizes and reinforces the goals of the Reserve. A current example is the designation of the Reserve as an Area for Preservation and Restoration (APR) in the revision of the Alabama Coastal Area Management Plan (ACAMP).

c) The regulations of the Alabama CZM Program as promulgated by the Alabama Department of Environmental Management (ADEM) - the regulatory arm of the Alabama CZM Program - promote the resource protection program of the Reserve wherever feasible. ADEM has worked with the Reserve to develop pier criteria for Weeks Bay and may encompass these criteria in their coastal program regulations (ADEM Administration Code R. 335-8-1)

3. The Reserve has a leading role and supports the CZM Program through public education and research.

a) A large portion of the public education/outreach needs of the Alabama CZM Program, particularly that directed toward the age groups K-12, are met by the programs of the Reserve. Recognition of this and closer coordination of education/outreach activities is a priority of both programs. The CTP will offer many opportunities for strengthening this coordination.

b) As the research tracking and coordination capabilities of the Reserve increase, there will be a greater opportunity for the Reserve to offer assistance to the CZM Program. In this capacity the Reserve, in consultation with the CZM Program, could facilitate research useful to both programs and to the wider coastal resource management effort.

## II. ACCOMPLISHMENTS

OVERVIEW

Since initiation of the first Management Plan in 1986, the Reserve met many milestones. Most important is the completed construction of a 4,000 square ft. Interpretive Center. This building serves to house the Reserve Staff, Library and research collections as well as the Interpretive and Educational Facilities. In 1997, final construction of a 3100 square ft. Research and Educational Facility was completed. This new building has expanded educational capabilities by incorporating a 54-person auditorium as well as expanded office and exhibit areas. This building serves as the new Research facility. It includes both office and laboratory space for resident researchers and also provides housing, and laboratory facilities for visiting faculty and students. In 2003, an addition to the laboratory was completed that more than doubled laboratory space.

In 1997, the Kurt G. Wintermeyer Trail and a current maintenance building were completed. In addition to housing maintenance personnel and equipment, it also serves as a construction and repair shop. Other visitor facilities completed in recent years include 2000 foot elevated boardwalk and observation deck with an additional 1200 foot extension, a fishing pier/park which provides public access to the bay, and development and improvement of two miles of hiking trails. In addition to facilities improvements, the Reserve purchased a 32 foot pontoon boat for research and educational programs and an 18 foot skiff for research and monitoring activities.

During 1997, two properties were secured for conservation, 1) the marina property at the mouth of Fish River consisting of 22 acres, and 2) 82 acres of land was acquired for resource protection, harboring of research vessels, and public water access. The Weeks Bay Reserve Foundation was instrumental in securing these properties.

In 1992, Weeks Bay was designated as an Outstanding National Resource Water by the Alabama Department of Environmental Management (ADEM). This designation aided in the establishment at the Reserve of the Weeks Bay Watershed Project (WBWP) in 1994 with §319 Nonpoint Source Pollution (NPS) funds from the US Environmental Protection Agency (EPA) and cooperation of local agencies and stakeholders. With WBWP, the Reserve partnered with many other local agencies, businesses, and watershed residents to produce successful workshops, presentations, and other educational programs. The underlying message in each of these programs is the improvement of water quality through voluntary measures. Associated with the Reserve is a dedicated group of volunteers who participate in the Alabama Water Watch Monitoring Program (AWW). They have received many awards from the AWW program, People Against a Littered State (PALS), and the Adopt-a-Stream program.

In addition to creation of six permanent staff positions at the Reserve in the past ten years, the Volunteer Program has grown to over 100 participants, donating over 5000 hours of time per year. As development of this program continues, it is expected that this number will increase as the program and the Reserve continue to offer public awareness and involvement possibilities. The Volunteer Program holds an annual native plant sale to encourage the public to landscape with local flora and teach how to best attract rare faunal species. Through both staff and volunteer assistance, the Reserve has also hosted television programs for children, acquired and now maintains large specimen collections of fauna and flora of the region, completed several live animal exhibits and produced numerous brochures on flora, fauna, and a variety of resources and management practices within the Reserve and surrounding habitats. The Weeks Bay Volunteer By-Laws are included in Appendix A.

The Reserve provides library services to the general public and researchers. Numerous educational, outreach programs and guided nature tours have been developed. The increase in public access to the resources available at the Reserve has attracted visitors from all fifty states and six foreign countries. Because of the intimate relationship between the Reserve and the Baldwin County School District, the Reserve annually accommodates 3500-4000 school children and provides educational programs to educate these students on ecology and stewardship of coastal resources. During this time period, educational programs for civic organizations, Elder hostels, and institutes of life-long learning have been developed and serve over 25 groups per year.

The partnership with the Reserve friends group, the Weeks Bay Reserve Foundation (WBRF), continues to strengthen. This 501(c)(3) non-profit group supports the Reserve programs by providing funds, assisting with the quarterly newsletter, maintaining the website at www.weeksbay.org, and pursuing methods of conservation in the Weeks Bay Watershed. The Weeks Bay Reserve Foundation By-Laws are included in Appendix B.

Staffing, Programs, Capitol Improvement and Conservation at the Reserve

More recently, the Reserve staff has reviewed our accomplishments. This review was facilitated by the Reserve having been evaluated by a federal team (December 2003) and undergoing a management plan revision (August 2006). Growth and development has to be recognized with a reflection on the past. Many accomplishments have been recently noted. These include adding several permanent staff positions, developing programs such as the CTP, adding on to both the laboratory and educational facility, acquiring property for conservation, and restoring habitat using science as a guiding tool. Upon visiting the Interpretive Center, one can see that many of these developments are apparent while others will be more elusive.

The Interpretive Center has newly renovated exhibits in the lobby funded by a grant from the National Oceanic and Atmospheric Administration. These exhibits are state of the art in quality and upon closer examination provide a glimpse of the Reserve programs of research, education, and stewardship. Power Point™ presentations are available in the lobby highlighting staff efforts in areas of education, research, monitoring, watershed protection, partnership building, and stewardship. Backlit displays provide information on issues of great importance to protecting the environment and promoting stewardship in the community and throughout the Weeks Bay watershed. The newly renovated exhibits are an attraction to see but one should allow time to explore the subjects and learn more about conserving our coastal resources. Upon reviewing the presentations and displays in the lobby of the Interpretive Center one can gain a glimpse into the issues of the Weeks Bay Coastal Area and the concerns of the staff that will guide the direction of future programs at the Reserve.

Accomplishments at the Reserve are many but the list is too long for short reading. A brief summary could take account of the following: staff positions added in 2003/2004 include a CTP Coordinator, Research Technician, Natural Resources Planner, Cartographic Specialist, and Administrative Support Assistant; development of the Coastal Training Program to provide needed information to coastal managers; federal grants provided funds for dock repairs, boardwalk construction, laboratory expansion, and exhibit renovation; wetland habitat has been acquired on the Fish River and habitats are currently being restored along the nature trail adjacent to the Interpretive Center. These accomplishments all contribute to the efforts of learning more about estuaries and promoting conservation in the Weeks Bay watershed.

Many accomplishments over the last five years represent action items set out in the previous Management Plan (1998). Action items in the previous plan had been collected in many tables with

an indication by year of when planned action would occur. These many itemized successful accomplishments are found compiled in Appendix C.

DIRECTION OF RESERVE PROGRAMS:

The Reserve's resource protection, research, and education programs will continue to support its mission and goals.

School programs will follow the educational curriculum developed in the summer of 1996. Stakeholder/constituent workshops will focus on topics as determined by the CTP Needs Assessment as well as other challenging opportunities that might arise.

An effort will be made to evaluate alternative methods to land acquisition, since past opportunities have been lost due to inadequate funds and elevated land prices. Such methods might be conservation easements or facilitation of third party purchases with conservation in mind.

Research has been facilitated with the hiring of a Research Coordinator. A research technician position has also been added to the staff. In addition, the NERRS Graduate Research Fellowship (GRF) positions offer continued research in the Reserve as well as support for the System-Wide Monitoring Program (SWMP). Research funded by the Cooperative Institute for Coastal & Estuarine Environmental Technology (CICEET) continues to provide opportunities at the Reserve. The volunteer monitoring project will continue and, as the Reserve moves into an tenth year of data collection, a strong effort will be made to evaluate this trend data with GIS technology. Using GIS as a tool to interpret scientific information will provide a more effective method to study problems in the watershed and allow Reserve staff to make best management decisions affecting the estuary.

In 2004, the Reserve established a merit Watershed Coordinator position and incorporated a watershed protection program that included water quality monitoring, outreach, and resource protection activities. The watershed program will partner with the Citizens Advisory Committee (CAC) of the WBWP and other federal, state, and local entities to assess and promote cooperative remedies to water quality issues in the Weeks Bay Watershed. A summary of the history of the Weeks Bay Watershed Project is included in Appendix D.

## III. ADMINISTRATION PLAN

Administration of the Reserve will oversee all activities by establishing a framework for implementing and evaluating staff and programs, managing and soliciting funds and coordinating activities of the Reserve. The Administration framework ensures that management activities are coordinated and encourages support for local and state user groups. Management of the Reserve is a collective effort involving the administrative agencies, Reserve staff, local and state agencies, user groups and the Reserve Advisory Committee.

LEAD AGENCY

Alabama Department of Conservation and Natural Resources

The cooperating state agency for the Reserve is the Alabama Department of Conservation and Natural Resources (ADCNR), an executive agency of the Alabama state government. The Commissioner of ADCNR is appointed by and reports directly to the Governor. Within ADCNR, the Reserve is located in the Coastal Section of the State Lands Division. The Coastal Section houses the Reserve, and the Coastal Zone Management Program. Reserve staff are ADCNR employees either state merit or under contract, with the exception of the Education Coordinator, who is employed by the Baldwin County Board of Education.

Administrative services, including accounting services for grants and other fiscal activities, personnel services, purchasing, legal counsel and legislative liaison are provided by the Administrative Division of ADCNR for the Reserve. These services are funded by an indirect cost charged to the NERR program as a percent of the funds handled by the Department for the NERR. The indirect cost in FY 2003/2004 was 13%. State match and other state funds used for the Reserve are provided by a general use tax fund.

Alabama Department of Conservation and Natural Resources (ADCNR) is composed of the Wildlife and Freshwater Fisheries Division, State Lands Division, State Parks Division, Marine Police, and Marine Resources Division. ADCNR is charged with administering laws pertaining to wildlife protection and conservation, including game and fish laws, boat registration, management and protection of marine resources and acquiring land for parks. In addition, ADCNR has jurisdiction over all state owned lands including submerged lands and public trust lands. ADCNR, State Lands Division holds title to the Weeks Bay benthos.

The Marine Resources Division, Wildlife and Freshwater Fisheries Division supports the Reserve in an advisory capacity with members on the Reserve Advisory Committee. The Marine Police Division provides surveillance in the Reserve.

SUPPORTING AGENCIES:

Alabama Department of Environmental Management (ADEM)

ADEM administers environmental legislation, reviews and issues permits concerning activities in the coastal areas, promulgates regulations and standards and develops environmental policy for the state. ADEM is the regulatory, permitting, monitoring and enforcement arm of the Alabama CZM Program. It also serves as the state's clearinghouse for environmental data and administers federally-designated environmental projects. ADEM provides the coastal regulatory controls and enforcement of coastal development authorities. ADEM serves the Reserve in an advisory capacity with a member on the Reserve Advisory Committee.

The Weeks Bay Advisory Committee

The Weeks Bay Advisory Committee was established during the initial stages of the Reserve designation efforts to advise the management. This Committee is composed of members from a variety of agencies and institutions providing a wide range of expertise. The Weeks Bay Advisory Committee is a group of local and state-wide representatives who serve to advise management on matters of operations at the Reserve. The Advisory Committee promotes the Reserve by seeking support for the programs. Since Committee members are involved in community efforts, they also inform management of needs, concerns, and interests of citizens using the Reserve. Sub-committees may be formed as needed to address such topics as research, and education.

The Weeks Bay Advisory Committee is composed of eighteen members that include:

Agency Representatives

1. Alabama Department of Conservation and Natural Resources, Wildlife and Freshwater Fisheries Division (appointed by the ADCNR Commissioner).

2. Alabama Department of Conservation and Natural Resources, Marine Resources Division (appointed by the ADCNR Commissioner).

3. Alabama Department of Conservation and Natural Resources, Land Division (appointed by the ADCNR Commissioner).

4. Alabama Department of Environmental Management (appointed by the Director of the ADEM Mobile Field Office).

5. Alabama Senate - Seat No. 32.

6. Alabama House of Representatives - Seat No. 94.

7. Baldwin County Board of Education (appointed by the Baldwin County Superintendent).

8. Marine Environmental Sciences Consortium (a.k.a. Dauphin Island Sea Lab, appointed by the MESC Director).

9. Baldwin County Commission (appointed by the Chairperson).

10. Auburn Marine Extension and Research Center (appointed by the Director).

11. Environmental Studies Center, Mobile County Board of Education (appointed by the Director).

12. Faulkner State Community College (appointed by the President).

Citizen Representatives

Six additional members appointed by the Governor for the duration of his/her term.

Two Non-Voting Members:

1. Alabama Department of Conservation and Natural Resources, State Lands Division, Coastal Section Chief.

2. Weeks Bay Reserve Foundation (appointed by the President).

CZM PARTICIPATION

The relationship between the Reserve and the Alabama CZM Program is assured by several means. The Reserve Manager reports to the CZM Program Manager who is also the Coastal Section Chief of the Lands Division, ADCNR. The Coastal Section CZM and Reserve staffs interact regularly in the coastal area and with the State Lands Director, Assistant Director, and staff. The Reserve is represented on the CZM Technical Interagency Committee (TIC) and the CZM Program is represented on the Weeks Bay Advisory Committee.

The CZM Program supports the Reserve through funding, program policy, and regulations. Where funds are available and their use not prohibited by federal or state guidelines, the CZM Program supports the activities of the Reserve financially. Additionally, the CZM Program recognizes and reinforces the goals of the Reserve and the Alabama Department of Environmental Management promotes the resource protection program of the Reserve wherever feasible.

In addition to the coordination and support activities outlined above there are two areas - public education and research - that the Reserve has a leading role and supports the CZM Program. A large portion of the public education/outreach needs of the Alabama CZM Program, particularly that directed toward the age groups K-12, are met by the programs of the Reserve. The CTP will enhance collaborative opportunities as well. Recognition of this and closer coordination of education/outreach activities is a priority of both programs. As the research tracking and coordination capabilities of the Reserve increase there will be the opportunity for the Reserve to become the research coordinating and directing arm of the CZM Program. In this capacity the Reserve would, with the CZM Program, determine the need and help arrange research useful to both programs and to the wider coastal resource management effort.

LOCAL AGENCY SUPPORT

The Baldwin County Board of Education (BCBE) assists the Reserve Administration (in accordance with the existing Memorandum of Understanding) by providing financial support for the Education Coordinator and supporting materials. Additionally, a representative of the Board serves on the Reserve Advisory Committee. This agency is integral to the success of the educational program. The Baldwin County Commission also assists the Reserve in an advisory capacity by appointing a representative to the Advisory Committee. The director of the Environmental Studies Center, an educational center for Mobile County Schools, appoints a representative to the Advisory Committee as well.

SUPPORT ORGANIZATIONS

Weeks Bay Reserve Foundation (hereafter referred to as the Foundation)

The Weeks Bay Reserve Foundation was incorporated as a non-profit corporation to provide supportive funding and resources for the Reserve. The Foundation seeks funding through donations, grants, and membership fees, facilitates property acquisition, and supports special activities.

Weeks Bay Volunteers

The Weeks Bay Volunteers was established as an unincorporated non-profit association in 1997. The primary purpose of this association is to aid the Reserve by organizing volunteers to actively assist the staff in their education, research, and resource protection functions. A board of seven directors is vested to manage the affairs of this association in accordance with its constitution and by-laws. An annual business meeting is held on the 2nd Tuesday of January. Board meetings are held quarterly on

the 2nd Tuesday of the month. The Reserve Manager, or his/her designee, shall receive prior notification of and furnish advice for any project undertaken on behalf of the Reserve. Through fundraising activities, the volunteers support many projects to assist the Reserve.

The goals, objectives, and actions included in the Administrative Plan are as follows:

Goal: Protect and improve habitat and biological diversity within the boundary of the Reserve.

Objective: Solicit and obtain funds to support habitat and biological diversity.

Actions:

a. Provide grant administration support to ensure that funds are solicited and managed efficiently.

b. Write grants to secure funding in support of habitat and biological diversity within the Reserve.

Goal: Promote education, stewardship, and scientific research focusing on estuarine ecosystems.

Objective: Facilitate administrative and financial management of Reserve research, education, and outreach programs.

Actions:

a. Provide grant administration support to ensure that funds are managed efficiently.

b. Write grants to secure funding for programmatic support.

c. Participate in NERR System meetings to support NERRS Program.

Objective: Provide administrative staffing and facilities to support Reserve programs.

a. Target agency capabilities to meet needs of Reserve programs with reference to the Weeks Bay Reserve Long Range Plan (Appendix L).

b. Employ additional staff as needed to support Reserve programs. Increased staffing will facilitate internal research, education, and outreach programs with reference to the Weeks Bay Reserve Long Range Plan (Appendix L).

c. Create usable and efficient staff workspace to allow better coordination between programs.
The Administration will work to improve existing facilities to better house staff, programs, and visitors. This includes the development and implementation of the Facility Master Plan Study and Design with reference to the Weeks Bay Reserve Long Range Plan (Appendix L).

d. Clarify and revise the roles and capabilities of federal, state, and local governments or agencies.

e. Purchase equipment and supplies to enhance staff productivity. The Administration will prioritize and purchase equipment and supplies for programs. Included in this list are a covered pontoon boat, an open water work boat and additional vehicles as needed and resources allow.

Objective: Improve and enhance partnerships to benefit Reserve programs.

Actions:

a. Develop Memoranda of Understanding (MOU) with local, state, and federal organizations. The focus of these MOUs would be cooperative understanding and protection of the Reserve resources. In a way, the Reserve will strengthen existing relationships with regulatory protection agencies, research and monitoring organizations/institutions, and educational organizations.

b. Facilitate partnerships with local agencies to support Reserve programs.

## IV. STEWARDSHIP

Good stewardship practices will be utilized to protect, enhance, and restore ecological integrity within the Reserve for long-term research, education, and management. Also, Reserve programs will provide outreach and instruction on the use of good stewardship practices and use of these practices in the coastal community.

Stewardship is the effort to manage, protect and preserve the natural resources contained within the Reserve by: 1) evaluating natural and anthropogenic processes affecting the resources, 2) initiating and supporting research and monitoring, and 3) actively educating the public. Informed management of the resources at the Reserve has been facilitated by collective input from various advisory, technical, education, and citizen groups.

RESOURCE PROTECTION

The Reserve serves in part as a national, regional, and local center of information on coastal and estuarine resources. The Reserve is an outdoor laboratory for study, providing opportunities for monitoring, research, education, and restoration management activities. It serves as a testing ground for applied coastal management techniques, and as a point of contact and outreach for federal, state, and other relevant agencies and organizations.

The Reserve serves as a regional source of objective and integrated information on the role of estuaries in marine ecosystems, the role of governments in their protection and management, and the need for individual responsibility and stewardship. The Reserve also involves itself pro-actively in land use issues within its watershed or areas that could potentially affect the Reserve resources. South Baldwin County has a rapidly growing population, and the Reserve will play an active role in an effective program of technical assistance to promote informed coastal management decisions.

The natural resources within the Weeks Bay Reserve and its watershed encompass both terrestrial and aquatic habitats. The lands held by ADCNR/SLD are primarily terrestrial with some pond, swamp, marsh and stream habitats. Included too, are the submerged lands (i.e., water bottoms) of Weeks Bay and its tributaries to the limit of tidal influence. These sensitive areas are composed of emergent marsh, submerged aquatic vegetation, soft bottom and open water habitats. In an effort to protect these various living resources of coastal Alabama and maintain them in a natural state, management strategies provide guidance when issues arise that adversely impact various habitats. As an example, management of habitats to control or eliminate exotic invasive species is achieved through various Reserve actions.

Development activities continue to be issues of concern for resource protection. An increase in permit requests for building extensive piers over State lands in Weeks Bay led to the establishment of a pier task force in 1994 composed of members from state and federal agencies including: Alabama Department of Environmental Management, Alabama Department of Economic and Community Affairs, ADCNR (State Lands and Marine Resources Divisions), CZM, COE, and the Marine Environmental Sciences Consortium (MESC). Efforts of the task force resulted in recommendations on structural guidelines and shoreline alterations (see Appendix F). These formalized pier criteria remain in force and are utilized by the U.S. COE and ADCNR State Lands Division for permit issuance. As part of the criteria, dredging is prohibited within the boundaries of the Weeks Bay Reserve. Further, the Reserve strongly recommends that the County Commission deny requests to rezone lands to allow increasing development density and adhere to the land use plans established by planning commissions/zoning boards. These examples illustrate the need for the Reserve to promote stewardship and provide guidance in the area of resource protection.

An estimated 3,000 acres of previously converted wetlands for agricultural purposes are located within the Weeks Bay watershed. Wetlands trap soil particles and attached pollutants associated with upstream runoff. The loss of these wetlands and their associated water quality functions has contributed to nutrient loads and sedimentation in many of the tributaries and portions of Fish and Magnolia Rivers as well as Weeks Bay. Land use/land cover and nonpoint source pollution (NPS) resulting from urbanization/residential development in the Weeks Bay watershed contribute high levels of nitrate. Other major contributors are agriculture and sod production.

Land use changes in the watershed may potentially be the greatest threat to coastal resources. Where and how development occurs has direct implications to water quality, aquatic species, and wildlife habitat. Waterfront development and bulkheading of shoreline are primary concerns. Riparian vegetation plays an important role in reducing turbidity by trapping sediment, providing thermal cover to prevent water temperature extremes, and taking up excess nutrients that may be present in runoff. Shoreline vegetation absorbs wave energy and reduces erosion. Floodplain habitat reduces the height and velocity of flood waters. Waterfront development and bulkheading will greatly reduce these natural protections for water quality and wildlife habitat.

Light penetration reduced by sediment and plankton in the water column, may limit submerged aquatic vegetation (SAV) abundance in Weeks Bay. Stout and Lelong (1981) located only two small patches of SAV less than an acre each, near the mouth of the bay at Muddy Bayou to the west and Williams Creek just inside the bay to the east. Species present were mostly freshwater aquatics (*Valisneria americana*, *Myriophyllum spicatum* and *Potamogeton pectinatus*), except for the brackish widgeon grass (*Ruppia maritima*). Recent surveys of these sites failed to locate these beds. Although SAV habitats are ephemeral, the lack of recovery or establishment of new grassbeds is a concern. Resource protection efforts will focus on reducing negative anthropogenic impact on coastal resources and, when possible, restoring habitats to their natural state. The Reserve will closely monitor all activities in and around the area. Uses that alter the existing natural state may not be permissible and guidance will be provided to local jurisdictions on development of policies on topics such as piers, boathouses, and shoreline stabilization.

The goals, objectives, and actions of the Resource Protection Plan are:

Goal: Protect and improve habitat and biological diversity within the boundary of the Reserve.

Objective: The Reserve will manage natural resources to maintain and restore ecosystem function.

Actions:

a. Classify Reserve habitats according to NERRS Stewardship and Management goals. A focus of Resource Protection is to integrate information in order to identify existing problems and potential impacts to Reserve holdings and water quality. Consequently, a resource classification will be used to evaluate each habitat/land tract managed by the Reserve and determine its long-term best use (i.e., protection, research, education, public access).

b. Evaluate impact versus benefit of Reserve management activities.

c. Assess the potential uses of conservation easements as a strategy for land protection adjacent to the Reserve.

Objective: Restore and protect habitat, through land acquisition, education, and incentive programs.

Actions:

a. Develop criteria to prioritize Reserve land acquisition by identifying areas with habitat restoration needs. Criteria will utilize previous work in the Weeks Bay Coastal Area to determine areas of high value with respect to significant ecologic areas, intact habitat, and biological diversity. Development of criteria will be accomplished by Reserve staff in coordination with local and regional partners. Priority areas will be lands adjacent to the Reserve and in project areas identified for acquisition.

b. Establish and maintain wildlife best management practices within the Reserve. The Reserve will review potential anthropogenic impacts on the resources and the pros and cons of management decisions with respect to long range goals.

c. Provide best management practice guidance to local and state regulatory agencies upon request and via workshops and seminars. This will entail providing information on best management practices and alternative solutions to potential problems (i.e., created wetland septic systems, conservation easements). The Reserve will also review permits and evaluate impact versus benefit of management activities.

Goal: Improve decisions affecting estuarine and coastal resources.

Objective: Research and monitoring data will become the basis for better-informed coastal management decisions.

Actions:

a. Use Geographic Information Systems (GIS) to evaluate land use information, physical and biological watershed characteristics and chemical water quality data. The Reserve will generate long-term data sets on water quality and habitat integrity to support decision-making to promote wise use of the resources. Specifically, data will be compiled into GIS format, creating databases including land type, physical parameters, and biological parameters. These databases will be utilized to generate graphs and maps which will serve as tools to evaluate management issues as they relate to resource protection research and education. This information will also be disseminated to the WBAC, regulatory agencies, and public interest groups.

b. Provide usable data and analysis for evaluation by Reserve staff, advisory committees and regulatory organizations. GIS is an effective tool for educating the public about wise use of resources. One primary focus of the reserve will be the use of this information its integration into educational programs. It has been shown that educated and informed citizens assist in resource protection by individually taking responsibility. In this way, the public itself takes an active role in managing and minimizing impacts to local resources.

c. Evaluate COE and ADEM permit applications for construction, land use changes, habitat alterations. Make comments where appropriate and forward to SLD Coastal Section. Comments on permit applications are important as this provides a mechanism to keep check on activities in the Reserve area and potential changes in land use. In many cases, such changes may result in a negative impact on water quality or loss of habitat. Review of permits can provide alternatives that could reduce negative impacts and offer an opportunity to provide alternative methods.

Goal: Promote education, stewardship, and scientific research focusing on estuarine ecosystems.

Objective**:** Improve exhibits and outreach initiatives to support Reserve programs.

Actions:

a. Expand interpretive program through creative exhibits, and public workshops to protect vital habitats including submerged grasslands, fringe marsh, shoreline, and other wetlands and upland forests.

b. Conduct workshops and tours and distribute literature that addresses issues such as the importance of wetland protection, the impacts from wetland loss, water quality issues, conservation easements, and wise land use planning and practices.

Objective**:** Provide for long-term support and involvement of watershed residents in watershed planning and management activities.

Actions:

a. Assist NRCS and USFWS in informing landowners of the availability of federal cost – share assistance for habitat protection. Many programs are already in place to assist landowners in habitat restoration and protection activities, however many landowners are not aware that programs are available or do not rank habitat protection as a management priority.

b. Develop educational programs that include literature, workshops, and press releases on conservation options and write grants to fund additional programs which will provide assistance to landowners for restoration activities.

c. Encourage the adoption of county/local ordinances for onsite sewage treatment and disposal. These will contain more stringent requirements for approving OSDSs, for homeowner maintenance and repair, and for effluent quality before infiltration to soil. It will also encourage communities to use small, decentralized, onsite sewage treatment and disposal systems with adequate operation and maintenance by certified operators.

d. Promote planning and zoning to protect environmentally sensitive areas. Specifically, the Reserve will identify areas that contain sensitive and rare habitats that, due to soil constraints, are unsuitable for certain types of development, and continue to track land use changes in the watershed. It is necessary to educate residents on planning, zoning, and the importance of retaining natural areas.

e. Encourage the Baldwin County Commission (BCC) to amend Subdivision Regulations to require increased water retention and require that ponds are not situated in environmentally sensitive areas. Research has determined that once impervious cover exceeds 10%, the following changes can be expected: increased flood peaks, lower dry weather flow, increased pollutant loads, decline in fish diversity, and decline in wetland plant and animal diversity (Booth and Jackson, 1997; Holland et al., 2004).

USES WITHIN RESERVE BOUNDARY

ALLOWABLE ACTIVITIES:

The Reserve and Advisory Boards have established a list of allowable activities. Activities approved for the general public within Reserve properties or managed areas include:

- Hiking on approved trails
- Photography while remaining in approved areas
- Swimming and boating within Weeks Bay, rivers, and tributaries
- Recreational fishing in Reserve (Weeks Bay and its tributaries), except for species listed under state and federal laws (e.g. shrimp)

Changes in allowable activities may occur due to changes in habitat resources or increased public activity in the future.

PROHIBITED ACTIVITIES:

In accordance with local, state, and federal agencies, the Reserve has established activities that are prohibited to the general public within Reserve properties or managed areas. These activities currently include, but are not limited to:

- Camping
- Hunting
- Fires
- Overnight parking
- Theft or destruction of natural resources and properties of the State.
- Fishing activities as dictated by state and federal laws

Additionally, any activities not listed, but prohibited by local, state and federal regulations, are also prohibited within the Reserve boundaries and its managed resources. Changes in prohibited activities may occur due to Reserve developments in the future.

ACTIONS ALLOWABLE WITH PERMIT OR PERMISSION:

To accomplish the goals of good stewardship and resource protection, several actions that may be prohibited are, upon approval, permissible on Reserve holdings provided that they do not cause permanent damage to the resources. Specifically, approved research and resource manipulation activities that require the use of specific actions that are prohibited, are allowed, with permission, as long as they do not permanently impact the resources (see sections IV and VIII; Resource Manipulation and Research and Monitoring). Additionally, resource collection permits may also be required, and individuals will need to acquire the necessary permits according to ADCNR guidelines. Regardless of the action, all activities will require prior notification to, and permission of, the Reserve.

RESOURCE PROTECTION POLICIES OF ADCNR

The Reserve is maintained as an estuarine fish and wildlife habitat, and a natural field laboratory for research and education/interpretation. The Reserve area is managed according to specific policies designed to protect the habitat integrity and natural setting of the site while allowing for continuation of traditional compatible uses. Methods for site and habitat protection include, yet are not limited to, land acquisition through purchase or donation, conservation easements; application of state, federal, and local laws and regulations for land use planning and zoning in cooperation with local governments; resource monitoring and research; and public education and outreach.

Traditional Activities/Uses:

It is the policy of the Reserve to continue traditional uses of the coastal resources in the Reserve that are compatible with the goals of the Reserve. These include boating, fishing, swimming, crabbing, bird watching and photography as these activities / uses are governed by appropriate agencies.

Watercraft:

It is the policy of the Reserve to encourage operation of watercraft in a manner that is compatible with the goals of the Reserve particularly in the maintenance of the wild habitat and natural setting. Examples of incompatible activities would include those that create excessive wave action (wakes), excessive noise, excessive petroleum product pollution (jet skis), or excessive disturbance of benthic organisms. Watercraft should not exceed idle speed outside of marked channels due to threats from underwater obstructions and shallow water. The Reserve encourages compatible activities through public education/information and public outreach efforts and development of applicable regulations in cooperation with appropriate agencies if necessary.

Fisheries:

It is the policy of the Reserve to encourage fishing activities that are compatible with the goals of the Reserve particularly the maintenance of the wildlife habitat and providing a natural research laboratory. Commercial shrimping is not allowed within Weeks Bay. Commercial gillnetting, and crabbing and recreational fishing and crabbing are allowed. Activities that result in depletion of fisheries or diminish the education or research goals of the Reserve will be discouraged. The Reserve will encourage compatible activities through public education/information and public outreach efforts and the development of applicable regulations in cooperation with appropriate agencies if necessary.

Submerged Lands:

It is the policy of the Reserve to discourage activities on, or uses of, submerged lands in the Reserve coastal area which are not compatible with the goals of the Reserve, particularly those which would significantly alter the water currents or flow, either riverine or tidal, physically disturb benthic organisms or diminish sunlight reaching submerged lands. Examples of incompatible activities/uses include dredging of channels, operation of watercraft in too shallow water and construction of structures which result in more than minimum shading of submerged lands (see Piers & Docks). The Reserve encourages compatible activities through public education/information and public outreach efforts and the development of applicable regulations in cooperation with appropriate agencies.

Shoreline:

At the estuarine shoreline are located emergent and fringe wetlands which protect the land from erosion and provide habitat for fish and other marine organisms. The adjacent buffer strip provides protection from nonpoint source pollution, and a natural setting for the estuary. It is the policy of the Reserve to discourage activities or uses of the shoreline in the Reserve coastal area that are not compatible with the goals of the Reserve, particularly those which significantly alter the shoreline or buffer strip. The Reserve discourages alteration of emergent or fringe wetlands, construction of bulkheads, and clearing of natural cover from the buffer strip. Conversely, the Reserve encourages restoration of fringe wetlands, non-structural means of stabilizing shoreline and protections of the natural vegetation in the buffer strip. The Reserve encourages compatible activities through public education/information and public outreach efforts, the development of applicable regulations and zoning ordinances in cooperation with appropriate agencies, local governments, and the purchase of conservation easements.

Wetlands:

It is the policy of the Reserve to discourage activities in or uses of wetlands in the Reserve coastal area that are not compatible with the goals of the Reserve. Specified activities that would be discouraged include activities that would result in the dredging, filling or shading of wetlands. It is the policy of the Reserve to support the wetlands regulatory program of ADEM/COE as embodied in Section 404 of the Clean Water Act and ADEM Division 8: Coastal Program Regulations and to facilitate that program by working with ADEM to develop regulations applicable to the Reserve coastal area. This includes commenting on permit applications affecting the Wetlands, and monitoring and reporting to ADEM activities in wetlands in the Reserve. Within the Reserve boundary, the Reserve management proposes no activities that alter wetlands except those necessary to support the educational or research goals of the Reserve.

Water Quality:

It is the policy of the Reserve to discourage activities related to or uses of ground or surface water in the Reserve coastal area and the Weeks Bay watershed that significantly diminish the water quality in those areas. Such activities or uses include nonpoint source pollution from run-off or septic tank leaching, point source discharges in the bay or watershed and contamination of ground water. The Reserve management works with ADEM through the Section 319 Nonpoint Source Pollution Program, Division 8: Coastal Program Regulations, and National Pollutant Discharge Elimination System regulations and the provisions of the ONRW designation (see Appendix G). These efforts include working with ADEM to develop regulations applicable to the Reserve, commenting on permit applications affecting the Reserve, and reporting activities affecting water quality. The Reserve management also works with the federal, state, and local entities to reduce nonpoint source pollution through public education/outreach and cooperative projects. The Reserve management works with the Baldwin County Health Department to assess and reduce nonpoint source pollution caused by septic tanks through public outreach and assistance, and provides assistance in monitoring and developing regulations.

