

**ALABAMA
COASTAL AREA MANAGEMENT PROGRAM**

**SECTION 309
Enhancement Grant Program**

ASSESSMENT & STRATEGY

February 15, 2006

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SECTION I. INTRODUCTION

Assessment

The state of Alabama has the opportunity to participate in the Section 309 Enhancement Grants Program that is part of the Coastal Zone Management Act (CZMA) of 1972, as reauthorized in 1990.

The state is able to participate in the Enhancement Grants Program through the Alabama Coastal Area Management Program, which is administered by the Alabama Department of Conservation and Natural Resources, State Lands Division, Coastal Section.

To participate in the Enhancement Grants Program, the state must identify and assess changes that have occurred since 2001 in relation to each of nine enhancement areas: aquaculture, coastal hazards, cumulative and secondary impacts, energy and facility siting, marine debris, ocean resources, public access, special area management planning, and wetlands. The assessment criteria used by the Coastal Section staff is provided by the National Oceanic and Atmospheric Administration, Office of Coastal and Resource Management, which administers the Coastal Zone Management Act.

The assessment includes a characterization of and changes in the enhancement area since the last assessment in 2001; a characterization of and changes in management of the enhancement area since the last assessment; a description of the nature of problems, status changes, new issues, the extent to which problems and issues are being addressed and their relative importance to the enhancement area; and an identification of major gaps in addressing issues.

Priority Areas and Strategy

After assessing each area, the Coastal Section staff is required to rank each area as high, medium or low priority for Section 309 funding and develop a strategy to further enhance one or more of the high priority areas. The identification of the priority area(s) and strategy for further enhancement are included in Sections III and IV of this document. The following areas received a high priority rating: Coastal Hazards, Cumulative and Secondary Impacts, and Wetlands. The program changes being pursued are improve beaches, dune, and shoreline management; improve coastal decision making; and enhance / establish wetland/SAV protection authorities.

Public Comment

The assessment was prepared with involvement from the state, federal, regional and academic communities, and a final draft was made available for public review for a 30-day comment period from February 15, 2006 to March 15, 2006. A public notice was published in the two area newspapers during this time informing the public of the availability of the final draft assessment for review at the offices of the Alabama Department of Conservation and Natural Resources (ADCNR), State Lands Division, Coastal Section; the Alabama Department of Environmental Management (ADEM), Coastal Facility/Section and the website www.outdooralabama.com. In addition, the ADCNR and ADEM staffs submitted the document to the Coastal Resource Advisory Committee and the Technical Interagency Committee for review. A meeting was held the first week of March to receive comment from these two committees.

Alabama's Section 309 Program

The Alabama Department of Conservation and Natural Resources, State Lands Division, Coastal Section Office is the lead agency for the Alabama Coastal Area Management Program (ACAMP). The ACAMP functions as a federal-state partnership under Section 306 of the CZMA, which allows Alabama to address specific needs within broad federal goals for coastal zone protection and enhancement and also provides the state the opportunity to participate in the Section 309 Enhancement Grants Program. Funding for approved activities under Section 309 is 100 percent. This is the fourth Section 309 Assessment for the ACAMP. The first was completed and approved in March 1992; the second was completed and approved in March 1997; and the third was completed and approved in March 2001.

Under Section 309, the ACAMP adheres to the federal guidelines that require states to develop projects that lead to federally-approved program changes as opposed to changes in the manner that states implement their programs. This requirement is a result of the Coastal Zone Protection Act of 1996 (P.L. 104-150), which was incorporated into the CZMA. A program change may be considered a routine program implementation as defined in Section 928.84 or an amendment as defined in Section 923.8. Specifically, the following activities may enhance a state's ability to achieve a program change:

- (1) *A change to coastal zone boundaries;*
- (2) *New or revised authorities, including statutes, regulations, enforceable policies, administrative decisions, executive orders, and memoranda of agreement/understanding;*
- (3) *New or revised local coastal programs and implementing ordinances;*
- (4) *New or revised coastal land acquisition, management, and restoration programs;*
- (5) *New or revised Special Area Management Plans or plans for Areas of Particular Concern (APCs) including enforceable policies and other necessary implementation mechanisms or criteria and procedures for designating and managing APCs; and*
- (6) *New or revised guidelines, procedures and policy documents that are formally adopted by a state or territory and provide specific interpretations of enforceable CZM program policies to applicants, local government and other agencies that will result in meaningful improvement in coastal resource management.*

SECTION II. OVERVIEW OF PAST 309 EFFORTS

2001-2005 : Coastal Hazards

Coastal Shoreline Analysis: The Alabama Coastal Area Management Program has continued its multi-year effort to evaluate short-termed fluctuations of the beach and determine long-termed shoreline changes along the Alabama portion of the Gulf of Mexico. This resulted in the production of a multi-year comprehensive report titled "Beach Topographic Monitoring for 2004-2005; Short-term Shoreline Change Analysis for 1990-2002 and Episodic Change and Erosion from Hurricane Ivan, 2004, Baldwin and Mobile Counties, Alabama." This document was produced by the Geological Survey of Alabama. The report includes topographic profile data for 26 pre-Ivan locations and 18 post-Ivan locations. Additionally, measurements for shoreline change were taken at 95 locations across the Gulf-fronting shoreline.