Wildlife and Wildlife Habitat (Including Endangered and Threatened Species)

It is the policy of the Reserve to encourage activities related to wildlife and wildlife habitat that are compatible with the goals of the Reserve including the maintenance of wildlife habitat, particularly cover and forage, the protection of endangered and threatened species, and the provision of a natural research laboratory. Within the Reserve, wildlife is surveyed and monitored to enhance protection. Activities which enhance the protection of wildlife and wildlife habitat in the Reserve coastal area are encouraged through public education/outreach efforts, and when necessary, applicable regulations are developed in cooperation with the appropriate agencies.

Lands:

It is the policy of the Reserve to manage Reserve lands in order to protect the natural setting, maintain and enhance wildlife habitat and ensure the maintenance of the natural research laboratory. Management activities undertaken are designed to prevent nonpoint source pollution, particularly sedimentation, maintain shoreline buffer strips, restore habitats through prescribed burns, replanting, and maintain vegetation for wildlife cover and forage. The Reserve encourages these activities and promotes low density development in the Reserve coastal area and in the Weeks Bay watershed through public education/outreach activities and projects in cooperation with local agencies and governments.

Piers and Docks:

Due to the potential impact of piers, docks, and related structures on water quality, submerged lands, fringe wetlands, and the Weeks Bay shoreline a set of criteria have been developed for their

construction. The Pier Criteria (see Appendix F) were developed in 1995 with the cooperation of ADEM, ADCNR, COE, and the Dauphin Island Sea Lab (DISL). These criteria are used to evaluate the construction of piers and docks since 1996.

Air Quality:

It is the policy of the Reserve to manage activities on the Reserve so as not to diminish air quality below standards established by ADEM and to discourage such activities outside the Reserve through the monitoring of air quality and reporting air quality problems to ADEM.

Nonpoint Source Pollution:

It is the policy of the Reserve to manage activities and uses on the Reserve in a manner that minimizes nonpoint source pollution primarily through the application of best management practices (BMPs). The Reserve coordinates with local governments and agencies, with the CAC, with the ADEM Section 319 program and with the CZM Section 6217 program to encourage similar approaches to minimize nonpoint source pollution in the Reserve coastal area and Weeks Bay watershed. This involves public education/outreach programs and cooperative projects, monitoring and reporting NPS pollutants, and working with applicable agencies to develop appropriate BMPs. Specific areas of NPS pollution to be addressed include: 1) sedimentation from residential and commercial construction, maintenance of roads and road right-of-ways and agricultural uses, 2) nutrient enrichment from fertilizer run-off and septic tank leaching, 3) herbicide and pesticide run-off and 4) trash and debris on both land and water.

## ENFORCEMENT/SURVEILLANCE PROGRAM

Surveillance and enforcement activities require the coordination of law enforcement agencies (Marine Police and Baldwin County Sheriff), establishment of patrol schedules, and assessment. Reserve policy will provide guidelines for enforcement procedures. The Reserve Manager has responsibility for ensuring that all activities conducted within the Reserve conform with NERRS Guidelines for resource protection. The Reserve Manager will contact the Baldwin County Sheriff, Game Wardens, and Marine Police as necessary, and will be a full partner in the review of any permit affecting the Reserve's resources.

RESTORATION PLAN

A priority for the Reserve is to restore the temporal and spatial diversity inherent in a healthy ecosystem. The Reserve will take steps to quantify habitat loss and alteration on land within the Reserve boundary and other managed areas. Steps will be taken to determine the extent and cause of degradation and evaluate the optimal conditions to which the habitat can be returned and feasibility of returning the area to pre-disturbance conditions, or to a sub-optimal condition that assists in resource protection.

The goals, objectives, and strategies of the Restoration Plan are:

Goal: Protect and improve habitat and biological diversity within the boundary of the Reserve.

Objective: Restore and protect habitat, through land acquisition, education, and incentive programs.

Actions:

a. Determine the need for restoration of Reserve owned properties by assessing the habitat value of each parcel. Efforts will be focused on restoring habitats that have been altered by human activities leading to decreased habitat diversity within the Reserve boundary. This will be accomplished by determining historical distribution of habitat within the Reserve boundary and weighing this information against the habitat needs in the region. The program will utilize historic aerial photographs, USDA crop records, and conduct interviews with local residents to identify areas of significant habitat alteration to identify potential areas for restoration activities. Priority will be given to restoration projects that will require minimal resources to maintain restored habitat. For example, plugging ditches on prior converted (drained) wetlands would require minimal management and should respond well to restoration. Due to the agricultural history of Baldwin County, ample opportunity for restoring prior converted wetlands should exist.

b. Continue evaluation of Reserve habitats and identify rare or threatened habitat types in a local and regional context. Riparian areas provide valuable habitat and improve water quality in downstream waters. Restoration of riparian buffers will be encouraged on private lands within the watershed. Where possible, technical assistance and volunteer assistance will be provided to landowners.

c. Coordinate with state and federal agencies to minimize loss and restore habitats. Restoration of habitats at the Reserve include the Weeks Bay Pitcher Plant Bog, Nature Trail Restoration Area, shoreline restoration through the Baldwin County Grasses in Classes program, and various research projects.

d. Identify suitable sites to restore rare or threatened habitats. Restoration efforts that reconnect isolated natural areas and/or expand existing natural areas will have the greatest likelihood of restoring the temporal and spatial diversity inherent in healthy ecosystems.

e. Co-management of the Swift Tract in coordination with the Weeks Bay Mitigation Bank. A large area of land is owned by a private group adjacent to the Swift tract. This encompasses a little over 1,700 acres and the owners, Wetlands Restoration, L.L.C., sponsor a mitigation bank, the Weeks Bay Mitigation Bank, and will transfer this property to ADCNR at some future time. Following the complete sale of credits

(end of operational life of the bank) and the transfer of title to ADCNR, the restored lands will be incorporated into the boundary of the Reserve.

The purpose of the mitigation activities on the adjacent property is to restore, create, enhance, and preserve the “wetlands” status of the mitigation bank lands. The target habitat is Pine Savannah representing a coastal ecosystem rich in diversity. A mitigation bank review team made up of representative State and Federal agencies approved the management plan submitted by the mitigation bank. ADCNR has agreed to have restoration activities on the Swift tract follow the management goals and objectives of the mitigation bank plan. The expected outcome of these co-managed activities is to enhance the Swift tract and eventually establish an additional 1,700 acres of Pine Savannah for the Reserve. This in effect would provide over 2,300 contiguous acres of protected coastal resources next to Bon Secour Bay.

RESOURCE MANIPULATION

Although the goal of the Reserve is to protect the resources within the Reserve boundaries, the overall goal of good Stewardship suggests that restoration and research are necessary components of managing the Reserve properties. Currently, manipulative efforts to restore habitats, increase habitat diversity, increase accessibility for public interpretation, and conduct research activities are sanctioned as long as they do not conflict with overall management objectives of Resource Protection.

The goals, objectives, and actions of the Resource Manipulation plan are:

Goal: Protect and improve habitat and biological diversity within the boundary of the Reserve.

Objective: The Reserve will manage natural resources to maintain and restore ecosystem function.

Actions:

a. Continue resource management activities such as prescribed burning of appropriate habitats. The Reserve's Pitcher Plant Bog represents what was once a major habitat along the northern Gulf Coast. Nationwide, only 2% of this unique habitat remains. The carnivorous plant bog habitat is fire dependent and during the last five decades of development and increased fire protection, much of the habitat has been lost. To restore the habitat, the Pitcher Plant Bog Restoration Project involves controlled burning of 45 to 50 acres of the Foley Tract in cooperation with the ADCNR/SLD. These periodic burnings prohibit encroachment of competitive flora and allow the bog habit to flourish. Overall the pitcher plant bog restoration is progressing in response to the prescribed burning activities.

b. Establish access to diverse habitats if appropriate and beneficial. Areas requiring some degree of manipulation to establish or maintain access for the purposes of recreation, interpretation, research or management will be identified. An approved method of access is or will be determined to all current and future Reserve holdings. The Reserve staff maintains access to all properties for emergency, management and research purposes. If necessary, adjacent landowners are contacted to secure access on remote sites. For example, the pitcher plant bog restoration includes a public access point and elevated boardwalk for interpretive purposes.

c. Manage wildlife enhancement projects. A 15-25 acre upland area of the Foley Tract adjacent to the upland trail will be managed to provide better habitat for a gopher tortoise population. A survey and recommendation for this area is complete. A thinning of the forested area would be followed with a very limited burn. This would provide an open area for herbaceous plants to flourish thus enhancing the habitat for the gopher tortoise.

Objective: Restore and protect habitat, through land acquisition, education, and incentive programs.

Actions:

a. Identify resource manipulation projects and investigations that would benefit the Reserve and restore habitats. Examples of manipulation projects include fire management in the Pitcher Plant Bog and Nature Trail area, restoring hydrology

west of the Interpretive Center, and ongoing efforts to remove exotic invasive species.

b. Evaluate Reserve properties and habitats for research projects and scientific investigations. Some tracts will be restored or actively managed requiring the manipulation of vegetative and /or hydrology (see Restoration Plan). These activities will provide unique opportunities for scientist to monitor the response of the habitat to management initiatives. For example, the Swift tract provides an opportunity for investigation of pine savannah/pitcher plant bog restoration.

c. Evaluate Reserve properties to make most efficient use of resources for public outreach and environmental education. The Reserve will identify sites suitable for public access for the purpose of interpretation and demonstration projects (i.e., trails on Foley Tract). Public access areas should be adjacent to parking, provide safe trails, and located away from potential hazards such as flood prone areas and highways. Resource manipulation will be required to maintain areas for public access purposes. Sites will be selected that will minimize public impact on the resource.

## V. BOUNDARY AND ACQUISITION PLAN

The original concept for the boundary of the Weeks Bay Reserve, and that used today, encompasses those tracts of land owned by or dedicated to the Reserve tied together by the water bottoms- the inter-tidal area up to the mean high tide line of Weeks Bay, portions of Fish and Magnolia Rivers, and Bon Secour Bay. The current boundary was delineated in 1985 in the Weeks Bay Final Environmental Impact Statement and Management Plan. This boundary concept continues today with plans to incorporate land parcels acquired by the State of Alabama into the Reserve boundary.

Expansion of the Reserve boundary is consistent with the NERRS goals as previously stated. The new boundary will include land and water portions of the Weeks Bay estuarine system that have been acquired due to ecological significance and availability. The newly acquired lands will be incorporated into the Reserve upon NOAA approval of the boundary expansion and increase the land area managed for conservation by (333 acres).

The Reserve intends to further expand its boundaries in future years to include tracts that are environmentally significant and will contribute to the overall ecologic integrity of the Weeks Bay estuarine system. All land acquisitions planned by the Reserve will contribute to conservation in an effort to include all of the key land and water portions of the estuary, and adjacent transitional areas and uplands constituting to the extent feasible, a natural unit. These lands, through conservation management, will be set aside as a natural field laboratory to provide long-term opportunities for research, education, restoration, and interpretation.

The goals, objectives, and strategies of the Boundary and Acquisition Plan are:

Goal: Protect and improve habitat and biological diversity within the boundary of the Reserve.

Objective: Prioritize habitat areas and land tracts for acquisition within the Weeks Bay Coastal Area according to their contributions to ecosystem function.

Actions:

a. Describe land tracts by land use. The Reserve in cooperation with the Alabama Natural Heritage Program, the Nature Conservancy (TNC), and ADEM, developed a program that identifies and prioritizes lands in the Weeks Bay Coastal Area for acquisition. This Program has developed a GIS database incorporating impacted sensitive lands, significant wetlands, and habitat for indicator species.

b. Identify ecologically significant estuarine habitats. Land use information is layered and a watershed non-point source pollution profile generated. In this way, key ecological areas will be identified and prioritized for purchase.

c. Identify existing and/or potentially disruptive land uses.

Objective: Develop land acquisition methods and conservation initiatives to protect ecologically valuable habitats and expand Reserve boundaries.

Actions:

a. Organize funding strategies to provide resources for the Reserve. The land acquisition plan has been developed that coordinates and leverages funds to make possible the purchase of high priority parcels. This involves continual monitoring of the status of parcels with regard to availability and of the status of funds available for acquisition purposes. Annual communication or meeting with eligible landowners, as well as annual meetings with funding agencies or sources will be held.

b. Provide conservation mechanisms within the watershed. The Reserve will continue to pursue funds to purchase properties, work with landowners to explore conservation easements, and encourage donations of property. Areas outside of the five project areas should also be considered if they contain lands that would significantly protect the Weeks Bay estuary from negative impacts such as NPS pollution or provide significant benefit to the environmental characteristics of the area.

c. Assist organization of community efforts towards conservation. Due to the lead time often required to obtain funds from government agencies for acquisition and the speed with which properties often come on the market, the Weeks Bay Reserve Foundation will be encouraged to maintain funds to initiate acquisition while other funds are sought.

d. Continue to promote the use of conservation easements and other mechanisms for coastal resource management. One method of protecting land cover, land use and wildlife habitat short of acquisition is through the use of conservation easements. Under a conservation easement, the right to engage in specific activities is conveyed to a second party while the landowner retains ownership. The desirability of using easements may increase with the continued inflation of land values and the desire of some landowners to insure the natural setting of an area for future generations. Constitutional Amendment 543 provided for conservation easements in Alabama in 1993. This amendment specifically allows the state to accept such easements to protect natural areas. The Alabama legislature passed the Uniform Conservation Easement Act in 1997 as a means of specifying the methods and uses of conservation easements in the state. In partnership with ADCNR State Lands, the Reserve will pursue conservation easements where acquisition is not obtainable, and continue implementation of conservation easement education projects.

Weeks Bay Reserve

The Weeks Bay Reserve (Figure 9) encompasses those properties owned by the State of Alabama dedicated to the Reserve as described in the 1998 Management Plan. The Reserve includes the:

- water bottoms (submerged lands) up to the mean high tide line of Weeks Bay (1,730 acres)
- water bottoms of Fish and Magnolia Rivers, and their tributaries, to the mean high tide line and to the termination of tidal influence (534 acres)
- water bottoms of Bon Secour Bay adjacent to the Swift tract and north across the mouth of Weeks Bay opposite Mary Ann Beach Park to the mean high tide line (2,616 acres)
- Foley tract (178 acres)
- Ogburn tract (157 acres)
- Swift tract (615 acres)
- Damson tract (360 acres)
- View Point Park (2 acres)

Weeks Bay Reserve Boundary Expansion

The Reserve is seeking to expand its boundaries to encompass buffer properties currently owned by the State of Alabama but not included in the Reserve boundary (Figure 9). These lands are representative of the unique and valuable wetland habitats found in the Weeks Bay Coastal Area and include the:

- Fish River Marina tract (22 acres)
- Turkey Branch tract (20 acres)
- Harris tract (64 acres)
- Worcester tract (49 acres)
- Riverlands tract (90 acres)
- Safe Harbor (81 acres)
- Lott Property (3 acres)
- Meador tract (4 acres)

Weeks Bay Reserve Foundation

Two tracts of land are retained by the WBRF pending transfer to the Reserve. Upon title transfer and subsequent approval by NOAA, these tracts will, in the future, expand the area within the Reserve boundary by 23 acres.

- Juniper tract (13 acres)
- Bon Secour Bay tract (10 acres)

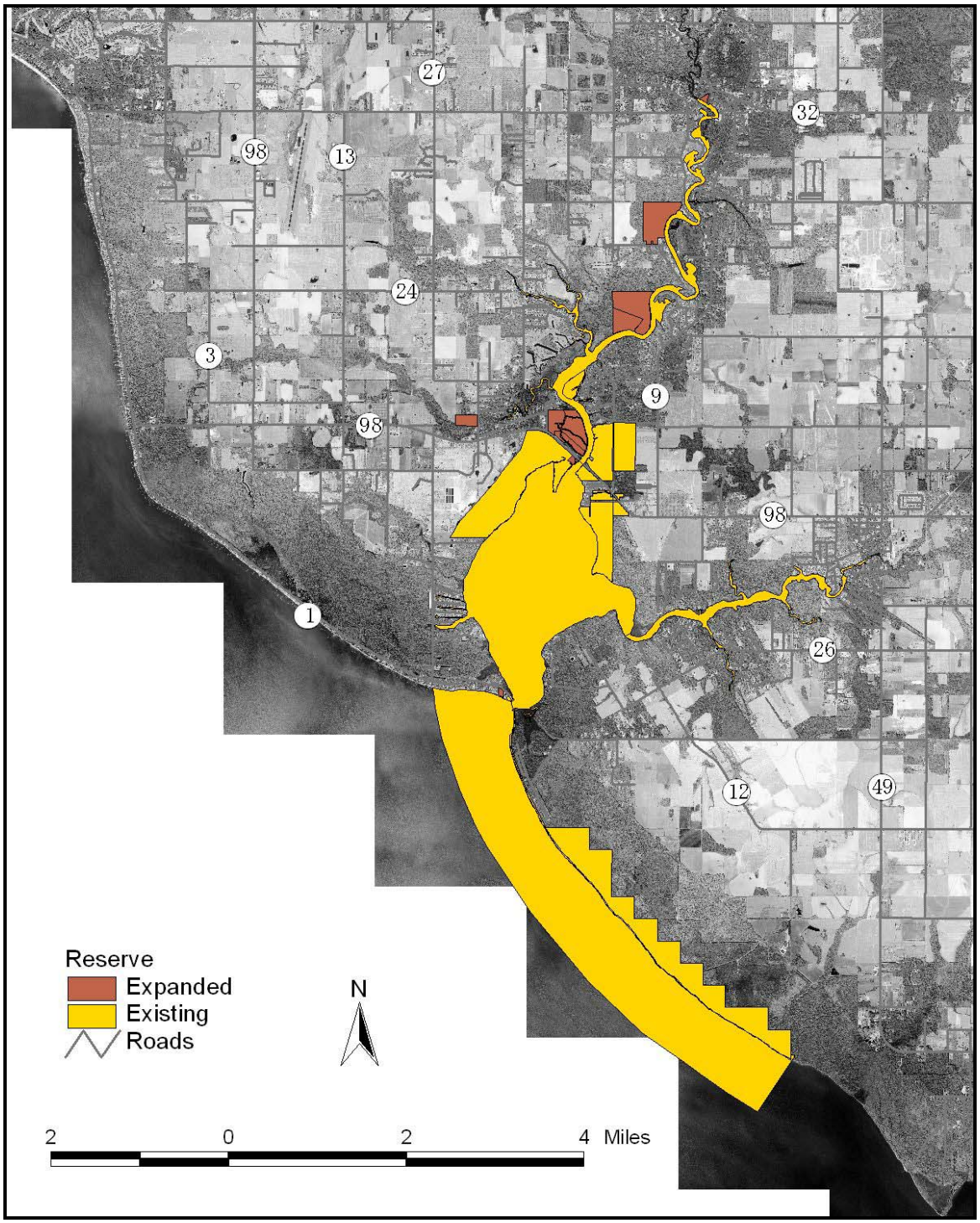


Figure 9. Existing and Expanded Reserve Boundaries.

PRIORITIZING LAND ACQUISITIONS

The land acquisition plan will be further developed with input from the Weeks Bay Advisory Committee and Weeks Bay Reserve Foundation. Future acquisitions of property will be based on several criteria including:

1. ecological importance - some properties may contain flora, fauna, or land forms of particular importance,

2. location - other factors being equal, property adjacent to existing holding would be preferred,

3. current use and development potential - undeveloped properties would generally be preferred but some developed parcels may be desirable to control the course of future development,

4. availability - currently for sale or likely to be for sale in the near future, and

5. cost and relative cost - availability of funds, possibility of a swap or donation, importance of the property relative to other parcels under consideration,.

Land Acquisition and Habitat Identification

There are five project areas that have been identified as containing significant ecological habitats.

Ecological characteristics that are considered significant in these five project areas are habitat type, rare/endangered species, breeding/nursery area, forage area, migratory species, geomorphic features, ecosystem function, and uniqueness of natural community. These characteristics are described below.

Habitat Type: In general, fresh and salt marshes, swamp and forested low-lying areas of sand and/or sandy/clay soils. Much is tidally influenced and wet year round.

Rare/Endangered species: American Bald Eagle, Pileated Woodpecker, Alabama Red-bellied Turtle, Gopher Tortoise, Indigo Snake, American Alligator, West Indian Manatee, and many bog plants that include those common to pitcher plant bogs (pitcher plants, sundew, etc.).

Breeding/Nursing Area: Weeks Bay is approximately 4 sq. miles, with *Ruppia* and *Vallisneria* SAV in many shoreline areas of the Bay. It is a prime nursery for shrimp and many other commercial and non-commercial fishes and crustaceans in both brackish and freshwater habitats.

Forage Area: Multitudes of species of mammals, reptiles, birds, amphibians, and fish. Dominated by swamp, and both freshwater and salt marshes.

Migratory Species: There are literally dozens, too many to name all, but include the white pelican, monarch butterfly, warblers, ducks, speckled trout, and others.

Geomorphic Features: Dominated by swamp and both salt and freshwater marshes. Primarily sand and clay soils, typical highly productive estuarine habitats.

Ecosystem Function: Food source, flood control, water quality protection and water purification, riparian habitat, groundwater recharge, wildlife habitat, nursery and spawning grounds.

Uniqueness of Natural Community: Exceptional biological productivity and diversity; migratory species (last stop and first arrival habitat for crossing the Gulf of Mexico); rare stands of Atlantic white cedar, pitcher plant bogs, cypress swamps.

These areas have been identified to contain significant tracts of land to be considered for potential acquisition (Figure 10). The five project areas are:

- Weeks Bay Project Area
- Magnolia River Project Area
- Lower Fish River Project Area
- Upper Fish River Project Area
- Bon Secour Bay Project Area

Existing designations within the five project areas include NERRS, ONRW, GEMS, GAPC, and ACAMP. The project areas lie within the rapidly growing northern Gulf coast. Land is available for commercial and residential uses, as well as for resource protection. Development and population growth pressures will no doubt stress the watershed. Threats to Weeks Bay watershed include urban, commercial, and residential development, sedimentation, nutrient influx, and pathogen contamination. These project areas are described below and are shown in Figures 11-15. Appendix J lists the definitions related to the National Wetland Inventory codes listed on the maps.

KEY PROJECT AREAS

Weeks Bay Project Area (Figure 11)

Weeks Bay is a shallow (4.8ft/1.6m), diamond-shaped estuary, having a surface area approximately 4 sq. miles (1.5mi E-W x 2.5mi N-S). Historically its entire perimeter is fringed with an emergent marsh of black needle rush (*Juncus roemarianus*) and saltmarsh cordgrass (*Spartina alterniflora*) predominantly. Close to the shore (10-20ft/3-7m) are bottomland hardwoods, with slash and loblolly pines (*Pinus elliotti, P. taeda*) and commonly seen bald and pond cypress (*Taxodium distichum, T. ascendens*).

With slight elevation, the encompassing forested wetlands include such common tree species as live, water, and chestnut oaks (*Quercus virginiana, Q. nigra, Q. prinus*), sweetgum (*Liquidambar styraciflua*), blackgum (*Nyssa sylvatica*), red cedar (*Juniperus virginiana*), red and silver maples (*Acer rubrum, A. saccharinum*), American, yaupon, and dahoon hollies (*Ilex opaca, I. vomitoria, I. cassine*), and southern and sweet bay magnolias (*Magnolia grandiflora, M. virginiana*), just to name a few. These habitats still exist on the northern half of the Bay on both east and west sides, primarily already within the NERRS boundary. The south half of the Bay has been developed in many areas, yet much of the emergent and swamp areas still exist.

Magnolia River Project Area (Figure 12)

Magnolia River, though sporadically developed along much of the river, has large tracts of undisturbed fresh and brackish habitats that need protection. Much of these areas are emergent saltmarsh and emergent freshwater marsh, with tidal and non-tidal swamp and lowland areas. Including the species mentioned above, other dominant species in this project area include common reed (*Phragmites australis*), sawgrass (*Cladium jamaicense*), cattails (*Typha sp.*), arrow arum (*Peltandra virginica*), wild rice (*Zizania aquatica*), pickerelweed (*Pontederia cordata*), bulrushes (*Scirpus sp.*) and tapegrass (*Vallisneria americana*) to name a few. These habitats are of particular value for nursery areas and as flood control during the regions frequent hurricanes and storms. The north Gulf coast has the highest rainfall (avg. 65 inches) of anywhere in the continental United States.

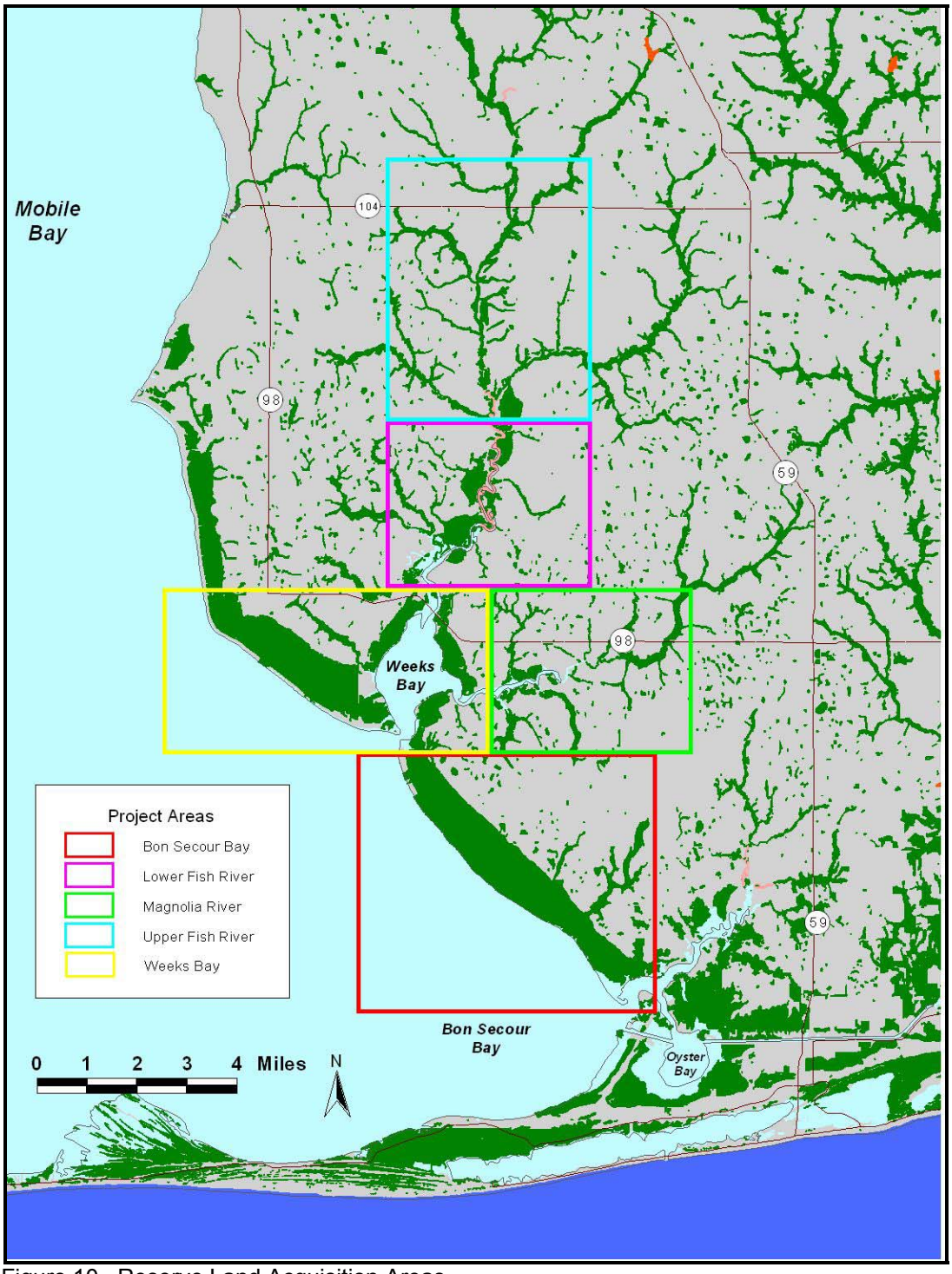


Figure 10. Reserve Land Acquisition Areas.

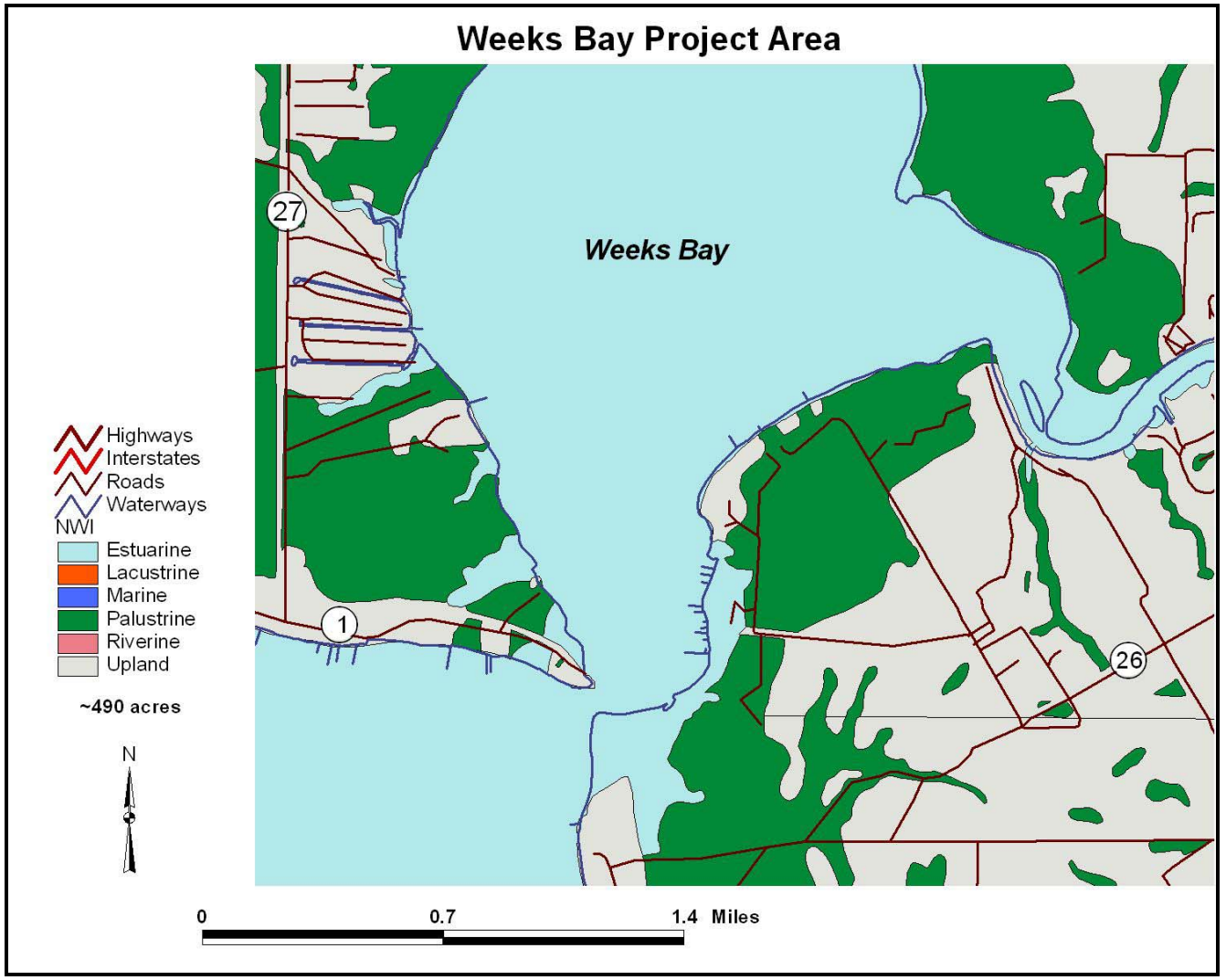

Figure 11. Weeks Bay Project Area.

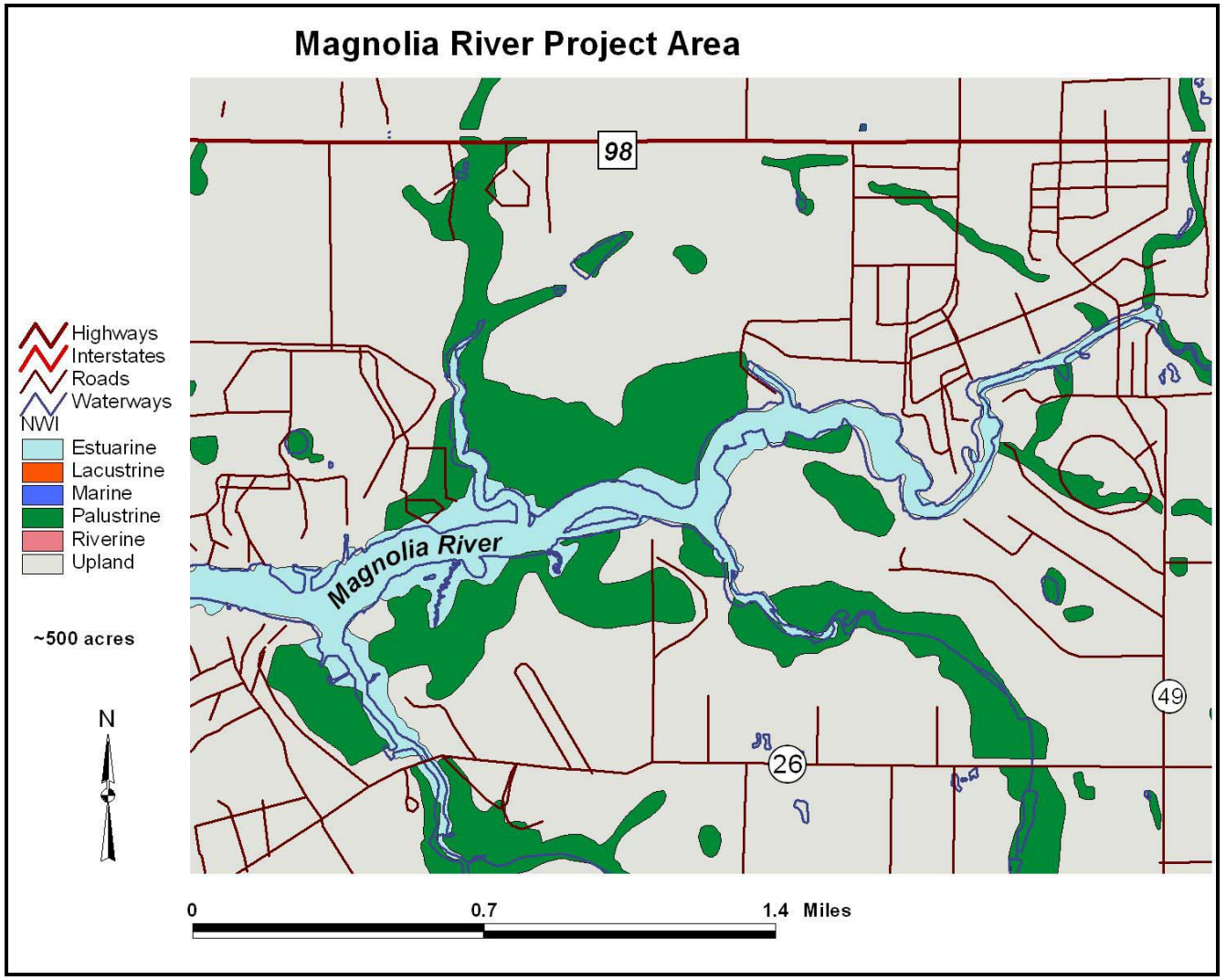

Figure 12 . Magnolia River Project Area.

Lower Fish River Project Area (Figure 13)

The larger of the two rivers, providing 74% of water volume entering Weeks Bay, the Fish River is more developed, with permanent and summer homes along approximately 1/3 of its shoreline. Sections of the River are undisturbed, lining both riverbanks with tidal and non-tidal swamps and emergent freshwater marshes with species previously mentioned. Some upland areas are in agriculture. Many of the Fish River's tributaries are relatively remote and untouched.

Upper Fish River Project Area (Figure 14)

The upper reaches of the Fish River are more remote; mostly forested, and are less populated compared with the lower half of the River. Yet, due to intense population growth more of this forest and cropland is being turned into housing subdivisions with on-site septic treatment. There have been two identified stands of rare and unique Atlantic White Cedar swamp/forest in the upper Fish River. These areas represent a distinct community not currently protected. Several rare plants are documented here including pitcher plant species, and gopher tortoises noted in the uplands. There are a few large areas of saltmarsh near the mouths of Weeks Bay, Fish River, and Magnolia River that should be acquired.

Bon Secour Bay Project Area (Figure 15)

Part of the Reserve lies outside of the Weeks Bay watershed to the south, with land and water bottom on Mobile Bay. These unprotected habitats, primarily swamp forest of cypress, oak, and pine, are adjacent and near to Reserve property, and currently accessible only by water. Development pressures inland may open up some of these parcels for shore development. Reserve lands in this project area have recently received a controlled burn, in efforts to restore a more historical pine-savannah habitat.

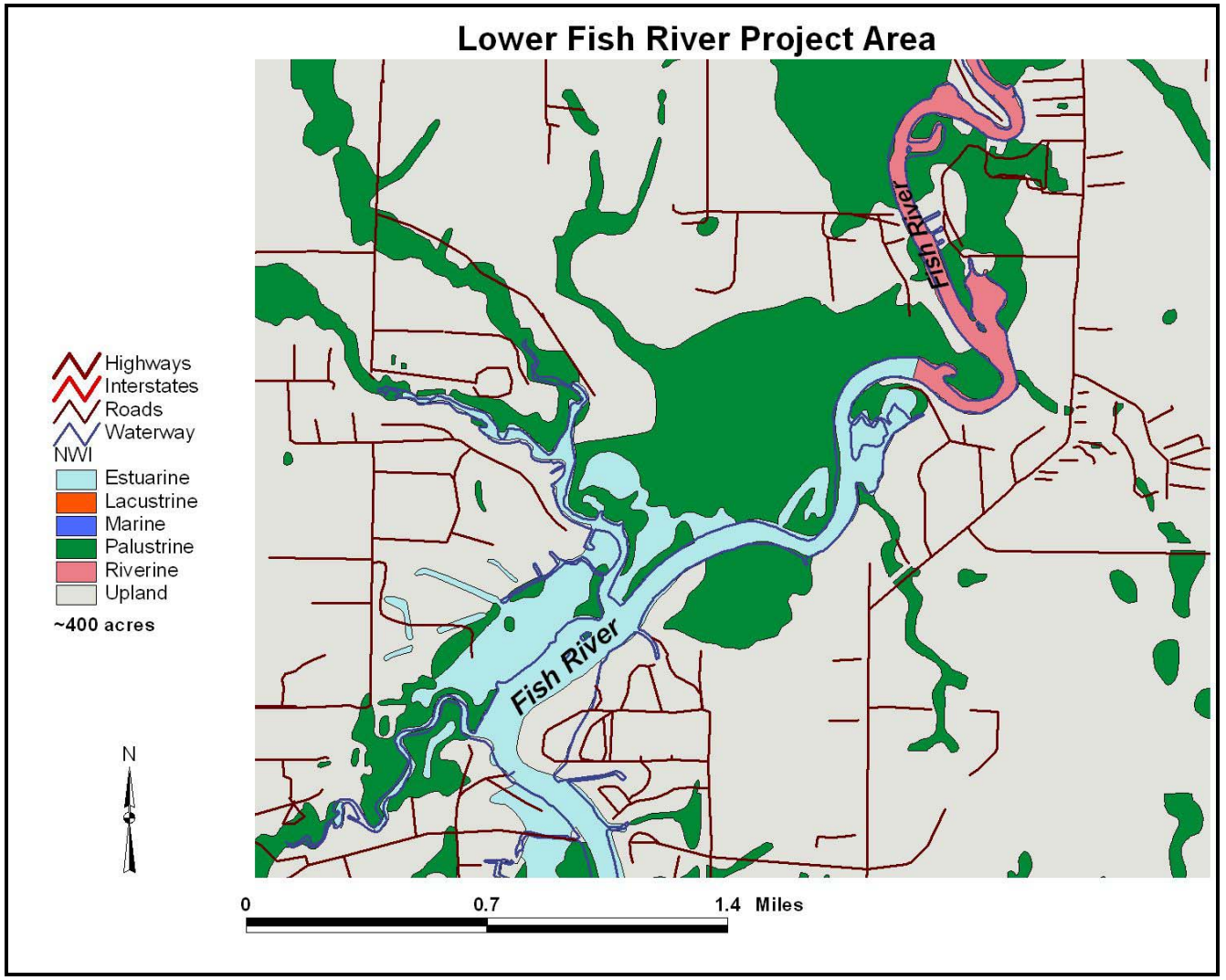


Figure 13. Lower Fish River Project Area

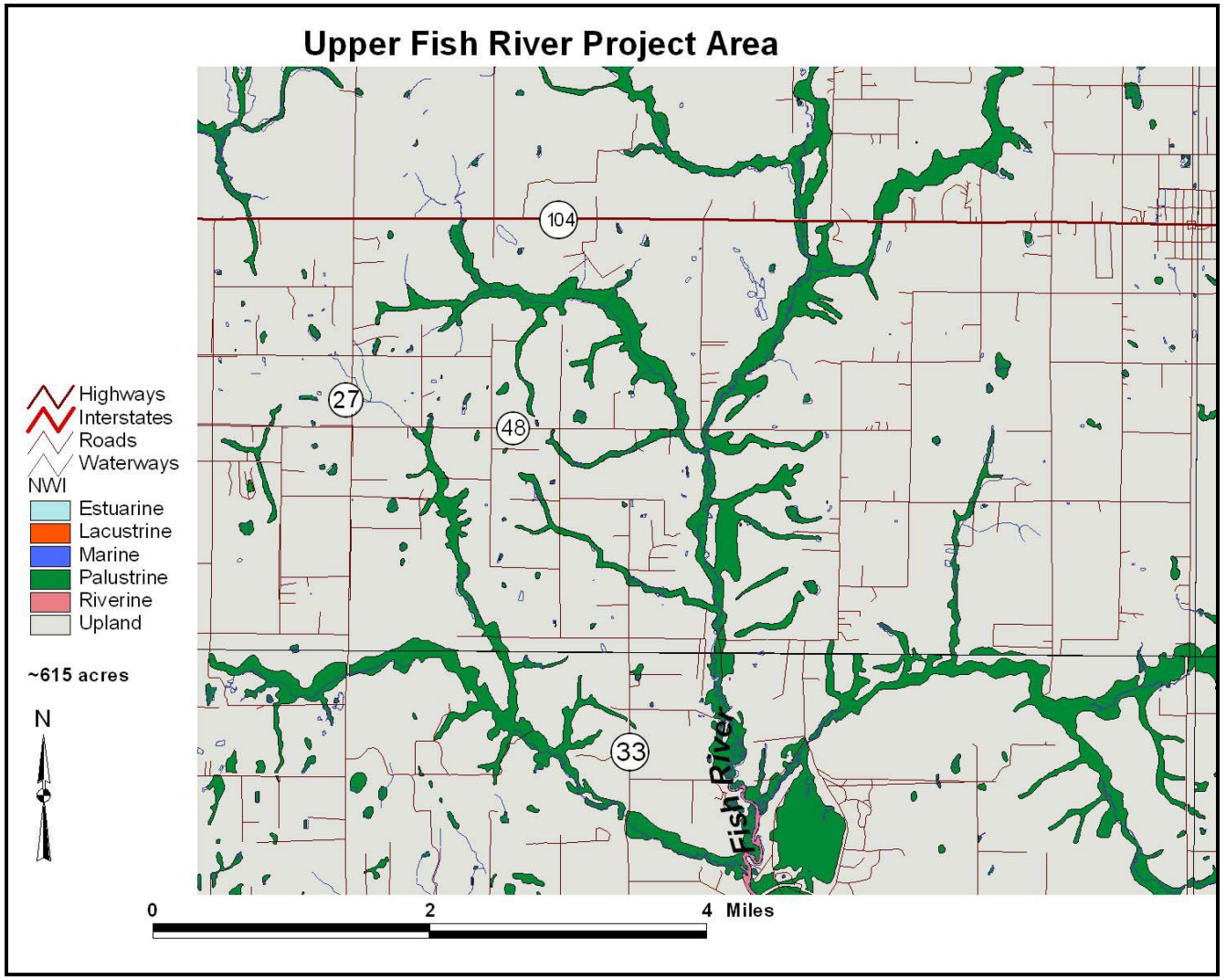


Figure 14. Upper Fish River Project Area.

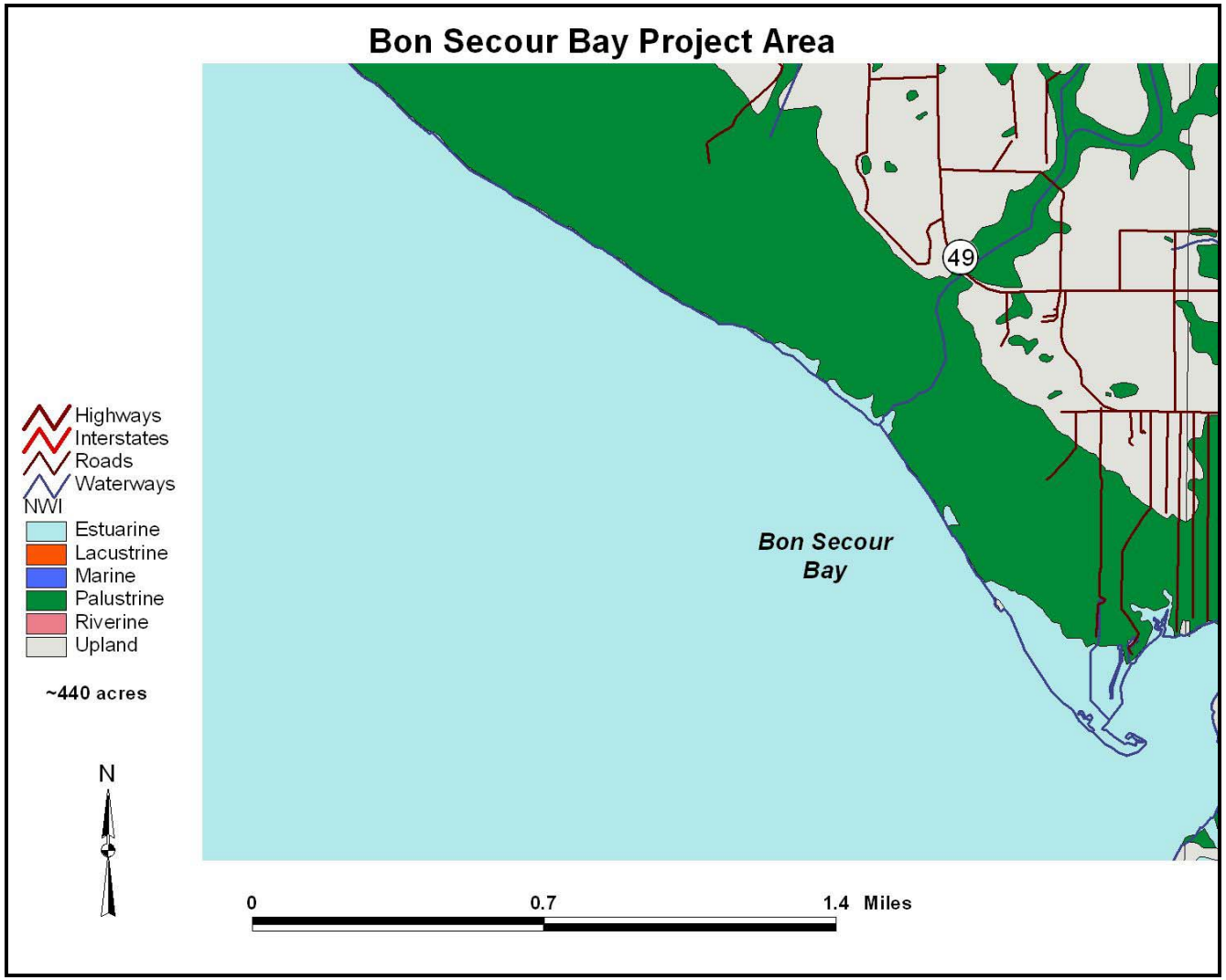

Figure 15. Bon Secour Bay Project Area.

## VI. PUBLIC ACCESS PLAN

Providing public access to the Reserve for educational and recreational activities for the public is essential for promoting public support and stewardship. When individuals visit the Interpretive Center or hike the trails, they have an opportunity to gain a better appreciation for the natural beauty, intricacies and value of coastal habitats. The Interpretive Center also provides visitors with information on specific habitats, and resource conservation. Weeks Bay Reserve serves as a focal point for education and outreach and provides the public with opportunities to experience and enjoy nature. The Reserve is ideally situated for education and outreach activities by virtue of its accessibility.

The goals, objectives, and actions of the Public Access Plan are:

Goal: Protect and improve habitat and biological diversity within the boundary of the Reserve.

Objective: Designate areas and guidelines for public access to reduce impact on resources and maximize public outreach.

Actions:

a. Utilize boardwalks and other low impact access to unique habitats.

b. Provide public with information describing resource protection. At each entry point to Reserve properties, both interpretive and resource protective materials are provided and will continue to be developed. Specifically, these provide the public with information regarding policies and how to reduce adverse impacts and protect the resources.

c. Provide trail guides with interpretive information.

Goal: Promote education, stewardship, and scientific research focusing on estuarine ecosystems.

Objective: Improve and enhance water access to facilitate Reserve programs.

Action:

a. Focus public access to designated areas of the Reserve adding the access points listed below:

Interpretive Center Ground Trail/Observation Area
Interpretive Center/Docking Facility Boardwalk
Weeks Bay Coastal Bike/Hike Trailhead

## VII. FACILITIES AND CONSTRUCTION PLAN

Administrative offices are located in a 4,500 square foot Interpretive Center located on U.S. Highway 98. This building also includes a small classroom, small laboratory, conference room, exhibit area including live animals, restrooms, and storage space. Directly behind the center, is a 3,600 linear ft. elevated boardwalk. In August 1996, a 16 x 20 foot portion of the observation deck was covered with a pavilion to provide shelter for visitors. A second elevated boardwalk at the Weeks Bay Pitcher Plant Bog provides access to citizens who are interested in visiting the carnivorous plant bog. The overlook/observation area is handicapped accessible from a parking lot provided by Baldwin County. Construction of a 3,500 square foot Research & Education Facility was completed in 1997. This facility provides housing for visiting researchers, an auditorium for educational programs, and additional office space.

At present, existing facilities are at capacity. Increased facilities for instruction will allow Reserve programs to meet increased demand for services. The CTP has moved into an operational phase and workshop size may need to be increased. Educational programs for grades K-12 are at a maximum level limited in part by facilities. Facilitation of visiting researchers continues to increase and creative scheduling is sometimes the only solution to potential conflicts in the use of facilities and assets.

The goals, objectives, and actions of the Facilities and Construction Plan are:

Goal: Promote education, stewardship, and scientific research focusing on estuarine ecosystems.

Objective: Develop buildings that have a low impact on natural resources within the Reserve.

Actions:

a. Expand boardwalk to connect with the nature trail and provide observation area.

b. Expand parking areas and construct second access to Highway 98 utilizing innovative surfacing where possible.

c. Develop flow through aquatic systems for research and educational/interpretive programs.

d. Expand boardwalk to connect Interpretive center with Weeks Bay Docking Facility

e. Establish an outside restroom facility for school groups.

f. Maintain and update Interpretive Exhibits.

g. Expand classroom and restroom facilities for education programs.

h. Refurbish parking areas utilizing innovative surfacing where possible.

i. Construct or convert existing space to provide a lab area for research and monitoring.

j. Construct or convert existing space to provide outdoor education facilities.

k. Rebuild or refurbish permanent buildings such as the Volunteer Activities Center.

l. Develop and Implement Facility Master Plan Study and Design with reference to the Weeks Bay Reserve Long Range Plan (Appendix L).

m. Construct maintenance and storage facility on site.

n. Construct dormitory to house visiting researchers.

Objective: Existing resources will be improved and enhanced to better accommodate Reserve Programs.

Actions:

a. Acquire a covered pontoon boat with twin engines and the capacity to carry 40 passengers.

b. Acquire an open water work boat with engine.

c. Acquire a vehicle with the capacity to tow and a 4x4 maintenance vehicle.

d. Refurbish dockage on Fish River, and canal north of the US 98 bridge.

e. Rebuild boat house areas on center canal, Fish River, and canals of Safe Harbor.

f. Establish interpretive canoe trails and offer canoe checkout for the public.

g. Replace boat ramp at Safe Harbor.

h. Maintain ponds at Safe Harbor for education and research programs.

## VIII. RESEARCH AND MONITORING PLAN

The reserve system provides a mechanism for addressing scientific and technical aspects of coastal management problems through a comprehensive, interdisciplinary, and coordinated approach. Research and monitoring programs, including the development of baseline information, form the basis of this approach. Reserve research and monitoring activities are guided by national plans that identify goals, priorities, and implementation strategies for these programs. This approach, when used in combination with the education and outreach programs, will help ensure the availability of scientific information that has long-term, system-wide consistency. The approach has utility for managers and members of the public to use in protecting or improving natural processes in their estuaries.

Reserve System Research Goals

Research at the Weeks Bay National Estuarine Research Reserve is designed to fulfill the NERR System goals as defined in program regulations. These include:

- Address coastal management issues identified as significant through coordinated estuarine research within the System.

- Promote Federal, state, public and private use of one or more reserves within the System when such entities conduct estuarine research; and

- Conduct and coordinate estuarine research within the System, gathering and making available information necessary for improved understanding and management of estuarine areas.

Reserve System Research Funding Priorities

Federal regulations, 15 C.F.R. Part 921.50 (a), specify the purposes for which research funds are to be used:

- Support management-related research that will enhance scientific understanding of the Reserve ecosystem,
- Provide information needed by Reserve managers and coastal ecosystem policy-makers, and
- Improve public awareness and understanding of estuarine ecosystems and estuarine management issues.

The reserve system is focusing on the following research areas to support the priorities above:

1. Eutrophication, effects of non-point source pollution and/or nutrient dynamics;
2. Habitat conservation and/or restoration;
3. Biological diversity and/or the effects of invasive species;
4. Mechanisms for sustaining resources within estuarine ecosystems; or
5. Economic, sociological, and/or anthropological research applicable to estuarine ecosystem management

There are two reserve system efforts to fund research on the previously described areas. The Graduate Research Fellowship Program (GRF) supports students to produce high quality research in the reserves. The fellowship provides graduate students with funding for 1-3 years to conduct their research, as well as an opportunity to assist with the research and monitoring program at a reserve.

Projects must address coastal management issues identified as having regional or national significance; relate them to the reserve system research focus areas; and be conducted at least partially within one or more designated reserve sites.

Students work with the research coordinator or manager at the host reserve to develop a plan to participate in the reserve's research and/or monitoring program. Students are asked to provide up to 15 hours per week of research and/or monitoring assistance to the reserve; this training may take place throughout the school year or may be concentrated during a specific season.

Secondly, research at the NEERS is funded through the Cooperative Institute for Coastal and Estuarine Environmental Technology (CICEET), a partnership between NOAA and the University of New Hampshire. CICEET uses the capabilities of UNH, the private sector, academic and public research institutions throughout the U.S., as well as the 27 reserves in the reserve system, to develop new environmental technologies and techniques.

System-Wide Monitoring Program

It is the policy of the Weeks Bay Reserve to implement each phase of the System-Wide Monitoring Plan initiated by ERD in 1998, and as outlined in the reserve system regulations and strategic plan:

- Phase I: Environmental Characterization, including studies necessary for inventory and comprehensive site descriptions;
- Phase II: Site Profile, to include a synthesis of data and information; and
- Phase III: Implementation of the System-Wide Monitoring Program.

The System-wide Monitoring Program provides standardized data on national estuarine environmental trends while allowing the flexibility to assess coastal management issues of regional or local concern. The principal mission of the monitoring program is to develop quantitative measurements of short-term variability and long-term changes in the integrity and biological diversity of representative estuarine ecosystems and coastal watersheds for the purposes of contributing to effective coastal zone management. The program is designed to enhance the value and vision of the reserves as a system of national reference sites. The program currently has three main components and the first is in operation.

1. Abiotic Variables: The monitoring program currently measures pH, conductivity, salinity, temperature, dissolved oxygen, turbidity, water level and atmospheric conditions. In addition, the program collects monthly nutrient and chlorophyll a samples and monthly diel samples at one SWMP data logger station. Each reserve uses a set of automated instruments and weather stations to collect these data for submission to a centralized data management office.
2. Biotic Variables: The reserve system has successfully incorporated SAV/Emergent Biomonitoring efforts within 18 reserves. Other aspects that could be incorporated include monitoring infaunal benthic, nekton and plankton communities.
3. Landuse, Habitat Mapping and Change: This component will be implementing the NERRS Habitat Classification System to identify changes in coastal ecological conditions with the goal of tracking and evaluating changes in coastal habitats and watershed land use/cover. The main objective of this element will be to examine the links between watershed land use activities and coastal habitat quality.

These data are compiled electronically at a central data management "hub," the Centralized Data Management Office (CDMO) at the Belle W. Baruch Institute for Marine Biology and Coastal Research at the University of South Carolina. They provide additional quality control for data and metadata and they compile and disseminate the data and summary statistics via the Web (http:/cdmo.baruch.sc.edu) where researchers, coastal managers and educators readily access the information. The metadata meets the standards of the Federal Geographical Data Committee.

Research Plan

The goals, objectives, and actions of the Research Plan are:

Goal: Promote education, stewardship, and scientific research focusing on estuarine ecosystems.

Objective: Provide resources, support, and background data to independent research projects within the Reserve and adjacent associated waters.

Actions:

a. Evaluate research proposals for consistency with Reserve goals and to ensure that the proposed research will not interfere with other research at the Reserve.

b. Information and data housed at the Reserve will be provided to researchers if requested to assist research, including maps, species lists, charts, access to reserve boats, field gear, lodging, computers, laboratory, equipment, etc.

c. A Reserve staff person shall pilot all Reserve vessels unless researchers are qualified, licensed vessel operators, knowledgeable in proper small boat handling and safety, and receive prior permission.

d. Establish and maintain monitoring site in Bon Secour Bay.

Objective: Increase understanding of watershed functions and methods of resource protection and restoration through applied research and monitoring projects.

Actions:

a. Establish a priority list of applied research and monitoring themes consistent with the goals of the Reserve.

b. Use priority list to seek outside research and monitoring or to initiate internal applied research and monitoring projects.

c. Establish and implement procedures using scientifically accepted or standard methods to monitor and collect the appropriate data from applied research and monitoring projects conducted at the Reserve.

d. Continue to cooperate with appropriate federal, state, and local agencies and watershed stakeholders to address federally listed impaired waterways and to establishment Total Maximum Daily Load implementation plans.

Goal: Improve decisions affecting estuarine and coastal resources.

Objective: Make baseline data on habitats and water quality available to local, state, and national entities.

Actions:

a. Create and update numerical databases that include information on habitats and water quality available to entities outside of the Reserve.

b. Create and update georeferenced data layers based on habitat and water quality data sets.

c. Incorporate data collected through System-wide Monitoring Program into site specific GIS format.

d. Ensure adequate training in GIS for the Reserve Staff.

e. Create products for various user groups

Monitoring Plan

The goals, objectives, and strategies of the Monitoring Plan are:

Goal: Improve decisions affecting estuarine and coastal resources.

Objective: Monitoring and research data will be translated and disseminated to local, state, and federal participating agencies and other private and public users through education and outreach programs.

Actions:

a. Establish and host research forums open to coastal resource managers and the general public with active researchers presenting quality assured or peer-reviewed data from research and monitoring projects.

b. Continue to publish articles in local media and newsletters outlining research and monitoring activities.

c. Continue to present research and monitoring data at professional meetings or other appropriate public events.

## IX. EDUCATION PLAN

The reserve system provides a vehicle to increase understanding and awareness of estuarine systems and improve decision-making among key audiences to promote stewardship of the nation's coastal resources. Education and interpretation in the reserves incorporates a range of programs and methodologies that are systematically tailored to key audiences around priority coastal resource issues and incorporate science-based content. Reserve staff members work with local communities and regional groups to address coastal resource management issues, such as non-point source pollution, habitat restoration and invasive species. Through integrated research and education programs, the reserves help communities develop strategies to deal successfully with these coastal resource issues.

Formal and non-formal education and training programs in the NERRS target K-12 students, teachers, university and college students and faculty, as well as coastal decision-maker audiences such as environmental groups, professionals involved in coastal resource management, municipal and county zoning boards, planners, elected officials, landscapers, eco-tour operators, and professional associations.

### K-12 EDUCATION

K-12 and professional development programs for teachers include the use of established coastal and estuarine science curricula aligned with state and national science education standards and frequently involves both on-site and in-school follow-up activity. Reserve education activities are guided by national plans that identify goals, priorities, and implementation strategies for these programs. Education and training programs, interpretive exhibits and community outreach programs integrate elements of NERRS science, research, and monitoring activities and ensure a systematic, multi-faceted, and locally focused approach to fostering stewardship.

### RESERVE SYSTEM EDUCATION MISSION AND GOALS

The National Estuarine Research Reserve System's mission includes an emphasis on education, interpretation, and outreach. Education policy at the Weeks Bay Reserve is designed to fulfill the reserve system goals as defined in the regulations (15 C.F.R. Part 921(b). Education goals include:

- Enhance public awareness and understanding of estuarine areas and provide suitable opportunities for public education and interpretation;

- Conduct and coordinate estuarine research within the system, gathering and making available information necessary for improved understanding and management of estuarine areas.

### RESERVE SYSTEM EDUCATION OBJECTIVES

Education-related objectives in the Reserve System Strategic Plan (FY 05-10) include:

- People are aware of the ecological, economic, historical, and cultural importance of estuarine resources.

- People understand how human choices and natural disturbances impact social, economic, and estuarine ecological systems.

- People apply science-based information when making decisions that could impact coastal and estuarine resources.

RESERVE SYSTEM COASTAL TRAINING PROGRAM

The Coastal Training Program (CTP) provides up-to-date scientific information and skill-building opportunities to coastal decision-makers who are responsible for making decisions that affect coastal resources. Through this program, National Estuarine Research Reserves can ensure that coastal decision-makers have the knowledge and tools they need to address critical resource management issues of concern to local communities.

Coastal Training Programs offered by Reserves relate to coastal habitat conservation and restoration, biological diversity, water quality, and sustainable resource management and integrate reserve-based research, monitoring, and stewardship activities. Programs target a range of audiences, such as land-use planners, elected officials, regulators, land developers, community groups, environmental non-profits, business and applied scientific groups. These training programs provide opportunities for professionals to network across disciplines, and develop new collaborative relationships to solve complex environmental problems. Additionally, the CTP provides a critical feedback loop to ensure that professional audiences inform local and regional science and research agendas. Programs are developed in a variety of formats ranging from seminars, hands-on skill training, participatory workshops, lectures, and technology demonstrations. Participants benefit from opportunities to share experiences and network in a multidisciplinary setting, often with a reserve-based field activity.

Partnerships are important to the success of the program. Reserves work closely with State Coastal Programs, Sea Grant College extension and education staff, and a host of local partners in determining key coastal resource issues to address, as well as the identification of target audiences. Partnerships with local agencies and organizations are critical in the exchange and sharing of expertise and resources to deliver relevant and accessible training programs that meet the needs specific groups.

The Coastal Training Program requires a systematic program development process, involving periodic review of the reserve niche in the training provider market, audience assessments, development of a three-five year program strategy, a marketing plan and the establishment of an advisory group for guidance, program review and perspective in program development. The Coastal Training Program implements a performance monitoring system, wherein staff report data in operations progress reports according to a suite of performance indicators related to increases in participant understanding, applications of learning and enhanced networking with peers and experts to inform programs.

PROGRAM STRATEGIES

The Reserve Education Plan designs and implements comprehensive programs of education and interpretation based on natural history, applied and cultural research efforts to strengthen understanding, appreciation and stewardship of estuaries, coastal habitats, and associated watersheds.

The goals, objectives, and actions for the Education Plan are as follows:

Goal: Protect and improve habitat and biological diversity within the boundary of the Reserve.

Objective: Provide resources to maintain, develop and implement educational programs.

Actions:

a. Employ a Coastal Training Program Coordinator.

b. Employ an assistant to help with K-12 educational programs and summer activities.

c. Keep computers, software, and other technological equipment updated.

d. Provide opportunities for the Reserve education staff to attend professional development programs and training.

Goal: Improve decisions affecting estuarine and coastal resources.

Objective: Use the training and outreach center for the capacity building of coastal resource managers.

Actions:

a. Develop an interactive website in which training sessions can be advertised; participants may register on-line for the events, and complete some post-venue evaluations. Additionally, the website will host a regional Master Calendar of natural resource training events and have a page with links to other training providers, partners, and issues of related interest.

b. Produce a CTP brochure that describes the goals, objectives, and details of potential training activities and update the brochure as the program progresses through the development phases.

c. Develop an inventory of prepared programs and informational documents.

d. Acquire equipment and supplies to enable the dissemination of the best science based information to decision makers.

Goal: Promote education, stewardship, and scientific research focusing on estuarine ecosystems.

Objective: Develop and implement comprehensive education and interpretation programs to increase knowledge of target audiences.

Actions:

a. Revise and supplement the K-12 curriculum incorporating new knowledge and technology. Develop the Weeks Bay Reserve portion of the ADCNR website to allow the public to access information concerning estuarine habitats of Alabama. The Reserve will continue to partner with the Weeks Bay Reserve Foundation to maintain a website as an educational reference tool.

b. Design interpretive materials and exhibits which communicate the significance of Reserve habitats and encourage stewardship of these areas and disseminate information to the public.

c. Develop and update brochures and interpretive guides for trails as needed. The Education Program will develop interpretive materials that best suit the Reserve community and the National program. Educational materials will be revised periodically and new materials will be developed to meet the changing needs of our audiences

d. Provide forums for people of all ages to become directly involved in stewardship activities through personal and community actions. The Reserve education staff will continue to train Reserve volunteers on environmental issues and techniques

necessary to interact with the public, participate in research and monitoring programs and increase personal knowledge and skills

Objective: Develop needs assessments and multi-purpose evaluation tools to measure effectiveness of education programs.

Actions:

a. Utilize assessments and tools to survey target audiences to measure the effectiveness of the education/interpretive programs. Presently the K-12 program assessment and evaluation consists of post visit questionnaires that are distributed to teachers. The questionnaire asks teachers to evaluate the value and effectiveness of present programs and to make suggestions concerning new programs that they would like to see implemented in the future.

b. Participants in CTP trainings will complete evaluations as measurements of the program success.

## X. VOLUNTEER PLAN

Volunteers make a tremendous contribution to all facets of Reserve programs. By supplementing the efforts of the paid staff, they expand and enhance the Reserve's goals and objectives. The Reserve is fortunate to be able to draw from a retirement community with a wide variety of skills and expertise. The volunteers gain personal satisfaction from the knowledge that they are performing an important role in protecting our estuarine and coastal resources. An effective volunteer program is an asset to the Reserve, a valuable experience for the volunteer, and an opportunity for direct community involvement. A volunteer program is also one of the best ways to effectively transfer information on the value of estuaries to the general public and to elected officials. Properly trained volunteers carry their knowledge and enthusiasm to portions of the general public that the Reserve staff may not reach.

The active participation of citizens in the community best serves the goals of the Reserve. Volunteers are encouraged to participate in all programs and activities and serve at all levels of skill and decision making. Commitment to having effective volunteer involvement is demonstrated by giving the volunteer program priority. It is the belief of the staff of the Reserve that there is a direct correlation between the quality of attention given to volunteers and the quality of their contribution.

The entire Reserve staff, from administration to maintenance, will demonstrate faith, respect, and enthusiasm for the volunteer program. The Reserve commitment to welcoming community involvement will be evident at all times, demonstrating a philosophy that volunteers are an integral part of the Reserve. The Volunteer Program will provide volunteer orientation, education, and development. It will also provide educational outreach to the community in order to develop a fundamental understanding of estuaries and how these areas are impacted by human activity.