In support of the Section 309 efforts, the ACAMP, under Section 306, funded a multi-year effort by the University of Alabama, Department of Geology to look at the underlying geomorphology of the Fort Morgan Peninsula. It is hoped that this effort can provide insight into the past history of the Peninsula and what implications the underlying geomorphology may have on the future erosional trends.

A NOAA sponsored COHIS project highlighted the fact that the ADCNR, the Alabama Department of Environmental Management, which permits development of beaches and dunes, and the local building departments did not have the software and training to implement a full-scale workable project. Thus, the ADEM is in the process of using 309 funding to purchase GIS hardware and software that will increase its capabilities and provide for more efficient monitoring and post-disaster response. This will give the ADEM Coastal Section the ability to implement a full scale COHIS-type permitting database and to provide the ADEM with better hurricane preparedness and response capabilities. This project is to be complimented by the FY 2005/2006 306 project that will fund the development of GIS-based building permit programs for the local building departments. Once both of these projects are in place, the ACAMP and local building officials will be able to share GIS data, allowing for better tracking of development in the Coastal Area and increasing the capability to prepare for and respond to major storm events.

2001-2005: Cumulative and Secondary Impacts

The following Cumulative and Secondary Impacts efforts were conducted between 2001 and 2005 using Section 309 funds:

Waterways Planning: The Dauphin Island Sea Lab received Section 309 funds from 2002-2004 to conduct a marina and recreational boating planning task. The Sea Lab assembled an interagency working group, documented marina siting and design criteria, researched other states' efforts to address boating impacts, and analyzed the feasibility of conducting a carrying capacity determination. This is an ongoing project in cooperation with the Coastal Policy Center at the Dauphin Island Sea Lab. One outcome of the interagency working group was the development of the Alabama-Mississippi Clean Marina Program.

Impervious Surface Study: In 2002-2003, the Geological Survey of Alabama completed an impervious surface study of Mobile and Baldwin Counties using 30-meter LANDSAT imagery that was collected in 2000. This study found that Mobile County is approximately 5 percent impervious and Baldwin County is about 1.1 percent impervious. When the data is limited to the defined Alabama Coastal Area, excluding the Mobile – Tensaw Delta, the percentage of impervious surface in both coastal counties is 7 percent.

Bon Secour River Watershed Management Plan: In 2002-2003, Auburn University Marine Extension and Research Center utilized Section 309 funds to conduct a watershed management plan for the Bon Secour River

watershed. The plan was based on the Dog River watershed management plan, which was also prepared using Section 309 funds from the 1997 funding cycle.

Onsite Sewage Disposal System (OSDS) Inventory: In 2004, Section 309 funds were awarded to the Mobile County Health Department and the Alabama Department of Public Health (for Baldwin County) to enhance their ability to monitor and track septic systems. Each county purchased GIS and GPS hardware and software. Each county also routinely collects GPS readings during all site visits, whether for permitting or inspection. This is the first of a multi-year effort to develop a spatial inventory of septic tank systems in the two coastal counties.

2001-2005: Wetlands

Alabama Coastal Wetlands: Mapping of SAV and Wetlands in Mobile and Baldwin Counties: Beginning in 2000, the Alabama Coastal Area Management Program and the Mobile Bay National Estuary Program, with assistance from the Baldwin County Commission, U.S. Fish & Wildlife Service (USFWS), and others, began a multi-year effort to map wetlands, submerged aquatic vegetation (SAV) and uplands in the two coastal counties. Mapping of SAV in the coastal area was completed in 2002. Mapping of wetlands and uplands in Mobile County was completed during 2005. Mapping of wetlands and uplands in Baldwin County will be completed during the first half of 2006. Additionally, the ADEM digitized reports from and produced GIS layers of the 1980-81 Coastal Area Board wetlands and SAV habitat maps. During FY 2006, the Mobile Bay NEP and the ACAMP are partnering to use the new data and historic data to produce a wetlands and SAV status and trends report.

SECTION III. ENHANCEMENT AREA ANALYSES

Section III provides a detailed discussion on each of the following enhancement areas: aquaculture, coastal hazards, cumulative and secondary impacts, energy and government facility siting, marine debris, ocean resources, public access, special area management planning and wetlands.