The goals, objectives, and actions of the Volunteer Plan are:

Goal: Improve decisions affecting estuarine and coastal resources.

Objective: Trained volunteers will transfer knowledge and enthusiasm to wider audiences.

Actions:

a. Develop recruitment and media relations materials.

b. Encourage public speaking and personal contacts.

c. Manage recruitment efforts. This will entail designing materials which might include: a range of flyers, posters, brochures, etc.; written public service announcements to broadcast on radio and television; and press releases submitted to appropriate public sites, including print media, electronic networks and bulletin boards. Other projects that could be developed are slide shows and other audio-visual materials to support presentations and creation of a traveling exhibit/ display highlighting the volunteer program. Another mechanism to attract volunteers is to encourage public speaking and personal contacts among existing volunteers and develop a core of "program representatives" trained to speak on behalf of the volunteer program. Opportunities will also be registered with referral sources such as Volunteer Centers and the Coordinator will work with staff to insure all Weeks Bay Reserve public relations include mention of volunteer opportunities.

d. Continue to develop and refine orientation program for all volunteers.

e. Continue to develop and refine initial training plan.

f. Revise manuals and handbooks to be used for volunteer orientation and training.

Goal: Promote education, stewardship, and scientific research focusing on estuarine ecosystems.

Objective: Reserve will utilize volunteers to enhance and expand programs.

Actions:

a. Identify the Reserve's need for assistance. To assist Reserve programs, the Volunteer Plan will identify the Reserve's needs. Interviews will be conducted with the Reserve manager, staff, and volunteers to determine areas where assistance is needed. This information will be compiled and organized to aid in program development. The program will also research models of other volunteer programs to see how their successes can be incorporated

b. Develop a team approach for volunteer involvement in the Reserve. The program will develop and implement a team approach for volunteer involvement in the Reserve. This will entail identifying the main areas for volunteer involvement, creating job descriptions for each of the identified areas known as "support teams" A letter will be mailed to the volunteers explaining this team approach along with a response form indicating the level of involvement to which each volunteer agrees. Teams will then be formed and their activities will be coordinated through the volunteer coordinator to best assist the needs of the Reserve. Additional training will be provided to each team as needed.

c. Develop new volunteer projects.

d. Coordinate volunteer assignments and schedules. Specifically, the Volunteer Coordinator will work with staff to develop volunteer job descriptions and review job descriptions periodically and revise as necessary. The Volunteer Coordinator, in cooperation with volunteers and staff, will plan overall work schedules for volunteer assignments and document volunteer service.

Objective: Provide opportunities for volunteers to be involved with education, stewardship, and research programs.

Actions:

a. The Weeks Bay Volunteers will be organized into support teams. The Volunteer Coordinator will communicate regularly with members of the staff who directly supervise volunteers. This will ensure that volunteers are utilized appropriately with tasks suited to their abilities. It will also ensure that staff is accessible to, and is maintaining regular supervisory contact with, volunteers assigned to them. The coordinator will also function as a liaison and serve as a moderator to resolve any problems arising between volunteers and staff members, or among volunteers themselves.

b. Create and manage annual funding for the volunteer program.

c. Provide volunteers with adequate Reserve support for their program needs.

d. Monitor the supervision of the volunteers and act as an advocate for the volunteers. The Weeks Bay Volunteers organization will develop risk management procedures and strategies to understand legal and insurance issues as they relate to volunteers,

identify specific areas of potential risks and develop policies, training, and other strategies to limit such risks. They will also review the Reserve's policies and procedures, consult with the Reserve Manager and staff about any requirements and rules affecting volunteers. The Organization will determine annual budget needs and convey them to the Reserve Manager, authorize budget expenditures, develop a procedure for reimbursing volunteers and any other necessary fiscal procedures, and plan and implement fund raising events for the volunteer program.

The Volunteer Coordinator will act as an advocate for volunteers. The Coordinator will represent the volunteers' point of view to the Reserve, inform staff about issues related to volunteers, and initiate action on such issues. The Coordinator will ensure adequate support and arrange for adequate space, furniture, equipment and supplies for volunteers. Another objective will be to develop new projects, participate in agency-wide program planning to assure proper involvement of volunteers and gather ideas for new volunteer projects and program expansion. This will entail developing professional resources, attending volunteer management workshops and conferences, and networking with other directors of volunteers.

e. Develop professional resources.

f. Develop in-service training for the volunteers and for the staff. Volunteers will be required to attend in-service training. In this way, volunteers will receive the adequate training to interact with Reserve staff and the public. These curricula will provide a basis of knowledge through invited speakers and programs and in-service activities and lectures by Reserve Staff. Additionally, the Volunteer Program will facilitate future volunteer involvement by curricula evaluation and providing the opportunity for volunteers to attend special events, workshops, tours, etc. The Volunteer Coordinator, thus, will be an integral component of both Reserve staff and the Weeks Bay Volunteer organization.

i. Provide motivation and appreciation activities for volunteers. Perhaps the most important component of a successful volunteer program is the acknowledgment and appreciation of volunteer activities. When individuals are recognized for the commitment and accomplishments to Reserve programs, it reflects the true value of volunteers. Because their input and support are so valuable, the Volunteer Coordinator plans recognition events in which all levels of Administration take part. This re-affirms the Reserve’s commitment to volunteers and the program, while fostering a friendly atmosphere that promotes courtesy, motivation, and productivity in the future. The coordinator plans these events, but also supports volunteers by writing letters of reference, promoting communication of activities and accomplishments through newsletters, bulletin boards, and meetings and suggests ways for Reserve staff to demonstrate appreciation of volunteers on a daily basis. It is the Reserve’s goal to recognize volunteers to maintain their level of commitment through daily affirmations.

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# Weeks Bay
# National Estuarine Research Reserve

# Management Plan Appendices

January 2007

STATE LANDS DIVISION
ALABAMA
DEPARTMENT OF CONSERVATION AND NATURAL RESOURCES

NOAA
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
U.S. DEPARTMENT OF COMMERCE

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Appendices

# Appendix A
# Weeks Bay Volunteers By-Laws

Appendices

# BYLAWS OF WEEKS BAY VOLUNTEERS

(October, 2003 Update)

## AN ALABAMA UNINCORPORATED NONPROFIT ASSOCIATION

## ARTICLE ONE

## INTRODUCTION

### Definition of Bylaws

1.01. These Bylaws constitute the code of rules adopted by Weeks Bay Volunteers, an unincorporated nonprofit association, for the regulation, management and governance of its affairs.

### Purposes and Powers

1.02 This Association will have the purposes or powers as may be stated in its Constitution, and such powers as are now or may be granted hereafter by law. The primary purpose of this unincorporated nonprofit association is to aid and assist the Week's Bay National Estuarine Research Reserve (hereinafter referred to as "Weeks Bay Reserve") in its educational purpose by organizing volunteers to work and assist the Weeks Bay Reserve in its educational, research and resource protection functions and by fund raising activities to aid and supplement the financial resources of the Weeks Bay Reserve. The Reserve Manager of or The Reserve Managers designee shall receive prior notification of and furnish advice for any project in the name of or on behalf of Weeks Bay Reserve.

## ARTICLE TWO

## MEMBERSHIP

### Definition of Membership

2.01. The Members of this Association are those persons having membership rights in accordance with the provisions of these Bylaws.

### Qualification of Members

2.02. Members will be those persons who are at least 16 years of age who have attended orientation as prescribed by the Association.

## Place of Member's Meetings

2.03. Meetings of Members will be held at the Weeks Bay Reserve or at any other place within the state as provided.

### Annual Member's Meetings

2.04. The annual meeting of the Members will be held at 11:00 a.m. on the second Tuesday of January each year.

## Special Member's Meetings

2.05. Special meetings of the Members may be called by any of the following:

(1) The Board of Directors;
(2) Ten (10) percent of the Qualified membership.

## Notice of Members' Meetings

2.06. Written or printed notice, stating the place, day, and hour of the meeting and (in the case of a special meeting) the purpose or purposes for which the meeting is called, must be delivered not less than five nor more than forty calendar days before the date of the members' meeting, either personally or by first class mail (by or at the direction of the President, the Secretary or the Board of Directors or Members calling the meeting), to each Member entitled to vote at such meeting. If mailed, the notice will be deemed to be delivered when deposited in the United States mail addressed to the Member at his or her address as it appears on the records of the Association, with postage prepaid.

## Voting Rights of Members

2.07. Each member will be entitled to one vote on each matter submitted to a vote of Members. A Member may not vote by proxy.

## Quorum of Members

2.08. A quorum shall consist of Members present and voting at a properly called meeting. The vote of a majority of the votes entitled to be cast by the Members present at a meeting is necessary for the adoption of any matter voted on by the Members, unless a greater proportions is required by law, the Constitution of this Association, or any provision of these bylaws.

## Termination of Membership

2.09. Membership in this Association will terminate on any of the following events, and for no other reason:

(1) Receipt by the Board of Directors of the written resignation of a Member, executed by such Member or his or her duly authorized attorney-in-fact.
(2) The death of the Member.
(3) For cause, inconsistent with membership, and only after due notice and a hearing before the Board of Directors on the issues.

## ARTICLE THREE

## DIRECTORS

Definition of Board of Directors

3.01 The Board of Directors is that group of persons vested with the management of the affairs of this Association subject to the law, the Constitution of this Association, and these Bylaws.

Number of Directors

3.02. The Association shall elect six of its members to the Board of Directors. The Weeks Bay Manager or his designee shall also serve as an ex-officio member of the Board, for a total of seven directors.

3.03 Roster of Directors

The number of Directors of this Association will be seven. Officers shall be appointed by the Board of Directors as follows:

(1) Association President
(2) Association Vice President
(3) Association Secretary
(4) Association Treasurer

Terms of Directors

3.04. (1) The initial Directors elected by the members will hold office until the first annual members meeting. At the first annual members meeting three Directors will be elected by the members for a term of one year and three Directors will be elected by the members for a term of two years. Thereafter, Directors will be elected by the members at such meeting for a term of two years. Each Director will hold office for the

term for which elected or until a successor has been selected and qualified.

(2) A Director may be removed from office when such action will serve the best interests of this Association in the manner prescribed in the Constitution of this Association or these Bylaws for the election or appointment of Directors.

Vacancies on the Board

3.05 Resignation of Directors will become effective immediately or on the date specified therein, and vacancies will be deemed to exist as of such effective date. Any vacancy occurring on the Board of Directors, and any directorship to be filled by reason of an increase in the number of Directors, will be filled by appointment by a majority of the remaining Board of Directors. The new Director appointed to fill the vacancy will serve for the unexpired term of the predecessor in office.

Place of Directors' Meetings

3.06. Meetings of the Board of Directors, regular or special, will be held at the Weeks Bay Reserve or any place in Baldwin County, Alabama as the Board of Directors may designate by resolution duly adopted.

Regular Directors' Meetings

3.07. Regular meetings of the Board of Directors will be held at 10:00 a.m. on the second Tuesday of the first month of each calendar quarter. Should any such day in any year constitute a legal holiday, then the meeting will be held instead in such instance on the Thursday immediately following. This provision of the Bylaws constitutes notice to all Directors of regular meetings for all years and instances, and no further notice shall be required although such notice may be given.

Notice of Special Director' Meetings

3.08. Written or printed notice stating the place, day and hour of any special meeting of the Board of Directors will be delivered to each Director not less than two days nor more than ten calendar days before the date of the meeting, either personally or by first class mail, by or at the direction of the President, or the Secretary, or the Directors calling the meeting. If mailed, such notice will be deemed to be delivered when deposited in the United States mail addressed to the Director at his or her address as it appears on the records of this Association, with postage prepaid. Such notice need not state the business to be transacted at, nor the purpose of, such meeting.

Call of Special Board Meetings

3.09. A special meeting of the Board of Directors may be called by either the President or a majority of the Board of Directors.

Waiver of Notice

3.10. Attendance of a Director at any meeting of the Board of Directors will constitute a waiver of notice of such meeting, except where such Director attends a meeting for the express purpose of objecting, at the beginning of the meeting, to the transaction of any business because the meeting is not lawfully called or convened.

Quorum of Directors

3.11. One third of the whole Board of Directors will constitute a quorum. The act of a majority of the Directors present at a meeting at which a quorum is present will be the act of the Board of Directors, unless a greater number is required under the provisions of the Constitution of this Association, or any provision of these Bylaws.

## ARTICLE FOUR

## OFFICERS

Roster of Officers

4.01. The Officers of this Association will consist of the following personnel:

(1) President.
(2) Vice President.
(3) Secretary.
(4) Treasurer.

Selection of Officers

4.02. Each of the Officers will be elected and appointed annually by the Board of Directors. Each Officer will remain in office until a successor to such office has been selected and qualified. Such election will take place at the regular meeting of the Board of Directors taking place in the first calendar quarter of each year.

Multiple Officeholders

4.03. In any election of Officers, the Board of Directors may elect and appoint a single person to any two or more offices simultaneously, except that the offices of President and Secretary must be held by separate individuals. Officers may also serve

simultaneously as Directors of this Association.

President

4.04. The President will be the Chief Executive Officer of this Association and will, subject to the control of the Board of Directors, supervise and control the affairs of the Association. The President will perform all duties incident to such office, and such other duties as may be provided in these Bylaws or as may be prescribed from time to time by the Board of Directors.

Vice President

4.05. The Vice President shall perform all duties and exercise all powers of the President when the President is absent or otherwise unable to act. The Vice President will perform such other duties as may be prescribed from time to time by the Board of Directors.

Secretary

4.06. The Secretary shall (1) keep minutes of all meetings of Members and of the Board of Directors; (2) be the custodian of the corporate records; (3) give all notices as are required by law or by these Bylaws; and, generally, (4) perform all duties incident to the office of Secretary to include, having charge of correspondence, notify members of meetings, and keep a roster of members with their addresses and telephone numbers; (5) perform other such duties as may be required by law, by the Constitution of this Association, or by these Bylaws, or that may be assigned from time to time by the Board of Directors.

Treasurer

4.07. The Treasurer shall (1) have charge and custody of all corporate funds; (2) deposit the funds as required by the Board of Directors; (3) keep and maintain adequate and correct accounts of the Association's properties and business transactions; (4) render reports and accountings to the Directors (and Members) as required by the Board of Directors or Members or by law; and (5) perform in general all duties incident to the office of Treasurer and such other duties as may be required by law, by the Constitution of the Association, or by these Bylaws, or that may be assigned from time to time by the Board of Directors.

Removal of Officers

4.08. Any Officer elected or appointed to office may be removed by the persons authorized under these Bylaws to elect or appoint such Officers, whenever in their judgment the best interests of this Association will therefore be served.

## ARTICLE FIVE

## INFORMAL ACTION

Waiver of Notice

5.01. Whenever any notice is required to be given under the provisions of the law, the Constitution of the Association, or these Bylaws, a waiver of such notice in writing signed by the person or persons entitled to notice, whether before or after the time stated in such waiver, shall be deemed equivalent to the giving of such notice. Such waiver must, in the case of a special meeting of Members, specify the nature of the business to be transacted.

Action by Consent

5.02. Any action required by law or under the Constitution of this Association or these Bylaws, or any action that otherwise may be taken at a meeting of either the Members or Board of Directors, may be taken without a meeting if a consent in writing, setting forth the action so taken, is signed by all persons entitled to vote with respect to the subject matter of such consent, or all Directors in office, and filed with the Secretary.

## ARTICLE SIX

## COMMITTEES

Appointment of Committees

6.01. The Board of Directors, by resolution duly adopted may designate and appoint certain committees designed to transact certain ministerial business of the Association, or to advise the Board of Directors. Such Committees shall be chaired by an Officer or Director as designated by the Board, who shall select the remaining members of the Committee up to the number set by the Board, or terminate such memberships, or appoint successors in that Chairperson's discretion. The Board may terminate any such committee by resolution.

## ARTICLE SEVEN

## OPERATIONS

### Fiscal Year

7.01. The fiscal year of this Association shall be the calendar year.

### Execution of Documents

7.02. Except as otherwise provided by law, checks, drafts, promissory notes, and other evidences of indebtedness of this Association shall be signed by the Treasurer or by the President. Contracts, leases, or other instruments executed in the name of and on behalf of the Association shall be signed by the Secretary and countersigned by the President, and shall have attached copies of the resolutions of the Board of Directors (certified by the Secretary) authorizing such execution.

### Books and Records

7.03. The Association shall keep correct and complete books and records of account, and minutes of the proceedings of its Members and Board of Directors. The Association will keep at its principal place of business a membership roster giving the names and addresses of all members and a copy of its Bylaws including amendments to date certified by the Secretary of the Association.

### Inspection of Books and Records

7.04. All books and records of this Association may be inspected by any Member, or his or her agent or attorney, for any proper purpose at any reasonable time on written demand under oath stating such purpose.

### Nonprofit Operations - Compensation

7.05. This Association shall not have or issue shares of stock. No dividend shall be paid, and no part of the income or profits of this Association shall be distributed to its Members, Directors, or Officers. The Association may, however, pay compensation in a reasonable amount to Members, Officers, or Directors for services rendered.

### Loans to Management

7.06. This Association shall make no loans to any of its Directors or Officers.

Corporate Assets

7.07. (1) No Member may have any vested right, interest, or privilege of, in, or to the Association's assets, functions or affairs, or any right, interest, or privilege that may be transferable or inheritable, or that will continue if his or her membership ceases, or while he or she is not in good standing.

(2) Expelled Members shall have no property rights to assets of the Association.

(3) Upon dissolution, any Association assets remaining after the payment or discharge of all Association liabilities; the return, transfer, or conveyances of assets held on conditions requiring the same; shall be distributed for one or more exempt purposes within the meaning of § 501(c)(3) of the Internal Revenue Code, or the corresponding section of any future federal tax code, or shall be distributed to the federal government, or to a state or local government, for a public purpose. Any such assets not so disposed of shall be disposed of by a Court of Competent Jurisdiction of the county in which the principal office of the Association is then located, exclusively for such purposes or to such organization or organizations, as said Court shall determine, which are organized and operated exclusively for such purposes.

(4) The Directors may authorize secured transactions or other dispositions of corporate assets without approval by the Members.

## ARTICLE EIGHT

## AMENDMENTS

Amendment of Constitution

8.01. The power to alter, amend, or repeal the Constitution of this Association is vested in the Board of Directors and the Members. Such action must be taken pursuant to a resolution approved by a majority of the Directors and by a majority of the Members.

Modification of Bylaws

8.02. The power to alter, amend, or repeal these Bylaws, or to adopt new Bylaws, insofar as is allowed by law, is vested in the Board of Directors.

## ADOPTION OF BYLAWS

Adopted by the Board of Directors by resolution and vote of seven (7) for and

Zero (0) against, on the 14th day of October, 2003 at Weeks Bay

National Estuarine Research Reserve, 11300 U.S. Highway 98, Fairhope, Alabama.

DIRECTORS

| Approving: | Dissenting: |
| --- | --- |
| _____ | _____ |
| _____ | _____ |
| _____ | _____ |
| _____ | _____ |
| _____ | _____ |

# Appendix B
# Weeks Bay Reserve Foundation By-Laws

Appendices

BY-LAWS

FOR THE

WEEKS BAY RESERVE FOUNDATION, INC.

A NON-PROFIT CORPORATION

## ARTICLE ONE: PURPOSE

WEEKS BAY RESERVE FOUNDATION, INC., a non-profit corporation, has been exclusively organized to provide support for the Weeks Bay National Estuarine Research Reserve (WBNERR) and the manager for the operations, development and preservation of the WBNERR consistent with the following purpose:

WEEKS BAY RESERVE FOUNDATION, INC., a non-profit corporation, organized and established solely for general charitable purposes of generating and providing supportive funds and resources for the Weeks Bay National Estuarine Research Reserve. Such support may provide for, but not be limited to, educational, scientific, research, and interpretive programs and capital development projects and land acquisitions.

All functions undertaken by the WEEKS BAY RESERVE FOUNDATION, INC., shall be consistent with all local, state and federal laws, rules, and regulations of the WBNERR and the Management Plan thereof. The expenditures of Foundation funds shall be approved by the Foundation President up to two thousand, five hundred dollars ($2,500), and disbursements in excess of two thousand, five hundred dollars ($2,500) or other limits established by the Board of Directors must be approved by the Board of Directors.

## ARTICLE TWO: LOCATION

The principal office of this non-profit corporation, at which the day-to-day business will be transacted and where the records will be kept, will be at such place in the State of Alabama as may be fixed from time to time by the Board of Directors.

## ARTICLE THREE: MEMBERS

Members of the non-profit corporation will consist of the members of the Board of Directors and members at large; i.e., persons that have paid a membership fee for the purpose of supporting the WEEKS BAY RESERVE FOUNDATION, INC.

Section 1 - Membership Qualifications. The qualifications for membership will be the payment of a membership fee and the desire to support the purpose of the Foundation as stated in the Articles of Incorporation.

Section 2 - Duration. Each membership shall be one (1) year in duration. The membership anniversary date shall be one (1) year from the date of receipt of first membership fee payment, or in the even of membership interruption, the latest date of membership reinstatement.

Section 3 - Duties. The duties of the membership of this Foundation will include, but not be limited to, the election of members of the Board of Directors, and the support of the goals and objectives of the Foundation.

Section 4 - Meeting Chairman. The annual membership meeting will be chaired by the Chairman of the Board of Directors.

Section 5 - Vote by Proxy. Members may vote by written proxy at any meeting of members. Written proxy vote authorization must be received by the President of the Board of Directors forty-eight (48) hours before the date of the meeting for which the proxy is authorized.

Section 6 - Classes of Membership. The Foundation shall have one (1) class of members, and no more than one (1) membership may be held by any one person. The rights and privileges of all members must be equal. Each membership shall be entitled to one (1) vote.

Section 7 - Admission to Membership. The directors shall from time to time prescribe the form and manner in which application may be made for membership.

Section 8 - Property Rights. No member shall have any rights, title, or interest in any of the property or assets, including any earnings or investment income of this Foundation, nor shall any such property or assets be distributed to any member on the dissolution or winding up thereof.

Section 9 - Liability of Members. No member of this Foundation shall be personally liable for any of its debts, liabilities, or obligations, nor shall any member be subject to any assessment.

Section 10 - Transfer, Termination, and Reinstatement. Membership in this Foundation is nontransferable. Membership shall terminate on the resignation or death of a member, and a failure to pay the dues required herein within sixty (60) days of the due date. Individuals whose membership has been terminated may apply for reinstatement in the same manner as application is made for initial membership.

ARTICLE FOUR: MEMBERSHIP DUES

Section 1 - Annual Dues. The Board of Directors may determine from time to time the amount of annual dues payable to the

Foundation by members. More than one level of dues may be established.

ARTICLE FIVE: MEETINGS OF MEMBERS

Section 1 - Special Meetings. Special meetings of the members may be called by the president, the Board of Directors, or not less than one-tenth (1/10th) of such members as may be qualified to vote.

ARTICLE SIX: BOARD OF DIRECTORS

The Business Properties and Affairs of this corporation shall be managed by a Board of Directors.

Section 1 - Number. The number of members of the Board of Directors of this Foundation will be not less than three (3) nor more than eleven (11).

Section 2 - Qualifications. Directors will be representative of educational, scientific, research, business, government, civic, or environmental communities and will be responsible for carrying out the mission and goals of the Foundation as identified in Article One: Purpose. The Foundation is committed to a policy of fair representation on the Board of Directors, which shall not discriminate on the basis of race, origin, physical handicaps, sex, color, religion, sexual orientation, or age.

Section 3 - Nominations. Nomination for candidates for the Board of Directors shall be submitted in writing to the Board of Directors. The Board of Directors shall prepare a slate of candidates which shall be submitted to the membership in a timely manner prior to the annual election.

Section 4 - Election. Election of new directors or re-election of current directors will occur as the first item of business at the annual meeting of the Foundation. Elected directors shall be installed as Board members as the second item of business at the annual meeting of the Foundation. Directors will be elected by a plurality vote of the membership voting in any Foundation election. As the third item of business the directors by a majority vote shall elect a Chairman of the Board who will serve for one year or until his or her successor is elected. The Chairman shall preside over all meetings of the Board.

Section 5- Terms. The term of each director of the Foundation will be two (2) years, except for the initial Board, which shall serve staggered terms.

Section 6 - Vacancies. When a director dies, resigns, or is removed from directorship, the Board by a majority vote may appoint a replacement director to serve for the duration of the unexpired term. Said appointment will take place at the next Board of

Directors' meeting following official notification of a vacancy by the Chairman.

Section 7 - Removal. Any director may be removed from the Board of Directors by an affirmative vote of the majority of directors at an official meeting of the Board. Notice of the proposed removal will be given to members with the notice of the meeting. The director involved will be given an opportunity to be present and to be heard at the meeting at which his or her removal is to be considered.

Section 8 - Compensation. No compensation will be paid to any member of the Board of Directors for services as a member of the Board. However, the Foundation may pay or reimburse directors for actual expenses incurred by them in connection with a meeting or in carrying out the purposes of the corporation.

ARTICLE SEVEN: MEETING OF THE BOARD OF DIRECTORS

Section 1 - Special Meetings. Special meetings of the Board of Directors may be called at any time by the Chairman of the Board, or the president, or the vice president with approval of a majority of the Executive Committee members, or upon receipt of a written request signed by a majority of the directors.

Section 2 - Voting. At all meetings of the Board of Directors, each director present will be entitled to cast one (1) vote on any motion coming before the meeting. The personal presence and proxy of a majority of the membership of the Board of Directors will constitute a quorum an any meeting.

Section 3 - Vote and Quorum. At a meeting at which there is a quorum present, a simple majority affirmative vote of the directors present is required to pass a motion before the Board. Two-thirds (2/3) of the directors shall constitute a quorum.

Section 4 - Proxy Voting. Proxy voting by Board members, if submitted to the Chairman of the Board in writing in advance of an official meeting, will be permitted.

Section 5 - Rules of Procedure. Robert's Rules of Order will be the authority for all questions of procedure at any meeting of the Foundation.

ARTICLE EIGHT: OFFICERS

Section 1 - Officers. The officers of this Foundation shall be a president, vice president, secretary, treasurer, and such other officers with duties as the Board prescribes.

Section 2 - Election and Terms. The officers of the Foundation will be elected at the annual meeting by a majority of members of the Board of Directors. Terms of office are two (2) years, subject to re-election.

Section 3 - Removal. Any officer may be removed with or without cause by the Board of Directors by a vote of a majority of the Board members. The matter of removal may be acted upon at any meeting of the Board, provided that notice of intention to consider said removal has been given to each Board member and to the officer affected at least thirty (30) days previously.

Section 4 - Vacancies. A vacancy in any office may be filled by a majority vote of the Board of Directors for the unexpired portion of the term.

Section 5 - President. The president will be the chief executive officer of the Foundation and will preside over all meetings of the Executive Committee. He will have general supervision of the affairs of the Foundation. The president will execute on behalf of the Foundation all contracts, deeds, conveyances, and other instruments in writing that may be required or authorized by the Board of Directors for the proper and necessary transaction of the business of the Foundation. The president will provide at the annual meeting of the Foundation a report describing the business of the Foundation during the recently completed year of operation.

Section 6 - Vice President. It will be the duty of the vice president to act in the absence or disability of the president and to perform such other duties as may be assigned by the president or the Board. In the absence of the president, the execution by the vice president on behalf of the Foundation of any instrument will have the same force and effect as if is were executed on behalf of the Foundation by the president.

Section 7 - Secretary. The secretary will be responsible for keeping the Foundation records. The secretary will give or cause to be given all notices of meetings of the Board of Directors and all other notices required by law or by these By-Laws. The secretary will be the custodian of all books, correspondence, and paper relating to the business of the Foundation, except those of the treasurer. The secretary prepares and presents to the Board of Directors such other reports as it may request at such reasonable time or times as it may designate.

Section 8 - Treasurer. The treasurer will have general charge of finances of the Foundation. When necessary and proper, he or she will endorse on behalf of the Foundation all checks, drafts, notes, and other obligations and evidences of the payment of money to the Foundation or coming into his or her possession; and he or she will deposit the same, together with all other funds of the Foundation coming into his or her possession, in such financial institutions as may be selected by the Board of Directors. The treasurer will keep full and accurate account of all receipts and disbursements of the Foundation in books belonging to the Foundation, which will be open during Foundation business hours and all other reasonable times to the inspection of the Board of Directors. The treasurer will present to the Board of Directors at

its annual meeting a report which describes the financial condition of the Foundation and will from time to time make such other fiscal reports to the Board of Directors as the Board may require.

Section 9 - Additional Duties. Any officer of the Foundation, in addition to the powers conferred upon him or her by these By-Laws, will have such additional powers and perform such additional duties as may be prescribed from time to time by the Board of Directors.

ARTICLE NINE: EMPLOYEES AND VOLUNTEERS

The Board of Directors, at its discretion, may hire an executive director who will serve at the pleasure of the Board.

The area of responsibility of the executive director shall include, but not be limited to, assisting standing committee and ad hoc committee chairmen as requested by the chairmen in the discharge of their duties; managing the Foundation office and its employees in a professional and businesslike manner; developing a volunteer employee program and managing volunteer employees as needed; maintaining membership rosters; and performing other duties and responsibilities which are necessary to carry out the day-to-day business of the Foundation consistent with the Foundation's By-Laws and Articles of Incorporation.

The executive director may hire and discharge employees of the Foundation with approval of the Board of Directors. The executive director shall perform or cause to be performed other duties and responsibilities as assigned by the Board of Directors which are required or necessary to carry out the business of the Foundation.

ARTICLE TEN: COMMITTEES

Section 1 - Ad Hoc Committees. The president of the Foundation may designate one or more ad hoc committees, each of which will consist of at least one (1) committee chairman and two (2) or more committee members. Committee members may be members of the Board of Directors, members of the Foundation, or other interested individuals. The chairman of the committee will be appointed by the president of the Foundation, who will act with the Board's approval. After consultation with the committee chairman, the president will appoint committee members.

The studies, findings, and recommendations of all committees will be reported to the Board of Directors for consideration and action, except as otherwise ordered by the Board of Directors. Committees may adopt such rules for the conduct of business as are appropriate and which are not inconsistent with these By-Laws, the Articles of Incorporation, or state law.

Section 2 - Standing Committees. The Foundation may have the following committees.

*Executive Committee*: This committee will be chaired by the president of the Foundation and will consist of all other officers of the Foundation and the chairmen of all other standing committees. This committee will serve as the central planning group for the Foundation and as an advisory group to the executive director. It also will have full authority to act for the Board in managing the normal day-to-day operating and management affairs of the Foundation during the intervals between Board meetings.

*Budget and Finance Committee*: This committee will be chaired by the treasurer and will oversee and monitor the fiscal operations of the Foundation and will develop an annual operating and long-term capital budget to be recommended to the Board of Directors for management of the Foundation's business.

*Revenue and Resource Committee*: This committee will be chaired by the vice president and will develop an annual Foundation plan for raising funds and resources that will support the operating and capital budget objectives for which the Foundation is organized.

ARTICLE ELEVEN: FINANCES AND RECORDS

Section 1 - Contracts. The Board of Directors may authorize any officer or officers, agent or agents of the Foundation, in addition to the officers so authorized by these By-Laws, to enter into any contract or execute and deliver any instrument in the name of and on behalf of the Foundation. Such authority may be general or confined to specific instances.

Section 2 - Checks and Drafts. All checks, drafts and other orders for payment of funds will be signed by the treasurer or, if not available, the president of the Foundation and such other persons as the Board of Directors may from time to time designate. All documents shall require two (2) such signatures, at least one (1) of which must be that of a member of the Board of Directors and the other may be of the executive director.

Section 3 - Books and Records. The Foundation will keep correct and complete books and records of accounts and will also keep minutes of the proceedings of its members, Board of Directors, and committees having any of the authority of the Board of Directors; and it will keep at the registered or principal office a record giving the names and addresses of the members entitled to vote. All books and records of the corporation may be inspected by any member of the Board of Directors upon written request to the Chairman of the Board for any proper or reasonable purpose at any reasonable time.

Section 4 - Fiscal Year. The fiscal year of the Foundation will be as determined by the Board of Directors.

Section 5 - Loans. The Foundation shall make no loans to any officer, director, employee, or member of the Foundation.

Section 6 - Gifts and Resources. The Board of Directors may accept on behalf of the Foundation any contribution, gift, resource, bequest or devise for the general purpose or for any special purpose of the Foundation consistent with the purposes stated in the Articles of Incorporation and/or these By-Laws.

Section 7 - Deposits. The treasurer shall deposit all funds belonging to the Foundation in the name of the Foundation in such financial institutions as the Board shall designate.

ARTICLE TWELVE DISSOLUTION

Upon the dissolution of the Foundation and after the payment or the provision for payment of all the liabilities of the Foundation, the Board of Directors will dispose of the assets of the Foundation in the manner set forth in the Articles of Incorporation.

The Articles of Incorporation and the By-Laws for the WEEKS BAY RESERVE FOUNDATION, INC., a non-profit foundation, shall in all respects be in compliance with the requirement of the State of Alabama's "Alabama Non-profit Corporation Act," (Acts 1984, No. 84-290, p. 502, & 1).

ARTICLE THIRTEEN AMENDMENTS

The Board of Directors may amend these By-Laws to include or omit any provision that it could lawfully include or omit at the time the amendment is made. Upon written notice of at least thirty (30) days, any number of amendments or an entire revision of the By-Laws may be submitted and voted upon at a single meeting of the Board of Directors and will be adopted at such meeting upon receiving a majority vote of the members of the Board of Directors.

APPROVED on this the 21st day of Oct., 1998.

Chairman

ATTEST:

Secretary

# Appendix C
# Weeks Bay Reserve Accomplishments

Appendices

# WEEKS BAY NERR MANAGEMENT PLAN UPDATE
# ACTIONS ACCOMPLISHED

The following tables contain action items that were included in the 1998 Weeks Bay Management Plan. Each action accomplished is shown by a check mark, actions not accomplished indicated by asterisk.

## Tables


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Table 1 Administration Action Table

| ACTION | AGENCY | FUNDING | Y 1 | Y 2 | Y 3 | Y 4 | Y 5 |
|---|---|---|---|---|---|---|---|
| Host 1998 NERRS Conference | ADECA, NOAA, Reserve, WBRF | ADECA, NOAA | v | | | | |
| Meet quarterly with WBAC and WBRF | ADECA, WBRF, WBAC | ADECA, NOAA | v | v | v | v | v |
| Meet annually with agencies supporting Reserve programs | ADECA, supporting agencies | ADECA, NOAA, | v | v | v | v | v |
| Conduct activities which foster public awareness | WBWP, Reserve | ADECA, NOAA | v | v | v | v | v |
| Develop MOU with NOAA, BCBE, ADCNR | ADECA, NOAA, Reserve, BCBE, ADCNR | ADECA, NOAA, | | * | | | |
| Develop MOU with ADEM and MESC | ADECA, Reserve, ADEM, MESC | ADECA, NOAA | | * | | | |
| Develop MOU with USFWS and USCOE | ADECA, USFWS, USCOE | ADECA, NOAA | | | * | | |
| Develop MOU with Baldwin County Commission, AUMERC, ESC, and The Nature Conservancy | ADECA, BCC, AUMERC, ESC, TNC | ADECA, NOAA | | | | * | |
| Hire Research Coordinator, Research Technician and Laborer | ADECA, NOAA, ADEM, EPA, Reserve | ADECA, NOAA | v | | | | |
| Improve facilities | ADECA, NOAA, Reserve, | ADECA, NOAA | v | | v | v | v |

Table 2 Resource Protection Action Table

| ACTION | AGENCY | FUNDING | Y 1 | Y 2 | Y 3 | Y 4 | Y 5 |
|---|---|---|---|---|---|---|---|
| Work to improve and maintain water quality in the Weeks Bay Watershed to meet or exceed state water quality standards for water bodies classified as Swimming and Fish and Wildlife | WBWP | ADECA, ADEM | v | v | v | v | v |
| Classify Reserve habitats | Reserve, ADECA | ADECA, NOAA | v | | | | |
| Utilize community-based approaches for management strategies within the watershed | CAC, Reserve | ADECA, NOAA, ADEM | v | v | v | v | v |
| Establish and maintain wildlife best management practices in the Foley Tract | WBWP, Reserve | ADECA, ADEM WBRF | v | v | v | * | * |
| Provide best management practice guidance to Planning and Regulatory Agencies | WBWP, Reserve | ADECA, NOAA, ADEM | v | v | v | * | * |
| Develop criteria to prioritize Reserve land acquisition by identifying areas with significant habitat restoration needs | Reserve, ADECA, | ADECA, ADCNR | v | | | | |
| Develop a Memorandum of Understanding between ADECA and ADCNR to coordinate management of the Reserve Core | ADECA, ADCNR | | * | | | | |
| Identify and prioritize subwatersheds impacted by agricultural NPS pollution | Reserve,ADEM NRCS | NRCS, ADEM EPA | v | v | | | |
| Implement Agricultural Outreach Program | WBWP, WB | WBWP | | v | v | v | v |
| Assess the potential uses of conservation easements | Reserve | ADECA, NOAA ADEM | * | * | v | | |
| Encourage establishment of Well-driller licensing in Baldwin Co. | Reserve, WBWP, BCC | | v | v | v | v | v |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Identify major goundwater withdrawal zones in the watershed and initiate a groundwater citizens monitoring program. | WBWP, AWW, GWG | ADECA, ADEM | * | * | v | v | v |
| Establish an amnesty day to improve opportunities for hazardous waste disposal | WBWP, BCC ADEM | ADECA, ADEM, BCC | * | * | * | v | v |
| Develop and host workshops to educate user groups on the importance of protecting fish and wildlife habitat, including submerged grassbeds, fringe marsh, shorelines, and other wetlands and upland forest | Reserve, WBWP FWS | ADECA, ADEM NOAA | v | v | v | v | v |
| Educate boaters on availability of pump-out facilities in the watershed and environmental degradation caused by irresponsible use of recreation activities | Reserve, WBWP | ADECA, NOAA | v | * | v | v | * |
| | | | v | v | v | v | v |
| Promote planning and zoning in the Watershed | WBWP, Reserve | ADECA, ADEM | | | | | |
| Identify unpaved roads which contribute sediment to the watershed and work with Baldwin County to develop a plan to improve these roads | WBWP, Reserve BCC, NRCS | ADECA, ADEM | | | v | v | v |
| Use GIS to evaluate land use information, physical and biological watershed characteristics and chemical water quality data | Reserve, WBWP | ADECA, NOAA ADEM | | | | v | v |
| Develop a county-wide erosion control program | Reserve, WBWP, BCC | ADECA, ADEM NOAA | * | * | * | | |
| Convene task forces to assist in promoting watershed protection | Reserve, CAC, WBWP | ADECA,NOAA ADEM | v | v | v | v | v |
| Expand Interpretive program | Reserve, ADECA | ADECA, NOAA | v | v | v | v | v |

Table 3 Restoration Action

| ACTION | AGENCY | FUNDING | Y 1 | Y 2 | Y 3 | Y 4 | Y5 |
|---|---|---|---|---|---|---|---|
| Determine the need for restoration of Reserve owned properties by assessing the historical significance of cultural resources and/or habitat value of each parcel | Reserve | ADECA, NOAA | v | v | v | v | v |
| Inventory Reserve habitats and identify rare or threatened habitat types in a local (within Reserve boundary) and a regional context | Reserve, WBV | ADECA, NOAA | | v | | v | |
| Co-management of the Swift tract in coordination with the Weeks Bay Mitigation Bank | Reserve, ADECA | Weeks Bay Mitigation Bank | v | v | v | v | v |
| Identify suitable sites to restore rare or threatened habitats | Reserve | ADECA, NOAA | v | v | v | v | v |
| Coordinate with state and federal agencies to minimize loss and restore habitats. | Reserve | ADECA, NOAA | v | v | v | v | v |
| Utilize control burns to restore habitat and reduce fuel buildup | Reserve, AFC | ADECA, AFC | v | v | v | v | v |

Table 4 Resource Manipulation Action

| ACTION | AGENCY | FUNDING | Y1 | Y2 | Y 3 | Y 4 | Y 5 |
|---|---|---|---|---|---|---|---|
| Maintain access to all land holdings | Reserve | ADECA, NOAA | v | v | v | v | v |
| Evaluate Reserve properties to utilize habitats for research projects and scientific investigations | Reserve | ADECA, NOAA | v | v | v | v | v |
| Evaluate Reserve properties to make most efficient use of resources for public outreach and environmental education | Reserve | ADECA, NOAA | v | v | v | v | v |
| Continue restoration of bog | Reserve, AFC | ADECA, NOAA AFC | v | | v | | v |
| Establish access to diverse habitats | Reserve | ADECA, NOAA | v | v | | | |
| Manage wildlife enhancement projects | Reserve | ADECA, NOAA | v | v | v | * | * |
| Management of the forestry arboretum project | Reserve | ADECA, NOAA, AFC | v | v | v | * | * |
| Integrate Foley tract projects | Reserve | ADECA, NOAA | v | v | v | * | * |
| Control burns for fuel reduction where deemed necessary | Reserve, AFC | ADECA, AFC | v | v | v | v | v |

Table 5 Boundary and Acquisition Action Plan

| ACTION | AGENCY | FUNDING | Y 1 | Y 2 | Y 3 | Y 4 | Y 5 |
|---|---|---|---|---|---|---|---|
| Describe land tracts by land use. | ADECA | ADECA | | v | | | |
| Identify most productive estuarine habitats. | ADECA, TNC | ADECA, ADEM, TNC | | v | | | |
| Describe disruptive land use | ADECA | ADECA | | v | | | |
| Organize funding strategies to put resources in Reserve | ADECA | ADECA | | | v | | |
| Provide conservation mechanisms | ADECA, ADEM, WMA | ADECA, ADEM, WMA | | | * | | |
| Assist organization of community efforts towards conservation | ADECA, ADEM, WMA | ADECA, ADEM, WMA | | | | v | |
| Assess the use of conservation easements for Lands management. | ADECA, ADEM, WMA | ADECA, ADEM, WMA | | | | v | |
| Fish River Title Transfer (64 acres) | ADECA, Foundation | ADECA, Foundation | * | | | | |
| Turkey Branch Title Transfer (20 acres) | ADECA, Foundation | ADECA, Foundation | v | | | | |
| Lott Land Title Transfer (2.94 acres) | ADECA, Foundation | ADECA, Foundation | * | | | | |
| Baywatch Marine Title Transfer (22.5 acres) | ADECA, Foundation | ADECA, ADCNR Foundation | | v | | | |
| Safe Harbor Title Transfer (82 acres) | ADECA, Foundation | ADECA, NOAA Foundation | | | * | | |
| Survey conservation easement law literature | ADECA, Reserve | ADECA, NOAA | * | | | | |
| Develop outreach information and strategy | Reserve, ADECA | ADECA, NOAA | * | * | * | * | * |

Table 6 Public Access

| ACTION | AGENCY | FUNDING | Y 1 | Y 2 | Y 3 | Y 4 | Y5 |
|---|---|---|---|---|---|---|---|
| Boardwalk II | WBRF, Reserve | ADECA | v | | | | |
| Arboretum | Reserve | ADECA | | | v | | |
| Ground Trail/Tower | Reserve | ADECA | | | | | v |
| Marina Boardwalk | Reserve | ADECA | | | | | * |
| Develop bog brochure | Reserve | ADECA | v | | | | |
| Install Trail Panel at Arboretum | Reserve | ADECA | | | v | | |
| Develop Reserve brochure | Reserve | ADECA | v | | | | |
| Install Interpretive Panels at Bog | Reserve | ADECA | v | | | | |

Table 7 Facilities Development Action Plan

| ACTION | AGENCY | FUNDING | Y 1 | Y 2 | Y 3 | Y 4 | Y 5 |
|---|---|---|---|---|---|---|---|
| Develop Research and Education facility along with the Interpretive Center and Maintenance Shop. | ADECA, Reserve | ADECA, NOAA | v | v | v | v | v |
| Pitcher Plant Bog Boardwalk Phase II | ADECA, Reserve | ADECA, NOAA, WBRF | | v | | | |
| Expand parking area and construct second access to Highway 98. | ADECA, Reserve | ADECA, NOAA | * | | * | | |
| Develop flow through aquatic systems for research and educational/interpretive programs | ADECA, Reserve | ADECA, NOAA | | | * | | |
| Expand the laboratory of the Interpretive Center | ADECA, Reserve | ADECA, NOAA | v | | | | |
| Evaluate and prioritize properties for access. | ADECA, Reserve | ADECA, NOAA | | v | | | |
| Develop method for control and security concerns | ADECA, Reserve | ADECA, NOAA | v | v | | | |
| Establish access by construction of stalls, ramp or other | ADECA, Reserve | ADECA, NOAA, ADCNR | | v | | | |
| Marina Boat Ramp | ADECA, ADCNR | ADCNR | | v | | | |
| Marina Development Plan/Construction for Boat Facilities | ADECA, ADCNR | ADECA, ADCNR, NOAA | | v | | | |
| Marina Evaluation/construction for Wet Lab Development | ADECA | ADECA, NOAA | | | * | | |
| Refurbish Dockage at Marina North Canal | ADECA | ADECA, NOAA | | | * | | |
| Develop Public Access at Marina North Canal | ADECA | ADECA, NOAA | | | * | | |
| Safe Harbor Evaluation of Structures and Resources | ADECA | ADECA | | | * | | |
| Arboretum and Trail | ADECA | ADECA | | v | v | | |
| Overlook/Interpretive Center Ground Trail/Observation Tower | ADECA | ADECA | | | * | * | |

Table 8 Research Action Plan

| ACTION | Lead Agency | Funding Source | Y 1 | Y 2 | Y 3 | Y 4 | Y 5 |
|---|---|---|---|---|---|---|---|
| Hire a Research Coordinator | ADECA | ADECA, ERD | v | | | | |
| Acquire baseline data on water quality | Reserve | ADECA, ERD | v | v | v | v | v |
| Acquire baseline data on habitats | Reserve | ADECA, ERD | | | v | v | v |
| Acquire & Provide resources, support, and background data to encourage independent research projects | ADECA | ADECA, ERD | v | v | v | v | v |
| Increase internal research and monitoring activities | Reserve, ERD | ADECA, ERD, EPA | | v | v | v | v |
| Initiate applied research projects to increase understanding of watershed functioning and techniques of resource restoration | Reserve | ADECA, ERD | | | v | v | v |
| Create GIS data layers to support baseline data sets. | Reserve, EPA | ADECA | | | v | v | v |
| Incorporate data collected through System-wide Monitoring Project into site specific GIS format | Reserve, ERD | ADECA, ERD | v | v | v | v | v |
| Insure adequate training in GIS for the Reserve Staff | Reserve, EPA | ADECA, ERD | v | v | v | v | v |
| Continue development of site profile incorporating available data and watershed studies | Reserve | ADECA, ERD | | v | | | |
| Peer Review followed by updated site profile as a complete document | Reserve | ADECA, ERD | | | | v | |

Table 9 Monitoring Action Plan

| ACTION | AGENCY | FUNDING | Y 1 | Y 2 | Y 3 | Y 4 | Y 5 |
|---|---|---|---|---|---|---|---|
| Develop in-house capabilities to operate and maintain data-loggers. | Reserve | ADECA, ERD | v | | | | |
| Develop real-time capabilities for weather station and water quality equipment. | Reserve, ERD, NWS | ERD, ADECA | v | | | | |
| Maintain and support citizen monitoring program in the watershed. | Reserve, ADEM, AWW | ADEM, AWW | v | v | v | v | v |
| Monitor Biological Indicator | Reserve, ADEM, AWW | ADEM, AWW | | | * | | |
| Monitor Sediment Accretion | Reserve | ERD, ADECA, Foundation | | * | | | * |
| Monitor Shoreline Changes | Reserve | ERD, ADECA | | | | * | |
| Assess location and abundance of Submerged Aquatic Vegetation | Reserve | ERD, ADECA | | v | | | |
| Assess Pollutant Loading for the Watershed | Reserve, ADEM | ERD, ADEM, ADECA | | | v | | |
| Publish Monitoring Reports | Reserve, CDMO | ERD | | | v | | |
| Conduct Technical Conferences and Workshops | Reserve | ERD, EPA, ADECA, ADEM | * | v | * | * | * |
| Maintain support for SWMP | ERD, Reserve | ERD | v | v | v | v | v |
| Facilitate Information Dissemination | Reserve | ERD, ADECA | v | v | v | v | v |

Table 10 Education-Interpretation Action Plan

| ACTION | AGENCY | FUNDING | Y 1 | Y 2 | Y 3 | Y 4 | Y 5 |
|---|---|---|---|---|---|---|---|
| Site Brochure | Reserve, ERD | ADECA, Foundation | | v | | | |
| Interpretive Trail Guides | Reserve | ADECA, Foundation, Private Organizations | v | | | | |
| K-12 Curriculum Revisions | Reserve | BCBE, Reserve, ADECA | | | v | | |
| Estuary Activity Books | Reserve | BCBE, Foundation, Private Organizations | v | | | | |
| Multisensory Interpretive Materials | Reserve | ADECA, Private Grants | | | v | | |
| Volunteer Training | Reserve | Volunteers, Foundation | v | v | v | v | * |
| Educational Workshops | Reserve, Watershed Project | EPA, Legacy, BCBE, NRCS | v | | | | |
| Technical Workshops | Reserve, Watershed Project | EPA, NEP, ADECA | v | v | | v | v |
| Pre and post field trip briefing for teachers/educators | Reserve | BCBE/Legacy grant | | * | | | |
| Educational Program Evaluation | Reserve | BCBE, Legacy, Private Organizations | | * | * | | |
| Workshop Evaluation | Reserve | BCBE | | v | | | |
| BMP Workshops | Watershed Project, Reserve | EPA, Legacy, BCBE, Private Organizations | | * | * | | |
| Stewardship Activities | Reserve, ADECA, ADEM, BCBE, AWW | Reserve, ADECA, ADEM, BCBE, AWW | v | v | v | v | v |
| NPS Educational Program Development. | Watershed Project, Reserve, Soil Conservation District | EPA, Legacy, Master Gardeners, NRCS | v | v | v | | |
| E-Net Coordinator | Reserve | BCBE, ADECA, | | | | | * |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Funding | | Legacy, NERRS | | | | | |
| Establishing Partnerships with Cooperative agencies | Reserve | ADECA, ADEM, NRCS, NERR, EPA, AWW | v | * | v | * | v |
| Education Certification Training | Reserve, ADECA | ADECA, BCBE, ERD, NOAA | | * | * | * | * |
| Training for E-Net Teachers | AWW, Reserve | BCBE, AWW | | | * | | |
| Telecommunication Training for Staff involved in E-Net | Reserve, BCBE | BCBE, NERRS | * | * | * | | |
| Add Educational Staff | BCBE, ADECA, Reserve | BCBE | | * | | | |
| Update Educational Equipment | Reserve, BCBE, ADECA | BCBE, ADECA | * | * | v | v | v |
| Professional Development | Reserve, BCBE, | BCBE, ADECA | * | v | * | v | v |

Table 11 Volunteer Action Plan

| ACTION | AGENCY | FUNDING | Y 1 | Y 2 | Y 3 | Y 4 | Y 5 |
|---|---|---|---|---|---|---|---|
| Develop a vision for volunteer involvement in the Reserve | Reserve | | v | | | | |
| Develop new volunteer projects | Reserve | | v | v | v | v | v |
| Coordinate volunteer assignments and schedules | Reserve | | v | v | v | v | v |
| Develop policies and procedures for the volunteers | Reserve | | v | | | | |
| Develop an infrastructure for the Weeks Bay Volunteers | Reserve | | v | | | | |
| Create and manage an annual budget for the volunteer program | Reserve | | v | | | | |
| Provide volunteers with adequate support at the Reserve for | Reserve, ADECA | | v | v | | | |
| Monitor the supervision of the volunteers and act as an advocate for the volunteers | Reserve | | v | v | v | v | v |
| Develop professional resources | Reserve | | v | v | v | v | v |
| Manage individual volunteer performance assessment | Reserve | | * | * | * | * | * |
| Provide volunteer motivation and appreciation | Reserve | Reserve, WBRF Volunteers | v | v | v | v | v |
| Develop recruitment materials | Reserve | Reserve | v | * | | | |
| Develop an orientation program for all volunteers. | Reserve | Reserve, WBRF, volunteers | v | | | | |
| Design an initial training plan. | Reserve | Reserve | v | | | | |
| Prepare manuals and handbooks to be used for volunteer orientation and training | Reserve | Reserve, WBRF, volunteers | v | v | | | |

# Appendix D
# Weeks Bay Watershed Project Summary

Appendices

The Weeks Bay Watershed Project began when the Fish River Watershed Project was initiated in 1993 by the Natural Resources Conservation Service (NRCS), U.S. Environmental Protection Agency Gulf of Mexico Program (USEPA/GMP) and Alabama Department of Environmental Management (ADEM) in cooperation with numerous federal and state agencies in order to provide an integrated approach to the management of the Fish River watershed. The Fish River Project was expanded in 1994 to include the Magnolia River watershed and the project was renamed Weeks Bay Watershed Project. The Weeks Bay Watershed Project was initiated to assess water quality conditions in the Weeks Bay watershed and develop a plan for improving and protecting Weeks Bay. Interagency coordination has assured that the project was and is technically consistent with the Coastal Zone Management Act Reauthorization Amendments of 1990 and other federal, state, and local regulations.

The Weeks Bay Watershed Project remains a multiagency project supported by a Citizens Advisory Committee, an ad hoc Technical Advisory Committee and other temporary committees that form to address specific needs of watershed residents and the Watershed Project. The Citizens Advisory Committee has and continues to hold regular monthly meetings at the Weeks Bay National Estuarine Research Reserve (WBNERR). Meetings are typically held the first Tuesday of each month at 6:00 pm. The public is invited to attend. On occasion, special presentations on pertinent watershed issues are given by committee members or invited experts. Agenda and minutes of monthly meetings are on file in the Watershed Office at the WBNERR. All members of the committee live, work or have significant interest in the Weeks Bay watershed. Membership on the committee is approved by the Board of Supervisors of the Baldwin Count Soil and Water Conservation District (BCSWCD). Approximately 20 federal and state agencies and local organizations have or are actively involved in the project. After ten years and many success stories, the Watershed Project has evolved into a valuable program of the WBNERR and the Alabama Department of Conservation and Natural Resources, State Lands Division (ADCNR/SLD). In 1995, the Watershed Project Coordinator was hired to organize the activities of the project, to coordinate with Citizens Advisory Committee and other partner agencies and to begin the process of writing a watershed management plan. The Project Coordinator was able to enhance awareness of the Watershed Project and function within the watershed community. Three Coordinators have led the Watershed Project bringing their personal skills and abilities to achieving the goals of the Management Plan.

The success of the Weeks Bay Watershed Project was exemplified by the close relationship between the Watershed Project and state and federal partners. The Watershed Project has been provided office space, logistical and financial support by the WBNERR, a cooperative venture between the State of Alabama and the National Oceanic and Atmospheric Administration (NOAA). Two State of Alabama agencies, the Department of Economic and Community Affairs and the ADCNR/SLD have administered the activities of the WBNERR and have cooperated fully with the Watershed Project. Both Alabama agencies experienced mutual gain. The WBNERR has benefited from the decade long cooperative effort. Also, the Watershed has coordinated activities with the ADEM. Throughout the life of the grant period, reciprocal technical support has been provided by both entities. In education, outreach and water quality monitoring efforts, the Watershed Project has worked closely with the ADEM.

The BCSWCD has administered the contract let by the appropriate state agency for the Watershed Project. Watershed Project Coordinators have maintained very close relationships with the District by attending regular monthly meetings of the District Board of Supervisors and other District sponsored events. In return, BCSWCD has funded activities of the Watershed Project Citizens Advisory Committee. Again like with other state and federal partners, the Watershed Project has worked and continues to work closely with the District on watershed protection and pollution prevention projects. Technical support regarding US Department of Agriculture conservation programs, farm best management practices and networking with the Weeks Bay watershed farmers and cattlemen are only a small fraction of the benefits brought to

the Watershed Project by its close relationship with the District. In addition, the NRCS and the Watershed Project are close partners in watershed protection activities. The District Conservationist has been a technical advisor to both the Project Coordinators and the Citizens Advisory Committee. The Watershed Project and NRCS have partnered on several cost share projects throughout the life of the grant period and continue to collaborate on ongoing projects.

In October 2002, additional funds in support of the Weeks Bay Watershed Project were provided by ADCNR through a grant under the Coastal Zone Management Act, administered by the Office of Ocean and Coastal Resource, NOAA and the ADCNR/SLD, Coastal Section. Funds were contracted to the BCSWCD. The Weeks Bay Watershed Project was tasked to promote stakeholder programs and the Watershed Project Coordinator was to promote citizens' programs. In addition, the Watershed Project Coordinator represented Weeks Bay watershed interests by participating in relevant programs and meetings; acting as a liaison to government agencies; distributing and receiving information, advising on procedures for citizen comments on regulatory actions, commenting on relevant permit requests; coordinating with pertinent permitting agencies on reporting environmental impacts and citizen concerns; and coordinating with public and private agencies and local stakeholders to obtain funding for restoration and pollution prevention projects on waterways. The Watershed Project Coordinator was to continue to revise and evolve the Watershed Management Plan to reflect new and/or changing water quality issues and new and/or changing watershed protection policies, techniques and technologies. Finally, the Watershed Project Coordinator cooperated with watershed groups in the Section 6217 Management Area; represented the Coastal Section Chief at meetings of the Alabama Coastal Nonpoint Pollution Control Program (ACNPCP) Matrix and the Clean Water Action Partnership Program; and assisted the ADEM ACNPCP coordinator with the implementation of the five-year plan and completion of the fifteen-year strategy, as required under Section 6217 of the Coastal Zone Management Act. The grant provided support for the Project Coordinator and Watershed Assistant salary and other operations and projects. In addition, the WBNERR added additional funds from operations budget to support the Coastal Training Program with workshops and outreach and education products. Funds were contracted to the BCSWCD.

In May 2004, a permanent position of Watershed Coordinator with all the benefits and privileges of a merit employee of the State of Alabama was established at WBNERR. The Watershed Coordinator still works with and within the watershed of Weeks Bay as in the past while expanding into additional stewardship and training responsibilities. Also, the Citizens Advisory Committee retains it valuable advisory capacity in continued partnership with the WBNERR. The spirit of the Weeks Bay Watershed Project will continue in the efforts of the WBNERR to learn more about the functions and value of estuaries and the best, science-based means to protect and restore a valuable coastal resource.

A Watershed Management Plan

From the inception of the Watershed Project, efforts have been organized and implemented to protect, preserve and restore the water quality of Weeks Bay and its many tributaries. Watershed Project Coordinators, advisors, partners and local citizens recognized the need to have a plan that identifies current and changing practices and evolving technologies to address current and changing negative impacts on watershed streams and rivers. The composition of an integrated watershed management plan was begun in 1994. Input was sought from local concerned citizens and federal, state and local experts to identify water quality issues caused by agricultural activities, land use changes, commercial and recreational water usage and rapidly urbanizing uplands and river corridors. The Weeks Bay Watershed Project organized efforts around the impacts of nonpoint source pollution, identifying source categories and organizing strategies and best management practices to reduce or eliminate water quality degradation. The Watershed Project sought to elevate conditions in all waterways in the watershed to swimming and fish and wildlife use classification as identified by the ADEM in Alabama Water Use Classifications and

Standards, Administrative Code of Alabama, Chapter 335-6-10. Available water quality data were sought from the appropriate agencies addressing water quality, public health and habitat protection. Recommendations in the management plan were based on water quality data, land use/land cover information, and best professional judgment of staff from the ADCNR/SLD, BCSWCD, Geological Survey of Alabama (GSA), US Geological Survey (USGS), the NRCS, ADEM, U.S. Fish and Wildlife Service (USFWS), Alabama Department of Public Health, Alabama Cooperative Extension System, Dauphin Island Sea Lab, and WBNERR. Also, development of the plan using input from a multitude of recognized experts ensured that the plan would be and remain consistent with all federal, state and local statutes and regulations. In addition, several public forums were held in several locations in the watershed to introduce citizens to the Watershed Project and its goals and activities. Public comment was sought on the management plan and played a valuable part in formulation of a strategy to implement science-based management practices.

The plan was written as a living document to be read by watershed residents as well as water quality professionals. It includes a detailed introductory section that addresses physical and geological properties, climate, environmental and economical importance and environmental problems. The environmental impacts facing the watershed include both point and nonpoint sources, but the preponderance of acute issues are nonpoint source related. Environmental impacts were compiled into four broad categories:

1) Decreased biological production including economically important fish and shellfish caused by sedimentation and excessive nutrient inputs from runoff and erosion,
2) Human health threats caused primarily by the presence of pathogenic bacteria and mercury in fish tissue. By 1996, Fish River, the main tributary of Weeks Bay, was included on the Clean Water Act §303(d) list of impaired water for both pathogens and mercury. A consumption advisory is in affect for largemouth bass in the river because of high mercury concentrations (greater than 1 ppm).
3) Habitat and resource loss, including submerged grass beds, fringe marsh, other wetlands and upland forest reduces diversity and abundance.
4) Flooding impacts due to loss of riparian zones and wetlands and to rapid runoff of stormwater from increasing impervious surfaces. Destruction of both riparian and wetland areas results in the loss of natural filtration system, floodwater mitigation and water retention.

The plan for protection and restoration of the Weeks Bay watershed addressed four overarching themes:

1) Nonpoint Source Pollution
2) Habitat Protection And Restoration
3) Infrastructure And Growth Management
4) Management Plan Implementation and Evaluation.

Implementation of the four themes for protection included fourteen objectives identified in the Watershed Management Plan:

1) Reduce nonpoint source pollution from agricultural activities
2) Reduce nonpoint source pollution from construction and land clearing activities
3) Reduce nonpoint source pollution from residential sources
4) Protect ground water resources through a reduction in nonpoint source pollution
5) Reduce the pollution generated by water-related recreational activities, including sewage, petroleum products, and litter
6) Continue Weeks Bay Water Watch monitoring and formally analyze data to identify trends and design recovery plans as necessary

7) Ensure protection of fish and wildlife habitats, including submerged grass beds, fringe marsh, shorelines, and other wetlands and upland forest through land acquisition, educational, and incentive programs
8) Reduce pollution from existing and future onsite sewage systems
9) Promote planning and zoning that will protect environmentally sensitive areas
10) Identify unpaved roads that contribute sediment to the watershed and work with Baldwin County to develop a plan to improve these roads within a reasonable time frame
11) Reduce water pollution from urban stormwater discharge sources including residential subdivisions and commercial areas
12) Establish and maintain a system of priorities for academic research in addition to volunteer monitoring that will:
    a. contribute to the understanding of watershed conditions and processes, such as land use changes, habitat loss, and peak and minimal flows
    b. assist in the establishment of trends in physical, chemical, and biological water quality parameters for surface and ground water; and
    c. assist in decision-making activities of regulatory and management personnel by the transfer of technical and scientific information
13) Provide for long-term support and involvement of watershed residents through the leadership of the Citizen Advisory Committee and Watershed Project Coordinator on watershed planning and management activities
14) Cooperate and partner with other Federal, State, and local agencies to achieve the objectives and strategies described in the Watershed Management Plan.

Each section of the Management Plan which was to address the identified objectives included specific and measurable strategies, a discussion of each strategy, responsible parties and cooperators, potential funding sources, and a schedule. The strategies for each objective were listed in sequential order so that they could be viewed as a series of steps needed to accomplish the overall objective. Responsible parties are those agencies with regulatory or legal authority or a vested interest in the strategy. Cooperators are those who could assist the responsible parties through shared resources and/or technical input. Potential funding sources were identified and included grant programs where funds may be solicited, but was not intended to be comprehensive. The schedule identifies which quarter of which year the activity was to be initiated. The strategies, responsible parties, cooperators, funding sources and schedules were recommendations only and dependent on available funding resources and local support. As stated, the overall purpose of the following management objectives and strategies is to coordinate and better utilize existing federal, state and local resources to improve and maintain water quality in Weeks Bay.

Copies of the Weeks Bay Watershed Management Plan have been and remain available to anyone seeking information on nonpoint source pollution and watershed management. Plans are produced in electronic formats which are stored on CD-ROMs or are available by electronic mail for simple and low cost distribution. CD-ROMs have been and continue to be available free of charge at public events like Earth Day, Weeks Bay Day and others. The document was converted to an easily editable format so that other basin plans could use it as a template. Several watershed management plans have used the Weeks Bay watershed plan as a model. Also, the plan has been cited as support material for other documents including the recently completed Mobile and Baldwin Counties Watershed Restoration Plan commissioned by the ADEM and the Mobile and Baldwin Soil and Water Conservation Districts.

An update to the Watershed Management Plan was completed in 2002. New information regarding planning and land use changes were incorporated. Ongoing revision continues on the plan to bring it in compliance with the nine key elements of an effective watershed plan established by US Environmental Protection Agency (USEPA). Even as one phase of the Weeks Bay Watershed Project comes to a close, the WBNERR Watershed Program will continue to use

and revise the Watershed Management Plan in the future.

Project Implementation

Over the duration of the Watershed Project, Project Coordinators responsible for the implementation of the Management Plan have been talented and resourceful. Each has worked tirelessly with all available partners to address those environmental problems identified in the Weeks Bay watershed. Each put his or her skills to bear in the watershed community to implement the protection strategies in the Watershed Management Plan. Implementation activities can be loosely consolidated into three main categories:

1) Water Quality Monitoring
2) Stewardship
3) Education and Outreach.

Nearly all of the implementation activities contain attributes of the others; for example, monitoring efforts have both an education and stewardship component in most cases. The Watershed Project sought to combine all three activities in the all facets of the implementation of the management strategies.

Appendices

# Appendix E
# Administrative Framework

Appendices

Administration of the Reserve will oversee all activities by establishing a framework for implementing and evaluating staff and programs, managing and soliciting funds and coordinating activities of the Reserve. The Administration framework ensures that management activities are coordinated and encourages support for local and state user groups. Management of the Reserve is a collective effort involving the administrative agencies, Reserve staff, local and state agencies, user groups and the Reserve Advisory Committee. The National Estuarine Research Reserve System is a cooperative program between the National Oceanic and Atmospheric Administration and participating State agencies.

# State

Lead Agency

Alabama Department of Conservation and Natural Resources

The cooperating state agency for the Reserve is the Alabama Department of Conservation and Natural Resources (ADCNR), an executive agency of the Alabama state government. The Commissioner of ADCNR is appointed by and reports directly to the Governor. Within ADCNR, the Reserve is located in the Coastal Section of the State Lands Division. The Coastal Section houses the Reserve, and the Coastal Zone Management Program. Reserve staff are ADCNR employees either state merit or under contract, with the exception of the Education Coordinator, who is employed by the Baldwin County Board of Education.

Administrative services, including accounting services for grants and other fiscal activities, personnel services, purchasing, legal counsel and legislative liaison are provided by the Administrative Division of ADCNR for the Reserve. These services are funded by an indirect cost charged to the NERR program as a percent of the funds handled by the Department for the NERR. The indirect cost in FY 2003/2004 was 13%. State match and other state funds used for the Reserve are provided by a general use tax fund.

Alabama Department of Conservation and Natural Resources (ADCNR) is composed of the Wildlife and Freshwater Fisheries Division, State Lands Division, State Parks Division, Marine Police, and Marine Resources Division. ADCNR is charged with administering laws pertaining to wildlife protection and conservation, including game and fish laws, boat registration, management and protection of marine resources and acquiring land for parks. In addition, ADCNR has jurisdiction over all state owned lands including submerged lands and public trust lands. ADCNR, State Lands Division holds title to the Weeks Bay benthos.

The Marine Resources Division, Wildlife and Freshwater Fisheries Division supports the Reserve in an advisory capacity with members on the Reserve Advisory Committee. The Marine Police Division provides surveillance in the Reserve.

Supporting Agencies:

Alabama Department of Environmental Management (ADEM)

ADEM administers environmental legislation, reviews and issues permits concerning activities in the coastal areas, promulgates regulations and standards and develops environmental policy for the state. ADEM is the regulatory, permitting, monitoring and enforcement arm of the Alabama CZM Program. It also serves as the state's clearinghouse for environmental data and administers federally-designated environmental projects. ADEM provides the coastal regulatory controls and enforcement of coastal development authorities. ADEM serves the Reserve in an advisory capacity with a member on the Reserve Advisory Committee.