ENHANCEMENT AREA ANALYSIS: AQUACULTURE

Section 309 Programmatic Objective

- I. Enhance existing procedures and long range planning processes for considering the siting of public and private marine aquaculture facilities in the coastal zone.*
- II. Improve program policies and standards which affect aquaculture activities and uses, so as to facilitate siting, while ensuring the protection of coastal resources and waters.*

Resource Characterization

- 1. Briefly describe the state's aquaculture activities (e.g., existing procedures, plans, program policies and standards).**

The Alabama Department of Conservation and Natural Resources (ADCNR), Marine Resources Division (MRD) operates the Claude Petite Maricultural Center (CPMC) in Gulf Shores. The center has been utilized for many aquaculture activities over the last five years. Much of the initial work that sought to expand MRD's aquaculture horizons was done by adding to the list of fish and invertebrates that could be cultured in closed aquatic systems. More recently, the station has been used as a recovery tool in the production site for thousands of striped bass and red drum for annual restocking of depleted coastal fisheries. MRD has no written policies regarding offshore mariculture, but the ADCNR may consider onshore or offshore mariculture proposals on a case-by-case basis.

The Auburn University Marine Extension and Research Center (AUMERC), in conjunction with MRD and the Auburn Department of Fisheries at the CPMC, is continuing studies of red snapper culture while exploring opportunities with other species. The production of live bait is a new area of research that will support the growing recreational fishing industry. In addition, AUMERC, with some funding from the Mississippi-Alabama Sea Grant Consortium, is assisting five local schools with aquaculture programs. These programs utilize resources and information gained at CPMC to enhance their educational programs.

AUMERC has ongoing projects involving oyster culture. This work involves spawning oysters and setting larvae on whole shell and shell pieces at the Auburn Shellfish Laboratory on Dauphin Island. The resulting oysters are used for oyster restoration research, basic research and in the Oyster Gardening Program.

The Mobile Bay National Estuary Program continues to operate its Oyster Gardening Program, which involves the participation of local citizens. These individuals are given oyster spat and shell that are placed in mesh bags, suspended from private piers, allowed to reach harvestable size, transported to closed natural oyster bed reefs; and placed on the reefs as part of a restoration project.

The Mississippi-Alabama Sea Grant Consortium lists aquaculture as one of its four strategic areas, works with the fledgling shellfish aquaculture industry and has a significant interest in marine aquaculture in state waters.

2. Briefly describe environmental concerns (e.g., water quality, protected areas and impacts on native stock and shellfish resources). Also, describe any use conflicts (e.g., navigational, aesthetic, incompatible uses, public access, recreation and future threats (e.g., shoreline defense works, introduced species).

Concerns exist in Alabama about how to manage the growing marine aquaculture industry. While vital to increased seafood supplies, its impact on the coastal environment and wild populations of fish and shellfish present serious concerns that include discharge of waste and chemicals, the destruction of the benthic community from waste feed and fecal deposition, the spread of disease or genetic changes resulting from the escape of farmed species, the demand for wild-caught fish as aquaculture feed, the conversion of sensitive habitats to create aquaculture facilities, and various concerns like noise, visual and odor pollution.

Two other concerns are (1) anticipated conflicts between the traditional recreational and commercial users and the users of aquaculture and (2) designing offshore aquaculture facilities to withstand the effects of extreme waves and winds and be positioned in a way that is not a hazard to navigation.

Management Characterization

1. Identify significant changes in the state’s ability to address the planning for and siting of aquaculture facilities since the last assessment that was completed in 2000 (new regulations, guidance, manuals, etc.). Provide the following information for each change:

- Characterize the scope of the change
- Describe recent trends
- Identify impediments to addressing the change
- Identify successes

There is an enhanced effort at oyster restoration and management through the programs at University of South Alabama Department of Marine Science and the Dauphin Island Sea Lab. Work is progressing on improved siting of natural beds and survival of the wild stock.

One threat is that public perception strongly favors “wild harvest” and the demand remains low for cultured marine species.

The oyster gardening program has been demonstrably successful and the concept of ecosystem service has begun to be recognized in the overall project.

Conclusion

1. Identify priority needs or major gaps in addressing the programmatic objectives for this enhancement area that could be addressed through a 309 Strategy.

A major challenge for the State will be addressing permitting policies and protocols for offshore aquaculture in state and federal waters while minimizing the potential environmental, natural and human conflict impacts.

The Mississippi-Alabama Sea Grant Consortium listed a need to develop aquaculture zones in areas where there is the least chance of causing user conflicts.

2. What priority was this area previously and what priority is it now for developing a 309 strategy and designating 309 funding and why?