The Weeks Bay Advisory Committee

The Weeks Bay Advisory Committee was established during the initial stages of the Reserve designation efforts to advise the management. This Committee is composed of members from a variety of agencies and institutions providing a wide range of expertise. The Weeks Bay Advisory committee is a group of local and state-wide representatives who serve to advise management on matters of operations at the Reserve. The Advisory Committee promotes the Reserve by seeking support for the programs. Since Committee members are involved in community efforts,

they also inform management of needs, concerns, and interests of citizens using the Reserve. Sub-committees may be formed as needed to address such topics as research, and education.

The Weeks Bay Advisory Committee is composed of eighteen members that include:

Agency Representatives

1. Alabama Department of Conservation and Natural Resources, Game and Fish Division (appointed by the ADCNR Commissioner).

2. Alabama Department of Conservation and Natural Resources, Marine Resources Division (appointed by the ADCNR Commissioner).

3. Alabama Department of Conservation and Natural Resources, Land Division (appointed by the ADCNR Commissioner).

4. Alabama Department of Environmental Management (appointed by the Director of the ADEM Mobile Field Office).

5. Alabama Senate - Seat No. 32.

6. Alabama House of Representatives - Seat No. 94.

7. Baldwin County Board of Education (appointed by the Baldwin County Superintendent).

8. Marine Environmental Sciences Consortium (a.k.a. Dauphin Island Sea Lab, appointed by the MESC Director).

9. Baldwin County Commission (appointed by the Chairperson).

10. Auburn Marine Extension and Research Center (appointed by the Director).

11. Environmental Studies Center, Mobile County Board of Education (appointed by the Director).

12. Faulkner State Community College (appointed by the President).

Citizen Representatives

Six additional members appointed by the Governor for the duration of his/her term.

Two Non-Voting Members:

1. Alabama Department of Conservation and Natural Resources, State Lands Division, Coastal Section Chief.

2. Weeks Bay Reserve Foundation (the President of the Foundation).

CZM Participation

The relationship between the Reserve and the Alabama CZM Program is assured by several means. The Reserve Manager reports to the CZM Program Manager who is also the Coastal Section Chief of the Lands Division, ADCNR. The Coastal Section CZM and Reserve staffs

interact regularly in the coastal area and with the State Lands Director, Assistant Director, and staff. The Reserve is represented on the CZM Technical Interagency Committee (TIC) and the CZM Program is represented on the Weeks Bay Advisory Committee.

The CZM Program supports the Reserve through funding, program policy, and regulations. Where funds are available and their use not prohibited by federal or state guidelines, the CZM Program supports the activities of the Reserve financially. Additionally, the CZM Program recognizes and reinforces the goals of the Reserve and the Alabama Department of Environmental Management promote the resource protection program of the Reserve wherever feasible.

In addition to the coordination and support activities outlined above there are two areas - public education and research - that the Reserve has a leading role and supports the CZM Program. A large portion of the public education/outreach needs of the Alabama CZM Program, particularly that directed toward the age groups K-12, are met by the programs of the Reserve. The CTP will enhance collaborative opportunities as well. Recognition of this and closer coordination of education/outreach activities is a priority of both programs. As the research tracking and coordination capabilities of the Reserve increase there will be the opportunity for the Reserve to become the research coordinating and directing arm of the CZM Program. In this capacity the Reserve would, with the CZM Program, determine the need and help arrange research useful to both programs and to the wider coastal resource management effort.

Local Agency Support

The Baldwin County Board of Education (BCBE) assists the Reserve Administration (in accordance with the existing Memorandum of Understanding) by providing financial support for the Education Coordinator and supporting materials. Additionally, a representative of the Board serves on the Reserve Advisory Committee. This agency is integral to the success of the educational program. The Baldwin County Commission also assists the Reserve in an advisory capacity by appointing a representative to the Advisory Committee. The director of the Environmental Studies Center, an educational center for Mobile County Schools, appoints a representative to the Advisory Committee as well.

Support Organizations

Weeks Bay Reserve Foundation (hereafter referred to as the Foundation)

The Weeks Bay Reserve Foundation was incorporated as a non-profit corporation to provide supportive funding and resources for the Reserve. The Foundation seeks funding through donations, grants, and membership fees, facilitates property acquisition, and supports special activities.

Weeks Bay Volunteers

The Weeks Bay Volunteers was established as an unincorporated non-profit association in 1997. The primary purpose of this association is to aid the Reserve by organizing volunteers to actively assist the staff in their education, research, and resource protection functions. A board of seven directors is vested to manage the affairs of this association in accordance with its constitution and by-laws. An annual business meeting is held on the 2$^{nd}$ Tuesday of January. Board meetings are held quarterly on the 2$^{nd}$ Tuesday of the month. The Reserve Manager, or his/her designee, shall receive prior notification of and furnish advice for any project undertaken on behalf of the Reserve. Through fundraising activities, the volunteers support many projects to assist the Reserve.

RESERVE STAFFING

Staff members needed to implement the management plan and operate the Reserve are as follows: Reserve Manager, Administrative Assistant, Education Coordinator, CTP Coordinator, Research Coordinator, Research Technician, GIS Technician, Stewardship Coordinator, Watershed Coordinator, Watershed Assistant, Volunteer Coordinator, Maintenance/Repair Supervisor, Laborer/Receptionists (2), Temporary Laborer, Volunteer Staff, and Summer Interns.

Staff Roles and Responsibilities:

Reserve Manager

The Reserve Manager's general responsibilities are to supervise the implementation of the management plan and coordinate Reserve activities and programs. Specific duties of the manager include:

1. Develop and manage annual operations plan and budget.

2. Work and coordinate with the Weeks Bay Advisory Committee on various topics.

3. Oversee ongoing education, research, and stewardship programs.

4. Supervise boundary delineation for existing properties and new acquisitions.

5. Coordinate review of permit applications that may potentially affect the Reserve.

6. Maintain awareness of issues, legislation and activities of local or broader scope that might have an impact on the Reserve.

7. Meet with and address associations, groups, and individuals to promote the Reserve programs.

8. Oversee ongoing site development, acquisition, and maintenance activities.

9. Coordinate the patrol of Reserve areas and enforcement of conservation and other local regulations.

10. Develop and foster partnerships with other agencies and non-governmental organizations to promote conservation of coastal resources.

11. Maintain a working relationship with the Weeks Bay Reserve Foundation.

12. Represent Weeks Bay National Estuarine Research Reserve at the national level.

Administrative Assistant

This position is responsible in assisting with the administrative operations of the Reserve as well as greeting groups and the general public. This person also orients visitors to displays, programs, and Reserve personnel. Duties occasionally include opening and closing the Interpretive Center on weekends. Specific responsibilities include:

1. Serves as contact for the public acting as receptionist in the Interpretive Center.

2. Assists Reserve Manager with all fiscal functions and daily operations of the Reserve.

3. Coordinates involvement with Foundation, Advisory Committee, and various business meetings keeping minutes and records as appropriate.

4. Maintains control of all office matters conducting daily administrative duties and directing proper office operations.

5. Provides clerical support that includes communications, word processing, record keeping, and inventory of supplies.

6. Assists in development of annual operations plan and financial assistance applications.

7. Assists in the coordination of grant applications, contracts, management plan actions, reporting, and budget expenditures.

8. Assist in the sales for WBRF of various items; maintains inventory sheet and record of all sales.

9. Assist Reserve Manager and staff with special projects.

Education Coordinator

The Education Coordinator position is provided to the Reserve by the Baldwin County Board of Education. The position requires practical education experience as well as expertise in the areas of marine and environmental science. Duties include, but are not limited to, planning, scheduling and coordinating appropriate age group activities; conducting in-service activities for Baldwin County teachers; assisting in the development of exhibits and collections; assisting in the development of grant proposals for educational programs; and participation in special school projects. Specific responsibilities include:

1. Develop, implement, and evaluate education programs for the Reserve, including the solicitation of funding, planning, and all logistics.

2. Evaluate educational programs in order to fulfill grant requirements, monitor success, and adopt goals & objectives on subject matter and techniques.

3. Assist Reserve Manager with special projects including but not limited to development and installation of indoor/outdoor educational exhibits and other such displays for the Reserve.

4. Develop and conduct volunteer and teacher training activities.

5. Work with teachers, curriculum specialists, researchers, and primary users of the Reserve to determine educational needs.

6. Represent Weeks Bay National Estuarine Research Reserve at the state and national level.

CTP Coordinator

The Coastal Training Program (CTP) is an educational program providing coastal managers with scientific information targeting identified needs in their coastal areas. This position coordinates

activities providing outreach through workshops, tours, printed materials, and electronic communications. Responsibilities would include:

1. Coordinate the development of CTP at the Reserve.

2. Continue to work with the CTP Advisory Committee representing coastal agencies and institutions.

3. Complete and periodically update a market analysis for coastal Alabama and adjacent areas (MS & FL).

4. Complete and periodically update a needs assessment for coastal Alabama and adjacent areas (MS & FL).

5. Coordinate outreach activities such as Coastal Decision-Maker Workshops.

6. Assist Reserve Manager and staff with special projects including but not limited to ongoing educational activities at the Reserve.

7. Represent Weeks Bay National Estuarine Research Reserve at the national level.

Research Coordinator

This is a professional position requiring a background in field research and expertise in estuarine ecology. This position oversees research and monitoring activities, initiates research projects, and assists in facilitating outside research activities. Duties include:

1. Develop, implement, and oversee estuarine research and monitoring programs within the Reserve to support management efforts to protect resources by addressing resource threats and management issues.

2. Establish data collection protocols and supervise, train, and direct works of staff and volunteers in data collection to analyze the dynamics of Reserve ecology.

3. Work with researchers, environmental managers, and primary users of the Reserve to determine research needs and encourage research within the Reserve.

4. Make technical presentations to professional groups and presentations to schools, civic meetings, and various audiences at the Reserve.

5. Assist the Reserve manager in evaluating environmental and other management problems and developing solutions.

6. Assist in updating the Reserve management plan as well as planning and conducting public meetings.

7. Provide logistical support to scientists conducting research at the Reserve.

8. Represent Weeks Bay National Estuarine Research Reserve at the national level.

Research Assistant

This position assists the Research Coordinator in monitoring duties of the System-Wide Monitoring Program and facilitation of research at the Reserve. Specific responsibilities include:

1. Maintaining the weather, nutrient, and water quality instrumentation at WBNERR.

2. Manage the data uploading from field instruments.

3. File data in appropriate computer software.

4. Carry out all appropriate QA/QC on data.

5. Prepare data to send to CDMO in South Carolina.

6. Assist the Research Coordinator in facilitating researchers visiting the Reserve.

7. Manage the laboratory nutrient analysis for field monitoring.

8. Assist Reserve Manager and Research Coordinator with special projects.

Cartographic Specialist

This position is of a technical nature creating and maintaining Geographic Information System (GIS) databases, producing digital map products, and assisting development of GIS applications for the Reserve. Duties include:

1. Develop and maintain GIS databases.

2. Gather geographic data and other information for use in producing accurate and legible maps.

3. Create spatial analysis products such as maps, reports, or plots using GIS software, matching address location-based data to geographical databases.

4. Assist in the development of GIS presentations to be used in describing coastal resources.

5. Assist Reserve Manager with special projects and perform related work as required.

6. Work with other GIS users in acquiring additional data layers and information.

Stewardship Coordinator

This position requires scientific and educational experience. He/she must be able to read, understand, and present information at various technical levels in order to respond to correspondences, and to present information regarding marine and estuarine science to the public. Duties include:

1. Develop strategies for the protection of resources at Weeks Bay.

2. Work with local governments, industry groups and associations to promote resource protection at Weeks Bay.

3. Assist the manager in response to environmental problems requiring immediate action and/or communication with appropriate agency personnel.
4. Assist the Reserve in evaluating environmental problems in the watershed providing analysis and proposing solutions where appropriate.

5. Research suitable lands for acquisition in the Weeks Bay watershed and implement acquisition procedures and protocols to successfully acquire lands for the State.

6. Translates research and monitoring information.

7. Order, operate, and maintain equipment for the Reserve's programs.

8. Assist Reserve Manager in development and installation of exhibits.

9. Coordinate with Reserve education and volunteer staff to develop and implement outreach programs.

10. Represent Weeks Bay National Estuarine Research Reserve at the national level.

Watershed Coordinator

This position was established to promote watershed protection and develop local programs designed to educate and involve citizens and resource managers regarding watershed issues. Additionally, this position provides technical and financial assistance in management of non-point source problems within the watershed and promotes improvement in water quality through implementation of best management practices and education. Specific responsibilities include:

1. Develop and implement a watershed management program for Weeks Bay.

2. Identify non-point source pollution in the watershed and promote solutions to these problem areas.

3. Coordinate with federal, state and local agencies to maintain and improve water quality in the Weeks Bay watershed.

4. Work with local zoning/planning commissioners to address growth management.

5. Facilitate discussions among key stakeholders addressing resource management issues affecting the Reserve.

6. Assist Reserve Manager and staff with special projects.

Watershed Assistant

This position assists the watershed coordinator with overall management of the watershed program, maintaining water quality data, managing files, and coordinating various workshops and meetings. Specific duties include:

1. Assist project coordinator in preparing project mailings including meeting notices, meeting minutes, and other correspondence.

2. Assist project coordinator in developing publicity for project meetings, workshops, and special events.

3. Assist project coordinator in production of semi-annual newsletter.

4. Enter water quality data into computer spreadsheets and assist in coordinating water quality monitoring programs.

5. Assist in preparation of semi-annual and annual grant status reports, management plan, and other documents.

6. Assist in coordinating workshops and other educational programs.

Volunteer Coordinator

This position is responsible for recruiting, coordinating, and directing volunteers in support of Reserve activities and programs. Duties include:

1. Recruit volunteers, arrange training of volunteers, plans and schedules activities, supervises and reviews work of volunteers.

2. Coordinate special events.

3. Act as a liaison between the Weeks Bay Volunteers and Reserve staff.

4. Coordinate public relations, including: pamphlets, news articles, and fund raising information.

5. Assist Reserve Manager and staff with special projects.

Maintenance Supervisor

Employee is responsible for maintenance and repair of equipment, vehicles, vessels, buildings and grounds of the Reserve. Duties include:

1. Inspect and repair Reserve buildings, grounds, vessels, vehicles, and equipment.

2. Construct and maintain buildings, trails, and other facilities at the Reserve.

3. Assist Reserve Manager and staff with special projects related to environmental education and research programs including, but not limited to, operation of marine vessels and equipment for staff and visitors.

4. Perform janitorial duties, maintains supplies and equipment necessary for maintenance and upkeep of Reserve facilities.

5. Supervise volunteers and inmates with building and grounds maintenance projects.

Laborer/Receptionist

This position is responsible for cleaning and maintenance in the Interpretive Center and opening and closing the Reserve on weekends. Specific responsibilities include:

1. Responsible for opening and closing Interpretive Center during weekend hours.

2. Serve as contact for the public.

3. Establish and routinely follow a maintenance schedule for exhibits and aquaria.

4. Perform necessary janitorial duties of facilities.

5. Assist Reserve staff with special projects and weekend activities and programs.

Laborer

This position maintains the grounds of the Reserve and accomplishes janitorial duties in the Research and Education Facility. Duties occasionally include opening and closing the Interpretive Center on weekends. Specific responsibilities include:

1. Cut grass, prune trees, and weed garden area at Interpretive Center.

2. Perform trail maintenance using hand tools, blower and weed eater.

3. Clean auditorium, restrooms and conference room in Research and Education Facility.

4. Clean bunk room, kitchen, and restrooms in Research and Education Facility.

5. Assist maintenance supervisor in patrolling grounds and performing duties.

6. Empty trash at Manatee Park, Wintermeyer Park, boardwalk & nature trail.

7. Maintain floors in Interpretive Center and Research & Education Facility.

8. Assist Reserve Manager and Maintenance Supervisor with special projects.

Temporary Laborer

This position is a temporary position filled annually as needed typically during the warmer months of the growing season. Duties will assist in the area of maintenance and would include:

1. Cutting grass, trimming weeds, pruning limbs, etc.

2. Perform trail maintenance keeping pathways safe and clear of debris

3. Assist in repairs on boardwalks and other facility assets

4. Assist maintenance supervisor in patrolling grounds and performing duties.

5. Assist Reserve staff with special projects as assigned

Enforcement Personnel

Surveillance and enforcement activities require the coordination of law enforcement agencies (ADEM, Marine Police, Game Warden, and Baldwin County Sheriff), establishment of patrol schedules, and assessment. Reserve policy provides guidelines for security procedures. The Reserve Manager has initial surveillance responsibility for ensuring that all activities conducted within the Reserve conform with NERRS Guidelines.

Security procedures are activated following observation of violations, questionable activities or receipt of public complaints. This would prompt Reserve staff to contact the appropriate agency. The Reserve staff would evaluate most situations in the field to confirm violations or environmental impacts that might have occurred. In addition, the Reserve staff would facilitate agency response by providing communication, transportation, or assistance in locating the site. The types of agency response which might occur is outlined below.

U.S. Coast Guard: Response to violations/complaints regarding marine hazards.

ADEM: Response to violations/complaints regarding water quality, wetland impact, dumping, fuel spills and other activities leading to degradation of environmental quality.

Marine Police: Response to violations/complaints regarding boating/activities on the water or at the waterfront such as reckless boating, excessive wake in no wake zones, or other illegal activities on the waterways or at the waterfront.

Game Warden: Response to violations/complaints regarding State game laws or the enforcement of hunting regulations in the area of the Reserve.

Marine Resources: Response to violations/complaints regarding State fishing laws or the enforcement of fishing regulations in the area of the Reserve.

Baldwin County Sheriff: Response to violations/complaints regarding activities on roads through and adjacent to the Reserve as well as established public access areas.

OTHER AGENCY ROLES/RESPONSIBILITIES

Federal agencies

The Reserve works directly and indirectly with several Federal agencies including other NERRS. Mobile Bay was designated in 1995 as a National Estuary Program (NEP) site administered by the Environmental Protection Agency (EPA). The EPA has in the past provided funding through section 319 of the Clean Water Act supporting the Weeks Bay Watershed Project. Additionally, the Reserve staff communicates regularly with individuals with the U. S. Fish and Wildlife Service, the Army Corps of Engineers and the National Resource Conservation Service and the U.S. Coast Guard on regulatory protection matters. The Mississippi-Alabama Sea Grant (MASG) provides guidance and support through cooperative efforts in research and education. The U. S. Department of Agriculture has in the past used the Reserve properties to test for various human health parameters (e.g., Encephalitis). Reserve staff will continue to pursue grant funding from federal agencies.

State Agencies

Several State agencies cooperate with the Reserve, in addition to the CZM participation (see above). Past partnerships with state agencies including, the Alabama Cooperative Extension

System, Alabama Department of Economic and Community Affairs, and the Alabama Department of Public Health assisted in program coordination, advisory support, and support on issues directly related to their areas of expertise. The Reserve actively seeks partnerships with state agencies in pursuit of achieving mutual goals.

Local Agencies:

Many local agencies cooperate with the Reserve. The Baldwin County Board of Education provides guidance and support for educational programs. The Mobile County Environmental Studies Center continues to provide guidance and support for educational programs. The South Baldwin County and Eastern Shore Chambers of Commerce use Reserve facilities and are contacted for advice on matters pertaining to local development and economic issues. Additionally, Baldwin County decision makers (e.g., county commissioners, mayors, council persons) are contacted for input on relevant issues. The Reserve actively seeks partnerships with local agencies in pursuit of achieving mutual goals.

Universities and Academic Institutions

Several regional academic institutions support the Reserve. A representative from the Marine Environmental Science Consortium (MESC) at the Dauphin Island Sea Lab (DISL) is a designated members of the Reserve Advisory Committee. The MESC has provided technical assistance to the Weeks Bay Watershed Project and monitoring support to the Reserve System-Wide Monitoring Program (SWMP).

In addition, the Reserve coordinates and facilitates research and monitoring activities by institutions of higher learning. Present and previous partnerships have existed with the University of Alabama, the University of South Alabama, Mississippi State University, Auburn University, Louisiana State University, University of Southern Mississippi, and the University of West Florida. Additionally, Faulkner State Community College has assisted in workshop and conference logistics. Through CICEET located at the University of New Hampshire, funding opportunities for research are made available. The Reserve actively seeks partnerships with institutions of higher learning in pursuit of achieving mutual research goals.

Regional Interest Groups

Regional interest groups that provide assistance to, or have a vested interest in, the Reserve and their associated habitats include the Weeks Bay Reserve Foundation, the Coastal Land Trust, The Nature Conservancy, Mobile Bay Audubon Society, Gulf Coast Conservation Association, the Sierra Club. , and other professional and industry groups. The Reserve actively seeks partnerships with regional interest groups in pursuit of achieving mutual goals

The industrialization and rising population of southern Alabama threatens the health and productivity of the estuaries. Weeks Bay represents a microcosm of the entire Mobile Bay system in a more natural state. As the demand for available waterfront property continues to rise with the ever increasing migration of people to Baldwin County, more pressure will be brought to bear upon the limited quantity of land in desirable areas such as Weeks Bay. As such, its value as a natural habitat and as a teaching and research tool will be immeasurable.

Resource Protection Agencies

Federal and state agencies will support enforcement, provide regulatory control, lend expertise in an advisory capacity and assist in operations and funding when possible.

1. Federal Agencies

The office of Ocean and Coastal Resource Management of the National Ocean Service within NOAA is the specific federal entity charged with administering the National Estuarine Research Reserve System. Additionally, the U.S. Fish and Wildlife Service, Environmental Protection Agency, Department of Transportation, U. S. Coast Guard, the Army Corps of Engineers, and NOAA's National Marine Fisheries Service have specific regulatory and protective responsibilities in accordance with their legislative mandates.

2. State Agencies

a. Alabama Department of Conservation and Natural Resources

The Alabama Department of Conservation and Natural Resources (ADCNR) has direct control over natural resources, State parks and historical sites of the State as well as all State lands including submerged lands and public trust lands. The Department, which is composed of the Game and Fish Division, State Lands Division, State Parks Division, Marine Police and Marine Resources Division is charged with: (a) administering all laws pertaining to wildlife protection and conservation including game and fish laws, boat registration, and the management and protection of marine resources; (b) carrying out cooperative research and educational programs with Federal agencies; acquiring land by donation, purchase, condemnation or lease with regards to State parks and parkways and supply the appropriate administration.

The Department exercises complete authority over all seafood in the Alabama waters including all public and natural oyster reefs and oyster bottoms. Its rules and regulations prescribe the time and manner by which all classes of seafood may be taken. Through the State Lands Division, it also manages and controls submerged lands and river and bay bottoms.

The ADCNR has the power to levy fines for violations of its regulations. The game and fish wardens of the Division of Game and Fish are empowered to serve subpoenas, carry firearms and to confiscate all game, birds, animals or fish which have been caught, taken or killed in violation of ADCNR regulations. Employees of the Division of Marine Resources (Marine Police) are empowered to carry firearms, with the power to arrest with or without warrant any person who shall violate any of the laws of the State of Alabama or any rule or regulation of the ADCNR.

ADCNR is the principal agency responsible for ensuring the satisfactory implementation of Reserve's federally approved management plan. ADCNR also serves as the state's fiscal representative, and along with the Reserve Manager, is the principal contact in all discussions with NOAA regarding the Reserve. The Reserve Manager is responsible for on-site management.

b. Alabama Department of Environmental Management

Alabama Law (Action No. 82-612) establishes the Alabama Department of Environmental Management (ADEM) to provide for a comprehensive and coordinated program of environmental management. ADEM has regulatory authority over air, water, solid waste and hazardous wastes. ADEM reviews permitting activities in coastal areas to ensure consistency with the Alabama Coastal Area Management Program.

Acting through the Environmental Management Commission, ADEM is to adopt and promulgate rules, regulations and standards for the Department, and to develop environmental policy for the State. It also serves as the State's clearinghouse for environmental data and as the State agency responsible for administering federally designated environmental projects.

The Department, the Attorney General, a district attorney or an assistant district attorney having jurisdiction may initiate an action against any entity if in the judgement of the Alabama Department of Economic and Community Affairs such party is determined to be in violation of the management program.

Applicable Federal and State Regulations

1. Federal Laws and Regulations

Like state authorities, federal programs vary greatly in approach and scope, ranging from broad-based legislation providing for resource management such as the Coastal Zone Management Act to control of specific threats and protection of specific resources.

The following Federal laws and regulations are known to be applicable in the coastal area of Alabama.

a. Coastal Zone Management Act of 1972 (16 U. S. C. 1451 et seq.)

In 1972, Congress passed the Coastal Zone Management Act (CZMA) in response to public concern about balancing needs for preservation and development in coastal areas. The Act authorizes a Federal grant-in-aid program to be administered by the Secretary of Commerce, who in turn delegated this responsibility to NOAA's Assistant Administrator for Ocean Services and Coastal Zone Management.

The Act affirms a national interest in the effective protection and careful development of the coastal zone by providing assistance and encouragement to coastal states and territories with the means for achieving these objectives. Broad guidelines and the basic requirements of the CZMA provide the necessary direction to states for developing their coastal management programs.

The Coastal Area Management Program was approved September 25, 1979 and announced in the Federal Register on October 12, 1979 (FR 58938). The Coastal Area Management Program provides a comprehensive management program for coastal lands and waters as well as uses of these areas.

The Coastal Nonpoint Source Pollution Control Program (Section 6217) addresses nonpoint pollution problems in coastal waters. Section 6217 requires the 29 states and territories with approved Coastal Zone Management Programs to develop Coastal Nonpoint Pollution Control Programs. In its program, a state or territory describes how it will implement nonpoint source pollution controls, known as management measures, that conform with those described in Guidance Specifying Management Measures for Sources of Nonpoint Pollution in Coastal Waters. This program is administered jointly with the National Oceanic and Atmospheric Administration (NOAA).

b. Clean Water Act (33 U.S.C. 1251 et seq.)

The Clean Water Act (CWA) establishes the basic scheme for restoring and maintaining the chemical, physical, and biological integrity of the nation's waters. The CWA contains two basic mechanisms for preventing water pollution: (1) the regulation of discharges from known sources; and (2) the regulation of oil and hazardous substances discharges. The Act also regulates the disposal of vessel sewage and dredged material. The CWA reauthorization in 1987 created the Nonpoint Source (NPS) Program (CWA, Section 319), a wastewater treatment revolving fund, programs for management of toxic pollutants, watersheds, storm water, wetlands, municipal sludge, and coastal protection and interstate programs.

i) Discharges and Dredging

The CWA's chief mechanism for preventing and reducing water pollution is the National Pollutant Discharge Elimination System (NPDES), administered by EPA. Under the NPDES program, a permit is required for the discharge of any pollutant from a point source into navigable waters (which include State waters, the contiguous zone, and the ocean). EPA delegates NPDES permitting authority to the State of Alabama for State waters. For Weeks Bay, Alabama, no dredging will be allowed which will alter or affect the Reserve, the habitats within it, or the health of the ecosystem in a detrimental way. Additionally, section 404 permits, from the Army Corps of Engineers (based on EPA developed guidelines), are required prior to filling and/or discharging dredged materials within three miles of shore (including wetlands), or the transportation of dredged material for the purpose of dumping it into ocean waters.

ii) Oil Pollution Act of 1990 (33 U.S.C. 2701 et seq.)

This law regulates vessel discharge of oil and construction standards for tankers. Discharges of oil and hazardous substances in harmful quantities are prohibited by the CWA. Where such discharges do occur, the National Contingency Plan (NCP) for the removal of oil and hazardous substance discharges, will take effect. The Coast Guard, in cooperation with the Department of Transportation and EPA, administer the Plan, which applies to all discharges of oil in the contiguous zone and to activities under the Outer Continental Shelf Lands Act. The NCP establishes the organizational framework whereby oil spills are to be cleaned up.

iii) Recreational Vessels

The CWA (33 U.S.C. 1322) requires recreational vessels with toilet facilities to contain operable marine sanitation devices. The regulations state that boats, 65 feet in length and under, may use either Type I, II, or III MSD's which must be certified by the Coast Guard. Types I and II are chemical treatment devices and Type III is a holding tank. The CWA requires noncommercial crafts to comply with marine sanitation device regulations issued by EPA and enforced by the U. S. Cost Guard.

iv) Nonpoint Source Pollution (Sections 319 and 6217)

Two primary federal statutes establish a framework in Alabama for addressing nonpoint source water pollution (NPS): Section 319 of the Clean Water Act of 1987 and Section 6217 of the Coastal Zone Act Reauthorization Amendments of 1990 (CZARA). Nonpoint source pollution is diffuse and highly variable, depending on climate, soils and land use practices. The EPA has four broad objectives: a) support state activities with the greatest potential to produce early demonstrable water quality results, b) encourage and reward effective performance, c) assist in building the long-term capacity of states and local governments to address nonpoint source pollution problems, and d) encourage strong interagency coordination and public involvement. The Weeks Bay Watershed Project is funded through the EPA Region IV CWA's 319 Program. The Watershed Project was created to identify NPS issues and coordinate among federal, state, and local authorities to solve water quality problems. The Watershed Project provides a long-term management plan for the watershed, provides technical assistance to land owners, facilitates citizen involvement, and coordinates research and monitoring activities in the watershed.

c. Marine Mammal Protection Act of 1972 (16 U.S.C. 1361 et seq.)

The Marine Mammal Protection Act (MMPA) applies to U. S. citizens and foreign nationals subject to U. S. jurisdiction and is designed to protect all species of marine mammals. The MMPA is jointly implemented by the National Marine Fisheries Service (NMFS), which is responsible for whales, porpoises, and pinnipeds other than the walrus, and the Department of the Interior's Fish and Wildlife Service (FWS), which is responsible for all other marine mammals. The Marine Mammal Commission advises these implementing agencies and sponsors relevant scientific research. The primary management features of the Act include: (1) a moratorium on the "taking" of marine mammals; (2) the development of a management approach designed to achieve an "optimum sustainable population" for all species of population stocks of marine mammals; and (3) protection of populations determined to be "depleted."

d. The Rivers and Harbors Act (33 U.S.C. 401 et seq.)

Section 10 (33 U.S.C. 403) prohibits the unauthorized obstruction of navigable waters of the United States. The construction of any structure in the territorial sea or on the outer continental shelf is prohibited without a permit from the U.S. Army Corps of Engineers (COE). The COE will not issue a Section 10 permit unless construction or obstruction has been found to be consistent with the ACAMP.

Section 13 of the Rivers and Harbors Act (33 U.S.C. 407, the Refuse Act) prohibits the discharge of refuse and other substances into navigable waters, but has been largely superseded by the CWA. In effect, such discharges are regulated under this section only insofar as they affect navigation or anchoring.

e. Endangered Species Act of 1973 (16 U.S.C. 1531 et seq.)

The Endangered Species Act (ESA) provides protection for listed species of marine mammals, birds, fish, invertebrates, and plants. The USF&WS and NMFS determine which species need protection and maintain a list of endangered and threatened species. The most significant protection provided by the ESA is the prohibition on taking of listed species. The term "take" is defined broadly to mean "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect or to attempt to engage in any such conduct" (16 U.S.C. 1532 (19)). The USFWS regulations define the term "harm" to include significant environmental modification or degradation which actually kills or injuries wildlife by significantly impairing essential behavior patterns (50 CFR 17.3).

The ESA also protects endangered species and their habitats. This is accomplished through a consultation process designed to insure that projects authorized, funded, or carried out by the Federal agencies do not jeopardize the continued existence of endangered or threatened species or "result in the destruction or adverse modification of habitat of such species which is determined by the Secretary of Commerce, or Interior. to be critical" (16 U.S.C. 1536). Critical habitat for endangered species is designated by the USFWS or NMFS depending on the species.

f. Migratory Bird Treaty Act (16 USC 703 et. seq.)

The essential provision of the Migratory Bird Treaty Act (MBA), which implements conventions with Great Britain and Japan, makes it unlawful, except as permitted by regulations "to hunt, take, capture...any migratory bird, any part, nest or egg" of any protected bird (16 USC 703). The Secretary of the Interior is charged with determining when, to what extent, if at all, and by what means to permit these activities. Each convention establishes a "closed season" during which no hunting is permitted. Of the birds found in the study area, only certain species of ducks, geese, gallinules, and doves are considered game birds under the MBA.

2. State Laws and Regulations

a. Water Quality Control

The Code of Alabama, Sections 22-22-1 through 22-22-14 describe ADEM as the State Water Quality Control Authority. ADEM is broadly charged with the responsibility for conservation of the ground and surface waters within the coastal area, the propagation of wildlife, fish and aquatic life, and for water supplies. ADEM has the authority to provide for the prevention, abatement and control of new or existing water pollution. It supervises the enforcement of all laws relating to water pollution in the state and establishes criteria for acceptable limits of pollution.

ADEM issues permits for the discharge of sewage, industrial waste entering directly or through a municipal or private treatment facilities, and other waste into

the waters of the State. It is given wide latitude through its rule-making authority which is reflected by the fact that each permit stipulates the conditions under which waste discharge may be permitted. A permit must first be obtained from ADEM before construction of any water works or water system supplying water for domestic purposes to the public.

In addition to ADEM, the State Oil and Gas Board, by provision of the Code of Alabama, Section 9-17-6 et seq., is charged with the prevention of the pollution of fresh water supplies by oil, gas or saltwater and to prevent wells from being drilled, operated or produced in a manner which would cause injury to neighboring property.

b. Fish, Game and Wildlife

Empowered in Section 9-2-7 of the Code of Alabama, the ADCNR formulates a state wildlife policy, fixes open season during which game animals and birds may be taken, fixes daily and season bag limits on game birds and animals as well as the authority to sets daily creel limits on game fish. The ADCNR regulates the catching and taking of game birds, animals and fish and closes the season of any species in any county or area when, upon a survey by the department, it is found necessary for the conservation and perpetuation of such species. It may also designate by name what animals shall be classed as game or fur bearing animals, and what species of fish shall be game fish.

c. Submerged Lands and Marine Resources

The ADCNR State Lands Division's legal authority for management of submerged public trust lands appears at Section 9-15-1, et seq. of the Code of Alabama, 1975.

The ADCNR assumes responsibility for regulating the cultivation and removal of oysters and the taking, processing and distribution of turtles, shrimp, crabs and other marine resources. It assumes responsibility for the establishment of reefs in offshore waters.

d. Registration and Operation of VesselsThe provisions of the Code of Alabama, Sections 33-5-1 through 33-5-36, require the registration of all vessels in Alabama. The ADCNR, through its Division of Marine Police, promulgates and enforces water safety regulations.

e. State Docks

The Alabama State Docks Department supervises, promotes, controls, manages and directs the State docks associated with State lands. The Department requires construction permits for structures in water on navigable streams. Such structures include piers, boat basins, overhead power lines and underwater pipelines.

f. Obstructions to Navigation Act

This act, Code of Alabama, Sections 33-7-1 through 33-7-54, consists of several diverse provisions aimed at maintaining the navigability of waters in the State. Fines are imposed for any intentional or willful obstruction of a navigable water

course by any means including floating timber to market. Other provisions of the act specify the conditions upon which one may gain as easement and the right to construct dams across navigable rivers.

An additional important provision of the act (Section 33-7-53) relates to acquisition of tidelands by riparian owners. This section specifically states that "the owner of any lands in the State of Alabama abutting on tidelands (controlled or owned by the State), which shall not have been approved by or under valid public authority and shall not be otherwise devoted to public use, shall be authorized to acquire such tidelands and to fill, reclaim or otherwise improve same and to fill in, reclaim or otherwise improve the abutting submerged land and to own, use, mortgage and convey the lands so reclaimed, filled, or improved, and any improvements thereon" subject to the following conditions and approval: (1) conformance to any stipulated or established harbor line, (2) if the land is to be used for a bridge, road or causeway over navigable waters; for a bridgehead or approach; or for terminal facilities abutting on the bridge, road or causeway plans for the bridge, road or causeway must be approved by appropriate federal authorities, the Director of the State Docks Department, and the Governor. When appropriate approvals are obtained and construction of the improvement pursuant to the plans is completed, title to the subject lands and the entire improvement thereon vests in the riparian owner, (3) if the proposed or constructed improvement on the land is different from those enumerated above, the riparian owner may gain title to the land only by obtaining county commission approval of the county in which the land is situated, and approval of both the Director of the State Docks Department and the Governor, provided that notice of application for the required approvals is given by publication in the county newspaper at least 10 days before the request. Following the required approvals, title passes to the riparian owner upon filing, for record, a certificate of the appropriate approvals.

g. Discharge of Litter and Sewage from Watercraft

Alabama law (Code of Alabama, Sections 33-6-1 through 33-6-12) strictly prohibits the discharge of litter, sewage, and other materials from watercraft. By the provisions of this Act, the State Board of Health is authorized to adopt regulations or promulgate orders designed to control the discharge of waste from watercraft into state waters. Authority is given to impose marine toilet specifications upon vessel manufacturers. By the terms of the act it is made unlawful for any manufacturer to deliver a marine toilet or other sewage disposal device within the state without having received certification and approval by the State Board of Health.

h. Wild Sea Oats Act - Baldwin County

The provisions of the Wild Sea Oats Act, Acts of Alabama, 1973, Act No. 971, make it a misdemeanor to pick wild sea oats on the beaches of Baldwin County. The ADCNR is responsible for posting signs to that effect near the beaches.

SPECIFIC POLICIES TARGETED FOR SPECIFIC NEEDS

Contingency Responses to Emergency Conditions

Contingency plans were developed to respond to emergency conditions which may arise. These plans are of a generic nature whereby actions would proceed through basic steps of approaching the emergency condition. This was desirable due to the unknown nature of individual emergencies and conditions not previously experienced. The approach is as follows:

- Notification of Emergency
- Immediate Response
- Confirmation of Emergency and Evaluation
- Agency Contact and Follow-up Procedures

There are some emergency situations that are predicted for the Reserve. For these situations, more specific contingency responses have been/are being developed. They include fire, spills, accidents, hurricanes, and strandings of manatees or other marine mammals.

Emergency Plans

1. Hurricane

   a. Buildings - board windows, unplug and cover and/or store all electronic equipment, and make any other measures necessary to protect Reserve property where appropriate. Add frequent backups.

   b. Vessels – Reserve vessels will be secured at a location as safe as possible, either on the water or land, as deemed necessary. This usually means a canal at Safe Harbor Resort, on a trailer at the Reserve, or secured on land.

      All electronic equipment (radios, etc.) will be taken off the boats and stored at the Reserve.

   c. Vehicles - Reserve vehicles will be parked in the lot at the Reserve at the spot least likely to be hit by falling trees. When possible, vehicles will be filled with gasoline prior to storms.

2. Oil spill

   Contact with Coast Guard, ERD, other state/county agencies (ADEM, ADCNR) will be made as soon as possible after Reserve staff notification. Emergency procedures presently established with the Coast Guard and ADEM will be followed.

3. Sedimentation

   Contact with ADEM and COE will be made to note any violations.

4. Marine Mammal and other Endangered Animal Species Stranding

   After notification and confirmation procedures, the following local agencies will be contacted:

   a. Marine Mammal Stranding Network

b. U.S. Fish and Wildlife Service

c. Department of Conservation and Natural Resources

5. Fires

a. Buildings - Depending on the severity of the fire, notification of the Fire Department will occur as the building is evacuated.

b. Wildfire - Depending upon the severity of the fire, the local Volunteer Fire Departments and Alabama Forestry Commission will be notified.

c. Prescribed fire - Will be managed by the Reserve and the ADCNR/SLD.

6. Accidents

Following the basic steps of response, evaluation of the accident would be followed by appropriate responses such as applying first aid, contacting emergency response personnel and potential transportation to hospital.

# Appendix F
# Pier Criteria

Appendices

**Criteria for Pier Construction in Weeks Bay**

1. Pier and / or Walkway:

    a. Length of structure: The entire structure may extend to 3 feet MLW (mean low water) plus 20 feet waterward, or 300 feet waterward of MHW (mean high water), whichever distance is shorter.
    b. Width and Height: The maximum width of the pier shall be limited to 5 feet and the height of the pier must be at least 5 feet above MHW.
    c. Marsh Front: If the property is fronted by a marsh or a marsh fringe, the maximum width of the walkway shall be limited to 5 feet and the height of the walkway must be at least 5 feet above marsh ground elevation. Please refer to Number 3 for conditions on installing pilings crossing a marsh.
    d. Decking Boards: The spacing between the wooden decking of the walkway over the marsh fringe and of the pier must be no less than 0.75 inch when finished to allow light penetration. Light penetration may also be achieved by the use of metal grating. Decking boards shall be no wider than 12 inches.

2. Pier Deck Area:

    a. Number of Decks: There shall be no more than one pier deck area (deck) per single owner pier.
    b. Size: The deck shall be no larger than 10 feet by 10 feet (100 square feet including the pier width). The deck may be covered (roofed) and have screened walls (no enclosed or solid walls).
    c. Plumbing: No plumbing or toilet facilities shall be located on, or service, the pier or deck.

3. Walkway Conditions for Crossing Wetlands:

    a. Impacts to Habitat: Adverse impacts to the marsh must be avoided during construction and future use.
    b. Machinery: Support pilings for the walkway crossing the marsh shall be installed by hand with no heavy machinery operating in the marsh.
    c. Spoil: Excess material excavated for installation of the pilings shall be removed from the wetland areas so that existing elevation remains unaltered.

4. Boat Berthing Area(s):

    a. Single owner pier: There will be no more than two boat berths (uncovered, no enclosure).
    b. Mooring pilings: A total of six mooring pilings may be installed. The boat berthing area(s) may be up to 20 feet by 26 feet. The mooring pilings will be installed parallel to and a maximum of 20 feet waterward of the pier/deck/access dock.
    c. Boat Access Dock: One 2 feet wide by 10 feet long boat access dock may be constructed per berthing area. Access dock may be lower than decking.
    d. Lateral Line: Boats berthed at permitted structures must be a minimum of 10 feet inside the lateral riparian line. Berthed vessels should not either physically preclude or have the effect of precluding public access to public waters adjacent to the upland.

5. Construction Requirements:

   a. Setback: All structures shall be set back a minimum of 25 feet from the applicant's lateral riparian rights line. However, a 10 feet setback from the applicant's lateral riparian rights line may be approved should the applicant's riparian area be inadequate to maintain a 25 feet setback from the riparian rights line.
   b. State and Local Requirements: It is the permittee's responsibility to comply with all state and local requirements applicable to your activity. This permit DOES NOT supersede any other mandated requirements.
   c. Lease Requirement: Facilities and activities which constitute exclusive use of state- owned submerged land, or have the effect of precluding public access to those lands, require an appropriate lease from the Lands Division of the Alabama Department of Conservation and Natural Resources (ADCNR). Note: Activities covered by this General Permit normally do not require a lease from ADCNR.
   d. Corps of Engineers Permit Required: These pier criteria in no manner eliminate the requirement to obtain a U.S. Army Corps of Engineers permit of all construction activities within the jurisdiction of that agency.

6. Riparian Rights (Water Access Rights):

   a. Ownership: Permit applicants must show evidence of riparian ownership with an affirmation of accuracy as part of the application process.
   b. Lateral Riparian Lines: The burden of locating lateral riparian lines is the responsibility of the riparian owner.
   c. Riparian Rights Area: All structures and other activities must be within the riparian rights area of the applicant and must be designated in a manner that will not restrict or otherwise infringe upon the riparian rights of adjacent upland riparian owners. Configuration, location or design of the structure may not either physically preclude or have the effect of precluding public access to public waters adjacent to the upland. It is recommended that the structure be centered on the applicant's property.

7. Dredging:

   No dredging to create channels, or any other bottom disturbance, shall be permitted.

8. Grass Survey:

   Prior to issuance of a permit, a grassbed survey may be required. Pier construction shall be done in such a way as to prevent damage to aquatic vegetation.

9. Shoreline Protection:

   Shoreline protection shall only be considered in those areas where the riparian vegetation proves inadequate in preventing erosion. The shoreline protection is limited to the placement of riprap. Filter cloth shall be required. The activity shall not exceed one cubic yard per running foot placed along the bank below the high tide line.

10. Community Piers:

    Communal areas which share riparian ownership may construct a community pier to provide riparian access. Permits will take into consideration the number of riparian owners involved in the project.

# Appendix G
# Outstanding National Resource Water Designation

Appendices

Outstanding National Water Resource Designation
**(Excerpted from Chapter 335-6-10 of the ADEM Administrative Code)**

335-6-10-.10 Special Designations.

OUTSTANDING NATIONAL RESOURCE WATER

Designation:

1. High quality waters that constitute an outstanding National resource, such as waters of national and state parks and wildlife refuges and waters of exceptional recreational or ecological significance, may be considered for designation as an Outstanding National Resource Water (ONRW). For water designated as ONRW, existing water quality shall be maintained and protected.

Specific Criteria:

Sewage, industrial wastes or other wastes:

(i) No new point source discharges or expansions of existing point source discharges to Outstanding National Resource Waters shall be allowed.

Existing point source discharges to the Outstanding National Resource Water shall be allowed provided they are treated or controlled in concordance with applicable laws and regulations.

New point source discharges or expansions of existing point source discharges to waters upstream of, or tributary to, Outstanding National Resource Waters shall be regulated in accordance with applicable laws and regulations, including compliance with quality criteria for the use classification applicable to the particular water. However, no new point source discharge or expansion of an existing point source discharge to waters upstream of, or tributary to, Outstanding National Resource Waters shall be allowed if such discharge would not maintain and protect water quality within the Outstanding National Resource Water

Nonpoint source discharges shall use best management practices adequate to protect water quality consistent with the Department's nonpoint source control program.

THE MOBILE RIVER-MOBILE BAY BASIN

INTERSTATE AND COASTAL WATERS

| Stream | From | To | Classification |
|---|---|---|---|
| Mobile river and all other rivers, creeks, lakes of the Mobile river Delta and their tributaries except as otherwise designated. | | | F&W |
| MOBILE RIVER | Tensaw River | Barry Stream Plant | PWS/F&W |
| MOBILE RIVER | Its mouth | Spanish River | A&I |
| Tensaw River | Junction of Tensaw and Apalachee Rivers | Junction of Briar Lake | S/F&W |
| MOBILE BAY | West of a line drawn due south from the western shore of Chacaloochee Bay (Lat. 304047.3/Long. 0875944.2) | A point due east of the mouth of Dog River (Lat. 303353.2/Long. 0880515.3) | F&W |
| MOBILE BAY | South of a line due east from the mouth of Dog River (Lat. 303353.2/Long. 0880515.3) and east of a line drawn due south from the western shore of Chacaloochee Bay (Lat. 304047.3/ Long. 0875944.2) and all other portions of MOBILE BAY. | | S/F&W |
| MOBILE BAY | All that portion lying south of a line extending in an easterly direction from the south bank of East Fowl River at its mouth (Lat. 302703.2/ Long. 0880622.6) through lighted beacon (FL 2 seconds) (Lat. 302707.5/Long. 080539.3) to lighted beacon (FLG 4 seconds “23”) (Lat. 302718.3/ Long. 0880058.3) at the Mobile Ship Channel thence in a northeasterly direction to Daphne (Bench mark 157, Lat 303607.5/ Long. 0875416.4) | | SH/F&W |
| Bon Secour Bay | In its entirety (east and south of a line connecting Mullet Point, Lat. 332435.0/Long. 0875423.2 and Engineers Point, Lat. 301350.2/Long. 0880126.2 at Fort Morgan. | | SH/S/F&W |
| Mississippi Sound and contiguous waters excepting: that portion of Portersville Bay 1,000 feet on each side of a straight line connecting the shore at Bayou Coden to a lighted beacon (FLR 4 seconds “6”) (Lat. 302231.2/Long. 0881425.8) and lighted beacon (FL 4 seconds “1”) Lat. 302223.7/Long 0881434.8); that portion of Portersville Bay 1,000 feet on each side of a straight line connecting the shore at Bayou La Batre and lighted beacons (FR) (Lat. 302311.0/Long. 0881609.6) and (FLR 4 seconds “6”0 (Lat. 302105.2/Long. 0881702.2), and that portion of Bayou Aloe within 1,000 feet of the outfall (Lat. 301552.0/Long. 0880702.1) of the Dauphin Island sewage treatment plant. | | | SH/S/F&W |

| Stream | From | To | Classification |
|---|---|---|---|
| Waters excepted in foregoing description of Portersville Bay and contiguous waters | | | F&W |
| Oyster Bay and that portion of Bon Secour River west of a line drawn due north from the east bank of the inlet connecting Oyster Bay and Bon Secour River | | | SH/F&W |
| Coastal waters of the Gulf of Mexico contiguous to the State of Alabama | | | SH/S/F&W |
| Intracoastal Waterway | Bon Secour Bay | Alabama Highway 59 | F&W |
| Bon Secour River | Bon Secour Bay | One mile upstream from first bridge above its mouth | S/F&W |
| Boggy Branch | Bon Secour River | Its source | S/F&W |
| Weeks Bay | Bon Secour Bay | Fish River | S/F&W* |
| Magnolia River | Weeks Bay | Its source | S/F&W |
| Fish River | Weeks Bay | Clay City | S/F&W |
| Turkey Branch | Fish River | Its source | S/F&W |
| Waterhole Branch | Fish River | Its source | S/F&W |
| Cowpen Creek | Fish River | Its source | S/F&W |
| Point Clear Creek | MOBILE BAY | Its source | F&W |
| Fly Creek | MOBILE BAY | Its source | S/F&W |
| Rock Creek | MOBILE BAY | Its source | F&W |

*OUTSTANDING NATIONAL RESOURCE WATER

Appendices

# Appendix H
## Weeks Bay Goals and Objectives By Program

Appendices

| | | | | |
|---|---|---|---|---|
| **Mission**<br>**Provide leadership to promote informed management of estuarine and coastal habitats through scientific understanding and encourage good stewardship practices through partnerships, public education, and outreach programs.** | | | | |
| **Vision**<br>**Promote a healthy flourishing Weeks Bay** | | | | |
| Goals | | **Protect and improve habitat and biological diversity within the boundary of the Reserve.** | **Improve decisions affecting estuarine and coastal resources.** | **Promote education, stewardship, and scientific research focusing on estuarine ecosystems.** |
| Objectives | Administration | Solicit and obtain funds to support habitat and biological diversity. | | Facilitate administrative and financial management of Reserve research, education, and outreach programs. |
| | | | | Provide administrative staffing and facilities to support Reserve programs. |
| | | | | Improve and enhance partnerships to benefit Reserve programs. |
| | Stewardship | The Reserve will manage natural resources to maintain and restore ecosystem function. | Research and monitoring data will become the basis for better informed coastal management decisions. | Improve exhibits and outreach initiatives to support Reserve programs. |
| | | Restore and protect habitat, through land acquisition, education, and incentive programs. | | Provide for long-term support and involvement of watershed residents in watershed planning and management activities. |

Table 2. Goals and Objectives by Program

| Goals | | **Protect and improve habitat and biological diversity within the boundary of the Reserve.** | **Improve decisions affecting estuarine and coastal resources.** | **Promote education, stewardship, and scientific research focusing on estuarine ecosystems.** |
|---|---|---|---|---|
| Objectives | Boundary & Acquisition | Prioritize habitat areas and land tracts for acquisition within the Weeks Bay Coastal Area according to their contributions to ecosystem function. | | |
| | | Develop land acquisition methods and conservation initiatives to protect ecologically valuable habitats and expand the Reserve boundaries. | | |
| | Public Access | Designate areas and guidelines for public access to reduce impact on resources and maximize public outreach. | | Improve and enhance water access to facilitate Reserve programs. |

Table 2. Goals and Objectives by Program

| **Goals** | | **Protect and improve habitat and biological diversity within the boundary of the Reserve.** | **Improve decisions affecting estuarine and coastal resources.** | **Promote education, stewardship, and scientific research focusing on estuarine ecosystems.** |
|---|---|---|---|---|
| Objectives | Facilities and Construction | | | Develop buildings and boardwalks that have a low impact on natural resources within the Reserve. |
| | | | | Existing resources will be improved and enhanced to better accommodate Reserve programs. |
| | Research and Monitoring | | Make baseline data on habitats and water quality available to local, state, and national entities. | Provide resources support, and background data to independent research projects within the Reserve and adjacent associated waters. |
| | | | Monitoring and research data will be translated and disseminated to local, state, and federal partners and other private and public users through education and outreach programs. | Increase understanding of watershed functions and methods of resource protection and restoration through applied research and monitoring projects. |

Table 2. Goals and Objectives by Program

| Goals | | **Protect and improve habitat and biological diversity within the boundary of the Reserve.** | **Improve decisions affecting estuarine and coastal resources.** | **Promote education, stewardship, and scientific research focusing on estuarine ecosystems.** |
|---|---|---|---|---|
| Objectives | Education | Provide resources to maintain, develop and implement educational programs. | Use the training, and outreach center for the capacity building of coastal resource managers. | Develop and implement comprehensive education and interpretation programs to increase knowledge of target audiences. |
| | | | | Develop needs assessment and evaluation tools to measure effectiveness of education programs. |
| | Volunteers | | Trained volunteers will transfer knowledge and enthusiasm to wider audiences. | The Reserve will utilize volunteers to enhance and expand programs. |
| | | | | Provide opportunities for volunteers to be involved with education, stewardship, and research programs. |

Table 2. Goals and Objectives by Program

# Appendix I
## Action Tables By Year Resulting From Staff Work Sessions

Appendices

| ACTION | AGENCY | FUNDING | Y1 | Y2 | Y3 | Y4 | Y5 |
|---|---|---|---|---|---|---|---|
| Provide grant administration support to ensure that funds are solicited and managed efficiently | Reserve, ADCNR | ADCNR, NOAA | * | * | * | * | * |
| Write grants to secure funding in support of habitat and biological diversity within theReserve. | Reserve, ADCNR | ADCNR, NOAA | * | * | * | * | * |
| Participate in NERR System Meetings | Reserve | ADCNR, NOAA | * | * | * | * | * |
| Target agency capabilities to meet needs of Reserve programs. | ADCNR, | ADCNR, NOAA | * | * | * | * | * |
| Facilitate partnerships with local agencies to support Reserve programs | Reserve | ADNCR, NOAA | * | * | * | * | * |
| Clarify and revise the roles and capabilities of federal, state, and local governments or agencies | Reserve, ADCNR | ADCNR, NOAA | * | * | * | * | * |
| Develop Memoranda of Understanding (MOU) with local, state, and federal organizations | Reserve, ADCNR, supporting agencies | ADCNR, NOAA, | * | * | * | * | * |
| Hire additional staff as needed | ADCNR, Reserve | ADCNR, NOAA | * | * | * | * | * |
| Create usable and efficient staff workspace to allow better coordination between programs. | ADCNR, Reserve | ADCNR, NOAA | * | * | * | * | * |
| Purchase equipment and supplies to enhance staff productivity | Reserve, ADCNR, | ADCNR, NOAA | * | * | * | * | * |

Administration Action Plan

| ACTION | AGENCY | FUNDING | Y1 | Y2 | Y3 | Y4 | Y5 |
|---|---|---|---|---|---|---|---|
| Classify Reserve habitats according to stewardship and management goals. | Reserve | ADCNR, NOAA | * | * | | | |
| Develop criteria to prioritize Reserve land acquisition by identifying areas with habitat restoration needs. | Reserve | ADCNR, NOAA | * | * | | | |
| Evaluate impact versus benefit with all management activities. | Reserve | ADCNR, NOAA | * | * | * | * | * |
| Assess the potential uses of conservation easements as a strategy for land protection adjacent to the Reserve. | Reserve | ADCNR, NOAA | * | * | * | * | * |
| Establish and maintain wildlife best management practices on Reserve Property. | Reserve | ADCNR, USF&W, WBRF | * | * | * | * | * |
| Evaluate COE and ADEM permit applications for construction, land use changes, habitat alterations. Make comments where appropriate and forward to SLD Coastal Section. | Reserve, CAC | ADCNR, NOAA | * | * | * | * | * |
| Provide best management practice guidance to Regulatory Agencies | CAC, Reserve | NOAA, ADEM | * | * | * | * | * |
| Expand interpretive program through creative exhibits, public workshops, and other proactive initiatives. | ADCNR, Reserve | ADCNR, NOAA | * | * | * | * | * |
| Provide for long-term support and involvement of watershed residents on watershed management activities. | CAC, Reserve, WBRF | CAC, WBRF | * | * | * | * | * |
| Provide usable data and analysis for evaluation by staff, advisory committees and regulatory organizations. | Reserve | ADCNR, ADEM | | | * | * | * |
| Use GIS to evaluate land use information, physical and biological watershed characteristics and chemical water quality data | Reserve | ADCNR, NOAA ADEM | * | * | * | * | * |

Resource Protection Action Table

| ACTION | AGENCY | FUNDING | Y1 | Y2 | Y3 | Y4 | Y5 |
|---|---|---|---|---|---|---|---|
| Determine the need for restoration of Reserve owned properties by and/or habitat value of each parcel. | Reserve | ADCNR, NOAA | * | * | * | * | * |
| Inventory Reserve habitats and identify rare or threatened habitat types in a local (within Reserve boundary) and a regional context. | Reserve, WB Volunteers | ADCNR, NOAA | * | * | * | * | * |
| Comanagement of the Swift tract in coordination with the Weeks Bay Mitigation Bank. | Reserve, ADCNR | Weeks Bay Mitigation Bank | * | * | * | * | * |
| Identify suitable sites to restore rare or threatened habitats. | Reserve | ADCNR, NOAA | * | * | * | * | * |
| Coordinate with state and federal agencies to minimize loss and restore habitats. | Reserve | ADCNR, NOAA | * | * | * | * | * |

Restoration Action Plan

| ACTION | AGENCY | FUNDING | Y1 | Y2 | Y3 | Y4 | Y5 |
|---|---|---|---|---|---|---|---|
| Identify resource manipulation projects and investigations that would benefit the Reserve and restore habitats. | Reserve | ADCNR, NOAA | * | * | * | * | * |
| Evaluate Reserve properties to utilize habitats for research projects and scientific investigations | Reserve | ADCNR, NOAA | * | * | * | * | * |
| Evaluate Reserve properties to make most efficient use of resources for public outreach and environmental education | Reserve | ADCNR, NOAA | * | * | * | * | * |
| Continue restoration of bog | Reserve | ADCNR, NOAA | * | | * | | * |
| Establish access to all land holdings | Reserve | ADCNR, NOAA | * | * | | | |
| Manage wildlife enhancement projects | Reserve | ADCNR, NOAA | * | * | * | * | * |
| Management of the upland trail | Reserve | ADCNR, NOAA, AFC | * | * | * | * | * |
| Integrate Foley tract projects | Reserve | ADCNR, NOAA | * | * | * | * | * |

Resource Manipulation Action Plan

| ACTION | AGENCY | FUNDING | Y1 | Y2 | Y3 | Y4 | Y5 |
|---|---|---|---|---|---|---|---|
| Describe land tracts by land use. | Reserve, ADCNR | ADCNR | | * | | | |
| Identify ecologically significant habitats. | Reserve, ADCNR, TNC | ADCNR, ADEM, TNC | | * | | | |
| Identify disruptive land use | ADCNR | ADCNR | * | * | * | * | * |
| Organize funding strategies to put resources in Reserve | ADCNR | ADCNR | * | | * | | * |
| Provide conservation mechanisms | ADCNR, ADEM | ADCNR, ADEM, | * | * | * | * | * |
| Assist organization of community efforts towards conservation | ADCNR, ADEM | ADCNR, ADEM | | | | | |
| Promote the use of conservation easements and other mechanisms for resource management. | Reserve, ADCNR, ADEM | ADCNR, ADEM | | | | * | |
| Implement outreach information and strategy | Reserve, ADCNR | ADCNR, NOAA | * | * | * | * | * |

Boundary and Acquisition Action Plan

| ACTION | AGENCY | FUNDING | Y1 | Y2 | Y3 | Y4 | Y5 |
|---|---|---|---|---|---|---|---|
| Ground Trail/Observation Area | Reserve | ADCNR | * | | | | |
| Docking Facility Boardwalk | Reserve | ADCNR | | | * | | |
| Coastal Bike/Hike Trailhead | Reserve | ADCNR | | | | | * |
| Continue to develop interpretive brochures | Reserve | ADCNR | * | * | * | * | * |

Public Access Action Plan

| ACTION | AGENCY | FUNDING | Y1 | Y2 | Y3 | Y4 | Y5 |
|---|---|---|---|---|---|---|---|
| Complete the development of the Facility Master Plan Study and Design document. | Reserve, ADCNR | ADCNR, NOAA | * | * | | | |
| Continue to develop Research and Education facility along with the Interpretive Center and Maintenance Shop. | ADCNR, Reserve | ADCNR, NOAA | * | * | * | * | * |
| Maintain and Update Educational Exhibits | Reserve | ADCNR, NOAA | * | * | * | * | * |
| Expand parking area and construct second access to Highway 98. | ADCNR, Reserve | ADCNR, NOAA | * | | * | | |
| Develop flow through aquatic systems for research and educational/interpretive programs | ADCNR, Reserve | ADCNR, NOAA | | | * | | |
| Acquire a covered pontoon boat to carry 40 passengers. | ADCNR, Reserve | ADCNR, NOAA | | * | | | |
| Acquire an 18 foot aluminum boat engine. | ADCNR, Reserve | ADCNR | * | | | | |
| Acquire a vehicle with the capacity to tow. | ADCNR, Reserve | ADCNR | * | | | | |
| Overlook/Interpretive Center Ground Trail/Observation Arear | Reserve, ADCNR | ADCNR, NOAA | * | | | | |

Facilities Development Action Plan

| ACTION | Lead Agency | Funding Source | Y1 | Y2 | Y3 | Y4 | Y5 |
|---|---|---|---|---|---|---|---|
| Evaluate research proposals for consistency with Reserve goals. | Reserve | ADCNR, ERD | * | * | * | * | * |
| Provide information and data to researchers. | Reserve | ADCNR, ERD | * | * | * | * | * |
| Acquire & provide resources, support, and background data to encourage independent research projects | Reserve | ADCNR, ERD | * | * | * | * | * |
| Establish priority list of applied research and monitoring themes consist with Reserve goals. | Reserve | ADCNR, ERD | * | * | * | * | * |
| Use prioritized list to seek external and internal projects | Reserve | tbd | * | * | * | * | * |
| Create and update geo-referenced data layers based on water quality and habitat data sets. | Reserve | ADCNR | * | * | * | * | * |
| Incorporate data collected through System-wide Monitoring Project into site specific GIS format | Reserve, ERD | ADCNR, ERD | * | * | * | * | * |
| Ensure adequate training in GIS for the Reserve Staff | Reserve | ADCNR, ERD | * | * | * | * | * |

Research Action Plan

| ACTION | AGENCY | FUNDING | Y1 | Y2 | Y3 | Y4 | Y5 |
|---|---|---|---|---|---|---|---|
| Maintain support for SWMP. | ERD, Reserve | ERD | * | * | * | * | * |
| Maintain SWMP monitoring equipment and data collection. | Reserve | ADCNR, ERD | * | * | * | * | * |
| Maintain and enhance real-time capabilities for weather station and water quality equipment. | Reserve, ERD, NWS | ERD, ADCNR | * | * | * | * | * |
| Support Non-SWMP monitoring programs at the Reserve and of AWW certified monitors. | Reserve | ADCNR, NOAA | * | * | * | * | * |
| Establish bioassessment site | Reserve | ADCNR, NOAA | * | * | * | * | * |
| Establish and host research forums. | Reserve, ADEM | ADCNR, NOAA | * | * | * | * | * |
| Publish articles in local media and newsletters outlining research and monitoring. | WB | NOAA | * | * | * | * | * |
| Participate in coastal management committees to facilitate information disseminations. | WB | ERD, ADCNR | * | * | * | * | * |

Monitoring Action Plan

| ACTION | AGENCY | FUNDING | Y1 | Y2 | Y3 | Y4 | Y5 |
|---|---|---|---|---|---|---|---|
| Employ a Coastal Training Program Coordinator | Reserve | ADCNR, NOAA | * | * | * | * | * |
| Employ a K-12 assistant | Reserve | ADCNR, NOAA | * | * | * | * | * |
| Keep computers, software, and equipment updated. | Reserve | ADCNR, NOAA | * | * | * | * | * |
| Provide professional development for Reserve education staff. | Reserve | ADCNR, NOAA | * | * | * | * | * |
| Revise Site Brochure (as needed) | Reserve, ERD | ADCNR, Foundation | * | * | * | * | |
| Develop and Revise Interpretive Trail Guides (as needed) | Reserve | ADCNR, Foundation, Private Organizations | * | * | * | * | |
| K-12 Curriculum Revisions (as needed) | Reserve | BCBE, Reserve | * | * | * | * | |
| Volunteer Training | Reserve | Volunteers, Foundation | * | * | * | * | |
| Participate in environmental outreach events | Reserve, ADCNR | Foundation, Reserve, ADCNR | * | * | * | * | |
| Provide Professional Teacher Development Opportunities | Reserve, BCBE | Reserve, BCBE, ADCNR | * | * | * | * | |
| Develop needs assessment and evaluation tools. | Reserve | ADCNR, NOAA | * | * | * | | |
| Survey target audiences using needs assessment and evaluation tools. | Reserve | ADCNR, NOAA | | * | * | * | * |
| Provide CTP Workshops and educational activities. | Reserve, CTP | Reserve, ERD, ADCNR, NEP | * | * | * | * | |
| Implement CTP Marketing Plan | Reserve, SARPC, ADCNR, ERD | Reserve, ERD, ADCNR | * | * | * | * | * |
| Develop and maintain CTP Website | Reserve | Reserve, ERD, ADCNR | * | * | * | * | * |
| Develop CTP Brochure | Reserve | Reserve, ERD, ADCNR | * | | | | |
| Add CTP Assistant | Reserve, ADCNR, ERD | Reserve, ERD, ADCNR | | * | | | |
| Update the CTP MA and NA as needed | Reserve, ERD | WB, ERD, ADCNR | | * | | | |

Education Action Plan

| ACTION | AGENCY | FUNDING | Y1 | Y2 | Y3 | Y4 | Y5 |
|---|---|---|---|---|---|---|---|
| Identify Reserve's need for assistance. | Reserve, Volunteers | Reserve | * | * | * | * | * |
| Develop a team approach for volunteer involvement. | Reserve, Volunteers | Reserve, Volunteers | * | | | | |
| Develop new volunteer projects. | Reserve | Reserve, Volunteers | * | * | * | * | * |
| Coordinate volunteer assignments and schedules. | Reserve | Reserve, Volunteers | * | * | * | * | * |
| Develop policies and procedures for the volunteers. | Reserve | Reserve, Volunteers | * | | | | |
| Develop a "support teams" for volunteer involvement in the Reserve. | Reserve | Reserve, Volunteers | * | | | | |
| Develop new volunteer projects. | Reserve | Reserve, Volunteers | * | * | * | * | * |
| Develop recruitment and media relations materials. | Reserve | Reserve, Volunteers | * | * | | | |
| Manage recruitment efforts. | Reserve | Reserve, Volunteers | * | * | * | * | * |
| Manage annual funding for the volunteer program. | Reserve | Volunteers | * | * | * | * | * |
| Provide volunteers with adequate support at the Reserve. | Reserve, ADCNR | WB, ADCNR | * | * | * | * | * |
| Monitor the supervision of the volunteers and act as an advocate for the volunteers | Reserve | Reserve | * | * | * | * | * |
| Encourage public speaking and personal contacts. | Reserve | Reserve, Volunteers | * | * | * | * | * |
| Provide volunteer motivation and appreciation. | Reserve | WBRF, Volunteers | * | * | * | * | * |
| Publish a quarterly volunteer newsletter. | Reserve | Reserve, Volunteers | * | * | * | * | * |

Volunteer Action Plan

Appendices

# Appendix J
# National Wetland Inventory Key

Appendices

**E- Estuarine**

**1-Subtidal**

**RB** Rock Bottom
- **1** Bedrock
- **2** Boulder

**UB** Unconsolidated Bottom
- **1** Cobble Gravel
- **2** Sand
- **3** Mud
- **4** Organic

**AQ** Aquatic Bed
- **1** Submergent Alagal
- **2** Submergent Vascular
  - **4** Floating leaved
- **5** Floating
- **6** Unknown Submergent
  - **7** Unknown Surface

**RF** Reef
- **2** Mollusc
- **3** Worm

**OW** Open Water
- Unknown Bottom

**2-Intertidal**

**AB** Aquatic Bed
- **1** Submergent Algal
- **2** Submergent Vascular
- **6** Unknown Submergent
- **7** Unknown Surface

**RF** Reef
- **2** Mollusc
- **3** Worm

**FL** Flat
- **1** Cobble/Gravel
- **2** Sand
- **3** Mud
- **4** Organic
  - **5** Vegetated Pioneer
- **6** Vegetated Non pioneer

**SB** Streambed
  - **1** Cobble/Gravel
- **2** Sand
- **3** Mud
- **4** Organic

**RS** Rocky Shore
- **1** Bedrock
- **2** Boulder
  - **6** Vegetated Non pioneer

**BB** Beach/Bar
- **1** Cobble/Gravel
- **2** Sand

**EM** Emergent
- **1** Persistent
- **2** Nonpersistent
- **3** Narrow leaved Nonpersistent
- **4** Broad leaved Nonpersistent
- **5** Narrow leaved Persistent
- **6** Broad leaved Persistent

**SS** Scrub Shrub
- **1** Broad leaved Deciduous
- **3** Broad leaved Evergreen
- **4** Needle leaved Evergreen
- **5** Dead
- **6** Deciduous
- **7** Evergreen

**FO** Forested
- **1** Broad leaved Deciduous
- **3** Broad leaved Evergreen
- **4** Needle leaved Evergreen
- **5** Dead
- **6** Deciduous
- **7** Evergreen

**M-Marine**

1 Subtidal
**RB** Rock Bottom
**1** Bedrock
**2** Boulder

**UB** Unconsolidated Bottom
**1** Cobble/Gravel
**2** Sand
**3** Mud
**4** Organic
**AB** Aquatic Bed
**1** Submergent Algal
**2** Submergent Vascular
**3** Unknown Submergent
**RF** Reef
**1** Coral
**3** Worm
**OW** Open Water
Unknown Bottom

2 Intertidal
**AB** Aquatic Bed
1 Submergent Algal
2 Submergent Vascular
6 Unknown Submergent
**RF** Reef
**1** Coral
**3** Worm
**FL** Flat
**1** Cobble/Gravel
**2** Sand
**3** Mud
**6** Vegetated Non Pioneer
**RS** Rocky Shore
**1** Bedrock
**2** Boulder
**6** Vegetated Non Pioneer
**BB** Beach/Bar
**1** Cobble/Gravel
**2** Sand

**P Palustrine**

**RB** Rock Bottom
**1** Bedrock
**2** Boulder
**UB** Unconsolidated Bottom
**1** Cobble/Gravel
**2** Sand
**3** Mud
**4** Organic
**AB** Aquatic Bed
**1** Submergent Alagal
**2** Submergent Vascular
**3** Submergent Moss
**4** Floating leaved
**5** Floating
**6** Unknown Submergent
**7** Unknown Surface
**FL** Flat
**1** Cobble/Gravel
**2** Sand
**3** Mud
**4** Organic
**5** Vegetated Pioneer
**6** Vegetated Non pioneer
**ML** Moss/Lichen
**1** Moss
**2** Lichen
**EM** Emergent
**1** Persistent
**2** Nonpersistent
**3** Narrow leaved Nonpersistent
**4** Broad leaved Nonpersistent

**5** Narrow leaved Persistent
**6** Broad leaved Persistent

**SS** Scrub/Shrub
**1** Broad leaved Deciduous
**2** Needle leaved Deciduous
**3** Broad leaved Evergreen
**4** Needle leaved Evergreen
**5** Dead

**SS** Scrub/Shrub **(cont.)**
**6** Deciduous
**7** Evergreen

**FO** Forested
**1** Broad leaved Deciduous
**2** Needle leaved Deciduous
**3** Broad leaved Evergreen
**4** Needle leaved Evergreen
**5** Dead
**6** Deciduous
**7** Evergreen

**OW** Open Water
Unknown Bottom

**L Lacustrine**

**1 Limnetic**

**RB** Rock Bottom
**1** Bedrock
**2** Boulder

**UB** Unconsolidated Bottom
**1** Cobble/Gravel
**2** Sand
**3** Mud
**4** Organic

**AB** Aquatic Bed
**1** Submergent Algal
**2** Submergent Vascular
**3** Submergent Moss
**4** Floating leaved
**5** Floating
**6** Unknown Submergent
**7** Unknown Surface

**OW** Open Water
Unknown Bottom

**2 Littoral**

**RB** Rock Bottom
**1** Bedrock
**2** Boulder

**UB** Unconsolidated Bottom
**1** Cobble/Gravel
**2** Sand
**3** Mud
**4** Organic

**AB** Aquatic Bed
**1** Submergent Algal
**2** Submergent Vascular
**3** Submergent Moss
**4** Floating leaved
**5** Floating
**6** Unknown Submergent
**7** Unknown Surface

**FL** Flat
**1** Cobble/Gravel
**2** Sand
**3** Mud
**4** Organic
**5** Vegetated Pioneer
**6** Vegetated Non pioneer

**RS** Rocky Shore
**1** Bedrock
**2** Boulder

**BB** Beach/Bar
**1** Cobble/Gravel
**2** Sand

**EM** Emergent
**2** Nonpersistent
**3** Narrow leaved Nonpersistent
**4** Broad leaved Nonpersistent
**OW** Open Water
Unknown Bottom

**R Riverine**

**1 Tidal** **2 Lower Perenniel** **3 Upper Perenniel** **4 Intermittent** **5 Unknown Perenniel**

**EM** Emergent
**2** Nonpersistent
**3** Narrow leaved Nonpersistent
**4** Broad leaved Nonpersistent
**RB** Rock Bottom
**1** Bedrock
**2** Boulder
**UB** Unconsolidated Bottom
**1** Cobble/Gravel
**2** Sand
**3** Mud
**4** Organic
**AB** Aquatic Bed
**1** Submergent Alagal
**2** Submergent Vascular
**3** Submergent Moss
**4** Floating leaved
**5** Floating
**6** Unknown Submergent
**7** Unknown Surface
**FL** Flat
**1** Cobble/Gravel
**2** Sand
**3** Mud
**4** Organic
**5** Vegetated Pioneer
**6** Vegetated Non pioneer
**SB** Streambed
**1** Cobble/Gravel
**2** Sand
**3** Mud
**4** Organic
**RS** Rocky Shore
**1** Bedrock
**2** Boulder
**BB** Beach/Bar
**1** Cobble/Gravel
**2** Sand
**OW** Open Water
Unknown Bottom

## Water Regime (1)

| Non Tidal | Tidal | | |
|---|---|---|---|
| **A** Temporary | **H** Permanent | **K** Artificial | **R** Seasonal Tidal |
| **B** Saturated | **J** Intermittently Flooded | **L** Subtidal | **S** Temporary Tidal |
| **C** Seasonal | **K** Artificial | **M** Irregularly Exposed | **T** Semipermanent Tidal |
| **D** Seasonal Well Drained | **Z** Intermittently Exposed Permanent | **N** Regular | **V** Permanent Tidal |
| **E** Seasonal Saturated | **W** Intermittently Flooded Temporary | **P** Irregular | **U** Unknown |
| **F** Semipermanent | **Y** saturated Semipermanent Seasonal | | |
| **G** Intermittently Exposed | **U** Unknown | | |

### Modifying Terms

In order to more adequately describe wetland and aquatic habitats one or more of the water regime, water chemistry, soil, or special modifiers may be applied at the class or lower level in the hierarchy. The farmed modifier may also be applied to the ecological system.

### Water Chemistry

**Coastal Salinity**

**1** Hyperhaline
**2** Euhaline
**3** Mixohaline (Brackish)
**4** Polyhaline
**5** Mesohaline
**6** Oligohaline
**0** Fresh

**Inland Salinity**

**7** Hypersaline
**8** Eusaline
**9** Mixosaline
**0** Fresh

**pH Modifiers for all Fresh Water**

**a** Acid
**t** Circumneutral
**l** Alkaline

**Soil**

**g** Organic
**n** Mineral

**Special Modifiers**

**b** Beaver
**d** Partially Drained Ditch bed
**f** Farmed
**h** Diked Impounded
**r** Artificial
**s** Spoil
**x** Excavated

## Upland Legend

**Upland Classes**

**UU** Urban or Developed
**UA** Agricultural
**UF** Forest

**UR** Range
**UB** Barren

**Modifying Terms**

**o** Oil and/or Gas
**r** Rice Field
**6** Deciduous
**7** Evergreen
**8** Mixed

**s** Spoil
**d** Dune

Appendices

# Appendix K
# NOAA/ADCNR MOU

Appendices

# Memorandum of Understanding

## Between the

## National Oceanic and Atmospheric Administration

## and

## Alabama State Lands Division,

## Department of Conservation and Natural Resources

Detailing the State-Federal Roles in the
Weeks Bay National Estuarine Research Reserve

This Memorandum of Understanding (MOU) serves to establish the framework for coordination, cooperation and communication regarding the Weeks Bay National Estuarine Research Reserve (WBNERR) facility of Alabama State Lands. The parties to this agreement are the Office of Ocean and Coastal Resource Management (OCRM), National Ocean Service, National Oceanic and Atmospheric Administration (NOAA) and the Alabama Department of Conservation and Natural Resources, State Lands Division (LANDS).

**WHEREAS**, NOAA designated WBNERR as a National Estuarine Research Reserve (NERR) in 1986 pursuant to its authority under Section 315 of the Coastal Zone Management Act of 1972, as amended, (CZMA, P.L. 92-583, 16 U.S.C. 1461) and in accordance with implementing regulations at 15 CFR 921.30, for the purpose of creating a natural field laboratory in which to gather information by promoting and conducting scientific studies of the natural and human processes occurring along Alabama's coastline to: contribute to the science of estuarine ecosystem processes; enhance the quality of environmental education; and provide the technical information essential to effective coastal zone management to ensure the protection of estuarine ecosystems throughout Alabama and the United States; and

**WHEREAS**, LANDS determined that the waters and related coastal habitats of the estuarine ecosystem of WBNERR provide opportunities to study a relatively undisturbed natural estuarine ecosystem as a representative site in the Louisianan Region in NOAA's system of biogeographic zoning; and

**WHEREAS**, WBNERR has an established program that has been recognized at the state and federal levels for achievement in accomplishing both state and federal goals of natural resource protection through environmental education, scientific research, and on-site resource management practices; and

**WHEREAS**, LANDS and NOAA have found that the value of the natural and cultural resources of the Weeks Bay estuary to the citizens of Alabama and the United States benefit from the management of this site as part of the National Estuarine Research Reserve System (NERRS); and

**WHEREAS**, LANDS, as the responsible agency of the State of Alabama Department of Conservation and Natural Resources for the management of WBNERR, and NOAA, as the responsible federal agency for the national administration of the NERRS, acknowledge the value of establishing federal-state cooperation in the long-term management of this Reserve in a manner consistent with the purposes of their designation; and

**WHEREAS**, the Management Plan for WBNERR describes the goals, objectives, plans, administrative structure, and institutional arrangements for this Reserve, including this MOU and others;

**NOW, THEREFORE,** in consideration of the mutual agreements contained herein, LANDS and NOAA agree, contingent on the availability of funding from the State of Alabama and the Congress of the United States, respectively, as follows:

**ARTICLE 1: STATE-FEDERAL ROLES IN RESERVE MANAGEMENT**

**A. LANDS Responsibilities in Reserve Management**

LANDS shall:

- Be responsible for compliance with federal law and regulations of the NERRS, and goals and objectives of the Reserve's Management Plan;
- Ensure that the Reserve's Management Plan and annual work plans are consistent with the provisions of the CZMA;
- Be responsible for the administration and on-site management of the Reserve;
- Assume the responsibility of managing the Reserve with advisory input from the Reserve's Advisory Committee and any ad hoc subcommittees that may be established to address scientific research, environmental education, or on-site management;
- Ensure protection of the natural and cultural resources of the Reserve, and ensure enforcement of the provisions of state law, including the rules and regulations of the Alabama Coastal Area Management Program;
- Annually apply for, budget, and allocate funds received for scientific research and environmental monitoring, environmental education, public land acquisition, general program operations, and the construction of Reserve facilities;
- Coordinate and conduct active research and monitoring programs at the Reserve with scientists from a variety of institutions to obtain a better understanding of the ecology of the Reserve's ecosystem for application to the improved manageability of the Reserve, similar coastal ecosystems, and the NERRS;
- Disseminate the information gathered through scientific research to environmental regulators, local school systems, the general public, and other interested parties;
- Seek state funding for the facilities and staff required to implement the provisions of the Reserve's Management Plan, such as: field research laboratories; classrooms for environmental education; libraries; administrative offices; interpretive displays; equipment; storage space; and staff to perform the duties related to the management of the Reserve;
- Maintain liaison with local, regional, state, and federal policy makers, regulators, and the general public;
- Seek partnerships for the protection of the natural and cultural resources of the Reserve with residents, commerce, industry, property owners, adjacent landowners, government agencies at the local, state, and federal levels, and other appropriate parties;
- Provide for public recreational uses that are compatible with natural and cultural resource protection;
- Respond to NOAA's requests for information and respond to evaluation findings made pursuant to Section 312 of the CZMA.

**B. Federal Role in Reserve Operation**

The Office of Ocean and Coastal Resource Management will serve to administer the provisions of Section 315 of the CZMA to ensure that the Reserve operates in accordance with the goals of the NERRS and the Plan. These responsibilities are subject to the availability of appropriated funds. This agreement does not create any obligation on the part of OCRM to award financial assistance. In carrying out its responsibilities, OCRM will:

- Review and process applications for financial assistance from LANDS and other eligible entities, consistent with 15 CFR Part 921 for the operation of the Reserve and acquisition, development, management, education, research and monitoring programs for the benefit of the Reserve;
- Make periodic evaluations in accordance with Section 312 of the CZMA to measure LANDS' performance in Plan implementation;
- Advise LANDS of existing and emerging national and regional issues; and
- Establish an information exchange network cataloging all available research data and educational material developed on each Reserve included within the NERRS.

**C. General Provisions**

Nothing in this agreement or subsequent financial assistance awards shall obligate any party in the expenditure of funds, or for future payments of money, in excess of appropriations authorized by law.

Both parties agree to comply with all applicable federal or State laws regulating ethical conduct of public officers and employees.

Each party will comply with all applicable laws, regulations, and executive orders relative to Equal Employment Opportunity.

Upon termination of this agreement or any subsequent financial assistance awards, any equipment purchased for studies initiated in furtherance of this agreement will be returned to the agency of initial purchase.

A free exchange of research and assessment data among agencies is encouraged and is necessary to insure the success of these cooperative studies.

**D. Other Provisions**

Nothing in this MOU diminishes the independent authority or coordination responsibility of each agency in administering its statutory obligations. Nothing herein is intended to conflict with current agency directives. If the terms of this MOU are inconsistent with existing directives of any agency entering into this agreement, then those portions, which are determined to be inconsistent, shall be invalid; but the remaining terms not affected by the inconsistency shall remain in full force and effect. At the first opportunity for review of this agreement, all necessary changes will be made by either an amendment to this MOU or by entering into a new MOU, which ever is deemed expedient to the interest of all Parties. Should disagreement arise on the interpretation of the provisions of this MOU, or amendments and/or revisions thereto, that cannot be resolved at the operating level, the area(s) of disagreement shall be stated, in writing, by each party and presented to the other parties for consideration.

**ARTICLE II: REAL PROPERTY ACQUIRED FOR THE PURPOSE OF THE RESERVE**

As well as agreeing to adhere to the rest of the provisions set forth at 15 CFR Part 921, LANDS agrees to the conditions set forth at 15 CFR 921.21(e), which specify the legal documentation requirements concerning the use and disposition of real property acquired for Reserve purposes with Federal funds under Section 315 of the CZMA.

**ARTICLE III. PROGRAM EVALUATION**

OCRM will schedule periodic evaluations of LANDS' performance in meeting the terms of financial assistance awards, in implementing the Reserve's Management Plan and in meeting the provisions of this MOU. Where findings of deficiency occur, NOAA may initiate action in accordance with the designation withdrawal procedures established by the CZMA and applicable regulations.

**ARTICLE IV. EFFECTIVE DATE, REVIEW, AMENDMENT AND TERMINATION**

This MOU is effective on the date of execution and replaces the previous MOU with the State of Alabama dated August 6, 1985. The MOU will be reviewed periodically. This MOU may be amended by the mutual consent of the parties. This MOU may be terminated by either party and specifically by NOAA if it withdraws designation of Weeks Bay as a NERR, pursuant to applicable provisions of the CZMA and its implementing regulations as described under 15 CFR Part 923 Subpart L. Should this MOU be terminated, reimbursement of unexpended funds shall be determined on a pro rata basis according to the amount of work done by the Parties at the time of termination.

**IN WITNESS THEREOF**, the Parties hereto have caused this MOU to be executed.

DAVID M. KENNEDY
DIRECTOR
OFFICE OF OCEAN AND COASTAL
RESOURCE MANAGEMENT
NATIONAL OCEAN SERVICE
NATIONAL OCEANIC AND
ATMOSPHERIC ADMINISTRATION
U.S. DEPARTMENT OF COMMERCE

10-13-06
Date

M. BARNETT LAWLEY
COMMISSIONER
DEPARTMENT OF CONSERVATION
AND NATURAL RESOURCES
STATE OF ALABAMA

11/09/06
Date

JAMES H. GRIGGS
DIRECTOR
STATE LANDS DIVISION
DEPARTMENT OF
CONSERVATION AND
NATURAL RESOURCES
STATE OF ALABAMA

11/6/06
Date

THIS CONTRACT HAS BEEN REVIEWED FOR CONTENT, LEGAL FORM, AND COMPLIES WITH ALL APPLICABLE LAWS, RULES, AND REGULATIONS OF THE STATE OF ALABAMA GOVERNING THESE MATTERS.

BY _____

# Appendix L
# Weeks Bay Reserve Long Range Plan

Appendices

# RECOMMENDED GOALS AND STRATEGIES FOR THE FUTURE OF WEEKS BAY AND THE WEEKS BAY NATIONAL ESTUARINE RESERVE

## Developed By
## The Weeks Bay Reserve Long Range Planning Committee

## September 30, 2005

## I. Introduction

The Weeks Bay Reserve Long Range Planning Committee (WBPC) was formed in June 2005 for the purpose of developing recommendations regarding the future of Weeks Bay and the Weeks Bay National Estuarine Reserve. The Membership of the WBPC includes scientists, educators, local leaders, and citizen activists representing state and federal agencies, business organizations, local government, and environmental groups. During June-August 2005 the committee conducted a series of meetings involving a sequential process of a) reviewing the history of Weeks Bay Reserve, b) examining the status of Reserve programs and operations c) assessing the needs and issues pertaining to Weeks Bay and the role of the Reserve and d) formulating recommendations for the long term enhancement of these important coastal resources.

The recommendations presented herein represent the consensus of deliberations by committee members participating in the June-August meetings. These recommendations are offered as a framework for further planning and continued collaboration among the many agencies and organizations with an interest in Weeks Bay, the Weeks Bay Reserve, and Alabama's coastal area.

## II. Background and Rationale for Long Term Planning

The Weeks Bay National Estuarine Reserve was established in 1986, gaining this Federal designation due to the natural qualities of Weeks Bay as a largely undisturbed healthy estuarine ecosystem. The Reserve is charged with conducting research and providing education and training contributive to policies and practices that serve to restore, maintain, enhance, and perpetuate estuarine ecosystems.

The Weeks Bay Reserve has demonstrated notable achievements in each of its program areas – research, education, and stewardship. Furthermore, the Reserve today provides a unique example of collaboration among a host of organizations that share in the work of generating funds, implementing activities, and generally promoting the importance of the Reserve.

Meanwhile, Alabama's coastal area continues to experience accelerating rates of growth and development, population increase, and related change. Many effects of this change in the region signal the likelihood of increasing environmental impacts and declining estuary ecosystems across much of coastal Alabama. Weeks Bay, as an example of an estuary/ecosystem confronting such pressures, is therefore at a critical juncture. If declining conditions in the bay and its watershed continue, this could lead to federal reassessment of the Reserve's status. However, this situation also presents a timely occasion to convert potential problems into a grand opportunity, the opportunity to provide effective models for estuarine protection that can be applied to Weeks Bay and across the region.

The emerging issues confronting Alabama's coastal area are often complex, involving a range of variables, environmental, economic, social, and political. The development of strategies to protect estuary ecosystems begins with facing these complex issues and asking a number of difficult questions: *Where are the remaining gaps in our scientific understanding of estuary ecosystems and their management? How can the various dimensions of science and research be appropriately integrated to better monitor the sustainability of estuary ecosystems? How can these dimensions be effectively applied to solving the problems that threaten estuary systems? What educational methods/programs will prove most successful in generating the active support of the public, the business community, and local government for responsible stewardship of estuarine ecosystems? Who are the agencies, organizations, and interest groups that must effectively communicate and cooperate in developing a wholistic approach necessary for comprehensive coastal area resource management? Which strategies will be most helpful in promoting environmentally conscientious policies of land use, growth management, and estuary protection?*

The WBPC has considered these questions in context with the economic and political realities of coastal Alabama, and the committee recognizes the importance of striving for informed collaboration and consensus among the different interest groups in the coastal area. Therefore, many of the committee's recommendations reflect the intent for flexibility as might be needed from time to time for effective problem-solving. However, the committee also believes that the long term target outcome for Weeks Bay and the Reserve should be to attain the best possible environmental health for the estuary ecosystem. The recommendations of this report are oriented toward this target outcome, as expressed in the committee's ideal vision for the future, included below.

**The desirable long term vision for Weeks Bay is one in which the natural qualities of the estuary and its watershed are maintained and enhanced through the initiatives of an expanded, vital Reserve conducting quality research, providing effective educational opportunities at all levels, and promoting cooperation for the highest levels of responsible stewardship, actively supported by the public in the interest of sustaining a high quality of life in Alabama's coastal area.**

## III. Recommendations

In considering the future of Weeks Bay and the role of the Reserve, the WBPC organized its recommendations according to three primary areas of opportunity – Program Opportunities (pertaining to research, education, and stewardship), Operations (pertaining to Reserve administration, staffing, and publicity), and Additional Concerns (pertaining to relevant considerations beyond the coastal area).

### A. Program Opportunities

Research

**Goal: To serve as a comprehensive source/model of scientific research and information assisting the development of policies and practices enabling the sustainability of estuary ecosystems.**

**Strategy 1**(1-5 Years). Review and Update a systematic integrated approach for the holistic study of the Weeks Bay ecosystem (water quality, invertebrates, upper tropic levels, etc.), including practical/applied studies useful for monitoring and enhancing the ecosystem.

Action 1. Increase the number of monitoring stations (by 50%) to include upstream and Mobile Bay areas.

Action 2. Increase research for growth management and the adaptation of smart growth practices.

Action 3. Increase focus on mitigating anthropogenic effects and the development of solutions for local problems/needs.

Action 4. Develop measurable criteria for assessing/monitoring ecosystem sustainability.

Action 5. Establish a comprehensive, integrated computerized database and modeling to track the complete picture of conditions (land use, bioassay, water quality, etc.) in the watershed.

Action 6. Increase student/school projects, internships, fellowships, etc.

Action 7. Emphasize laboratory and dormitory space in Facility Plan.

**Strategy 2**(5-15 Years). Identify and address remaining scientific data gaps regarding estuary ecology.

**Strategy 3**(1-25 Years). Develop a Weeks Bay Applied Ecosystem Research Corps.

Action 1. Strengthen linkages/collaboration with existing University Research Consortia.

Action 2. Involve expertise from multiple scientific sources/agencies in jointly developing an annual Environmental Quality Index for coastal Alabama.

**Strategy 4**(1-25 Years). Increase fellowship and research funding by all means possible.

Action 1. Pursue CIAP Funding.

Education

**Goal: To attain a high level of citizen and community environmental education/awareness that enables broad, active public support for the Reserve and for the protection of the Weeks Bay estuary ecosystem.**

**Strategy 1**(1-5 Years). Expand educational staff and educational outreach capacity.

Action 1. Employ a full time, 12 months Education/Outreach Director (in addition to present position) and determine optimum level of staffing needed to accomplish strategy.

Action 2. Develop/implement a special curriculum/unit of instruction about Weeks Bay and estuarine ecology for application in local schools.

Action 3. Develop/promote instructional materials about estuarine ecology in schools statewide.

Action 4. Offer a summer program of environmental/estuarine study and field experiences for area students.

Action 5. Offer a summer program providing special training in environmental education and estuarine ecology for area teachers.

Action 6. Develop/conduct educational workshops designed for such audiences as political leaders, developers, realtors, etc. and incorporating concepts of sustainability and holistic/comprehensive planning.

Action 7. Include new educational technology to augment instructional/informational delivery (for example, WB website).

Action 8. Develop tailored outreach to key populations including educators (maintain BCB network of assigned teachers), professional groups, civic clubs, business organizations, and shut-ins.

Action 9. Incorporate educational needs into the Master Facilities Plan.

**Strategy 2**(5-15 Years). Establish a specially equipped, multipurpose building for environmental education.

**Strategy 3**(1-5 Years). Generate wide public awareness of Weeks Bay's qualities and importance and the role of the Reserve through the production and repeated statewide broadcast (and distribution to schools) of a Discovering Alabama program featuring Weeks Bay.

Stewardship

**Goal: To enable the establishment and implementation of plans, policies, and practices that guide responsible estuary management and protection and ensure the sustainability of Weeks Bay as a functioning example of a healthy estuary for future generations.**

**Strategy 1**(1-25 years). Increase substantially the acreage in the Reserve and protected areas in the watershed.

Action 1. Develop a prioritized Reserve land acquisition plan for 25 years out, doubling acres in ten years.

Action 2. Increase substantially (25% of the undeveloped watershed in ten years) the protected area (by dedication, acquisition, easement, etc.) in the Weeks Bay watershed.

Action 3. Coordinate with multiple organizations to pursue funds for acquisition.

Action 4. Designate staff person to focus on and coordinate land acquisition.

**Strategy 2**(1-25 Years). Restore/create a substantial amount (50%) of the natural/native wetland and upland habitats (Longleaf, pitcher plant bogs, etc.) and systems in the Weeks Bay watershed.

Action 1. Develop a list of opportunities where restoration can take place with willing participants.

Action 2. Coordinate with multiple organizations to pursue funds for restoration/creation of habitat.

Action 3. Designate staff person to focus on and coordinate restoration/creation of habitat.

**Strategy 3**(1-25). Reduce substantially and minimize the impacts of non-point source pollution (pathogens, nutrients, sedimentation) and invasives.

Action 1. Develop/provide incentives for private property owners,

developers, etc. to practice responsible stewardship (smart growth, wetland restoration, riparian buffers, protection of recharge areas, etc.).

Action 2. Promote the wider practice of responsible stewardship via intensified Reserve PR/Marketing (brochures and other materials promoting land protection options, the training/educational programs of the Reserve, etc).

Action 3. Increase public activism for stewardship via such initiatives as a citizen ecology corps, special incentives and acknowledgements, honorary Reserve membership/partnerships, etc.

**Strategy 4**(1-25). Extend the official Reserve planning boundary to provide additional protection to the area.

Action 1. Extend the CZM 10 foot contour boundary to include the two coastal counties.

Action 2. Ammend the Management Plan to extend the planning boundary of the Reserve (5-10 years).

**Strategy 5**(1-25). Establish a comprehensive (GIS) land-use monitoring and forecasting program and provide land-use guidelines/recommendations to local agencies/governments.

Action 1. Expand capabilities and coordinate with local government to get the most up-to-date land cover GIS layers.

**Strategy 6**(1-25). Increase funding to support stewardship by all possible means, federal, state, foundations, etc.

Action 1. Pursue CIAP Funding, CELCP, Coastal Wetland Conservation Act, and NOAA funds.

Action 2. Strengthen association with NGO's such as the Foundation and TNC to maximize matching funding opportunities.

Action 3. Cultivate additional means such as working with Baldwin County, cities, and other such local sources.

B. Operations

**Goal: To provide efficient and effective administration with an interdisciplinary outlook in collaboration with key agencies and organizations committed to research, education, and stewardship regarding Weeks Bay and**

**coastal area natural resources.**

**Strategy 1**(1-5). Develop a plan for on-going, increased/improved Weeks Bay Reserve participation with Coastal area interagency groups.

Action 1. Improve the effectiveness and utilization of the Coastal Resource Advisory Committee (CRAC) in coordinating, supporting, and promoting the aims and activities of the Weeks Bay Reserve and other Coastal programs.

Action 2. Review/Assess the various activities of existing interagency groups to identify needs and clarify roles (perhaps via Memorandum of Understanding) to facilitate a holistic, regional plan and strategies to accomplish priority research, education and stewardship.

**Strategy 2**. Improve the efficiency of business/office operations.

Action 1. Increase the authority and flexibility for local purchases.

Action 2. Add a full time purchasing/accounting technician.

Action 3. Add a full time Grant Administrator to pursue and keep up with various grant funds.

Action 4. Periodically evaluate office operations for improvement.

Action 5. Staff should meet monthly to evaluate and make recommendations.

Action 6. Yearly training for staff on budgeting, operations, and purchasing procedures.

**Strategy 3**. Develop a long range facility plan for the Reserve.

Action 1. Implement the Facility Master Plan Study and Design.

**Strategy 4.** Increase the role of the Reserve in the areas of Public Relations and Public Affairs.

C. Additional Concerns

**Most of Alabama's river systems drain to coastal Alabama, affecting Mobile Bay and its adjoining estuaries. In other words, coastal Alabamians "live downstream" from many inland watershed impacts that will spell long-term consequences for coastal area waters.**

Therefore it is necessary to also achieve responsible stewardship

beyond the coastal region. The following items represent additional ideas/suggestions that the committee feels might be relevant for consideration by state leaders and authorities.

1. Establishment of a statewide Natural Resources Planning Council.
2. Development of a statewide Conservation Plan.
3. Implementation of a comprehensive environmental education program statewide.
4. Development of a model program of comprehensive community/county planning for a sustainable future.
5. Development of a formal process for conflict resolution to resolve differences between opposing interest groups.
6. Establishment of a multiple-unit system of estuarine reserves (for example, the “Alabama National Estuarine Research Reserves”) to include such key areas as Weeks Bay, Grand Bay, Wolf Bay, Mobile/Tensaw Delta, etc.

Appendices

# Appendix M
# Weeks Bay Reserve Advisory Committee By-Laws

Appendices

# ARTICLES OF ORGANIZATION AND BY-LAWS FOR THE WEEKS BAY NATIONAL ESTUARINE AND RESEARCH RESERVE ADVISORY COMMITTEE

## ARTICLE I.

### Name

The name of this organization shall be the Weeks Bay National Estuarine Research Reserve Advisory Committee (WBNERRAC). All references in these Articles and Bylaws to "the Committee" are to such organization.

## ARTICLE II.

### Purpose

1. The principal purpose of the Committee shall be to provide a mechanism to facilitate operations and management of the Weeks Bay National Estuarine Research Reserve (WBNERR) through advice and other interactions with the Alabama Department of Conservation and Natural Resources (ADCNR) and the WBNERR staff.

2. The duration of this organization shall be perpetual pursuant to the conditions set forth in Article IV.

## ARTICLE III.

### Location

The principal office and mailing address of the Committee shall be the office of the Manager of the WBNERR.

## ARTICLE IV.

### Membership and Meetings

1. Membership. The membership of the Committee shall consist of those persons duly appointed by their respective agency executive as defined in the Weeks Bay National Estuarine Research Reserve Management Plan and other members appointed by the Governor of the State of Alabama. It is expected that members will attend

meetings and otherwise participate in the business of the Committee. Since participation is voluntary an individual or organization may resign at their discretion at any time.

2. Proxy. Agency Executives or the Governor may name alternate representatives to the Committee for their respective appointments or members of the Committee may name an individual to serve as a Proxy during any Committee meeting or function by notification of the Chair or the Reserve Manager prior to commencement of the meeting or function.

3. Membership Expansion. New members, in addition to those specified in the Management Plan, may be nominated by an existing member and appointed to the Committee or any of its subcommittees by the Chair following a two-thirds majority approval of the Committee.

4. Voting. Voting is by individual appointee, or their designated alternate or proxy, and a simple majority of the Committee or subcommittee present shall rule.

5. Meetings. The Committee shall hold quarterly meetings and such other regular meetings as it may deem advisable each year. Special meetings may be called by the Chair or by written request of at least four members of the Committee; with at least seven working days written notice of said meeting being given to the members.

6. Quorum: A quorum shall be a simple majority of the Committee or any of its subcommittees.

7. Minutes. It shall be the WBNERR Manager or other staff person's responsibility to keep an accurate record of the business conducted at each meeting of the Committee, which they shall promulgate to the Committee members as non-verbatim minutes, prior to the following meeting of the Committee.

8. Rules of Order. Meetings shall be run at the discretion of the Chair and Robert's Rules of Order (current edition) shall be the deciding factor in parliamentary questions not covered by these bylaws.

## ARTICLE V.

### Officers

The officers of the Committee shall be Chair, and Vice Chair.

1. Chair. The Chair shall preside at all meetings of the Committee and perform all other duties customarily associated with the office of Chair. The position of Chair shall be automatically filled biennially by the past Vice Chair.

2. Vice Chair. The Vice Chair shall serve in the absence of the Chair, assuming his duties when necessary, and shall also perform such tasks as designated by the Chair. The Vice Chair shall be elected biennially by the Committee.

3. Elections. The Chair and Vice Chair shall be elected positions, such election requiring a simple majority of a quorum of the Committee. Special elections for these offices shall be held in the event that both positions, or that of the Vice Chair, become vacant.

4. Subcommittees. Standing and ad hoc subcommittees of the Committee may be established by the Committee with members appointed to such subcommittees by the Chair, as needed. Subcommittees shall be charged with specific duties and responsibilities by the Committee at the time of their establishment.

## ARTICLE VI.

Autonomy of Organizations and Exculpation of Members

Individual membership on the Committee shall in no way infringe upon the autonomy of any institution or organization to which the individual belongs or by which he is employed. No officer or other agent of the Committee or its facilities shall be liable to anyone for any acts on behalf of the Committee committed by such officer or agent.

## ARTICLE VII

Effective Date

These Articles of Organization and Bylaws shall be effective upon ratification by a two-thirds majority of a quorum of the Committee.

## ARTICLE IX

Amendments

These Articles of Organization and Bylaws may be amended by the Committee at any meeting of the Committee by the affirmative vote of two-thirds of the Committee present as a quorum, provided that notice of the proposed amendment shall have been given each member of the Committee in writing at least seven (7) working days prior to the scheduled meeting.

Adopted this 14 day of December, 2000.

Respectfully: John Bowne
Presiding Chair

Witness: L. Gadams
WBNERR Manager