Last Assessment (2000)		2005 (Check one)	
High		High	
Medium	X	Medium	
Low		Low	X

The ADCNR Marine Resources Division, the AUMERC and the Mississippi-Alabama Sea Grant Consortium have developed a base of knowledge of the aquaculture industry and continue to conduct research and find methods to improve the marine aquaculture industry while reducing negative impacts. Aquaculture is not a high priority for 309 funding.

ENHANCEMENT AREA ANALYSIS: COASTAL HAZARDS

Section 309 Programmatic Objectives

- I. *Direct future public and private development and redevelopment away from hazardous areas including the high hazard areas delineated as FEMA V-zones and areas vulnerable to inundation from sea and Great Lakes level rise.*
- II. *Preserve and restore the protective functions of natural shoreline features such as beaches, dunes, and wetlands.*
- III. *Prevent or minimize threats to existing populations and property from both episodic and chronic coastal hazards.*

Resource Characterization

1. Characterize the general level of risk in your State from the following coastal hazards:

Hazard	High Risk	Medium Risk	Low Risk
Hurricane / Typhoons	X		
Flooding	X		
Storm Surge	X		
Shoreline Erosion (Episodic or Chronic)	X		
Sea Level Rise			X
Great Lakes level fluctuation			X
Subsidence			X
Geologic Hazards (including earthquakes and tsunamis)			X
Other (specify)			

2. If the level of risk or state of knowledge about any of these hazards has changed since the last assessment, please explain. Also identify any ongoing or planned efforts to develop quantitative measures for this issue area.

Hurricanes

Based on recent storm seasons and predictions by climatologists, the risk of tropical storms and hurricanes has increased and the Alabama Coastal Area will continue to be at a higher risk level for some time to come. Without man-made restoration efforts, beaches and dunes will have little time to recover between storm events. In areas not subject to large scale beach nourishment and dune restoration projects, this will lead to increased vulnerability to storm surge even from minor hurricanes.

Flooding and Storm Surge

The flooding risk has remained high since the last assessment. Within both coastal counties, urbanization, increased development in flood-prone areas and increases in impervious surfaces have increased the potential for flooding, even in areas that had not previously flooded. Additionally, due to erosion caused by Hurricanes Ivan and Katrina, some areas such as the developed west end of Dauphin Island, have become more prone to storm surges and coastal flooding during minor storm events.

Chronic Erosion

The chronic erosion risk remains high. As documented in the "Beach Topographic Monitoring for 2004-2005; Short-termed Shoreline Change Analysis for 1990-2002 and Episodic Change and Erosion from Hurricane Ivan, 2004, Baldwin and Mobile Counties, Alabama" report, the Alabama Gulf-fronting shoreline continues to experience widespread erosional trends. Additionally, even with the on-going large-scale beach nourishment projects, which did provide additional protection, the recent major hurricane events have produced large scale reductions in beach profile height and shoreline recession. Shoreline recession on the developed west end of Dauphin Island continues to be especially severe.

3. Summarize the risks from inappropriate development in the State, e.g. life and property at risk, publicly funded infrastructure at risk, resources at risk.

A dramatic increase in private development in the Alabama Coastal Area during recent years has put millions of additional dollars of infrastructure at risk from a major hurricane. Numerous structures in the cities of Gulf Shores and Orange Beach and the Town of Dauphin Island were destroyed during Hurricanes Ivan and Katrina or are currently threatened due to shoreline erosion and loss of primary dune. Large scale beach nourishment in Orange Beach and Gulf Shores is addressing some of these concerns to a certain level. However, no such projects are proposed for the Fort Morgan Peninsula. Additionally, the erosion threat along Dauphin Island continues to be severe, and an updated SLOSH model shows a number of new areas where storm surge is now a threat. Further, because of the effects of Hurricanes Ivan and Katrina, the developed west end of Dauphin Island, though now largely uninhabited because of infrastructure damage that has yet to be repaired, is extremely vulnerable to minor weather events and extreme wind driven high tides. The lack of proper transportation planning has resulted in inadequate evacuation routes from the two municipalities south of the Intracoastal Waterway in Baldwin County.

Management Characterization

1. Indicate changes to hazards protection programs since the last assessment.

MECHANISM	CHANGE SINCE LAST ASSESSMENT		
Building restrictions	Significant	Moderate	None
Methodologies for determining setbacks	Significant	Moderate	None
Repair/rebuilding restrictions	Significant	Moderate	None
Restrict hard shoreline protection structures	Significant	Moderate	None
Promote alternative shoreline stabilization methodologies	Significant	Moderate	None
Renovation of shoreline protection structures	Significant	Moderate	None
Beach/dune protection	Significant	Moderate	None
Permit compliance	Significant	Moderate	None
Inlet management plans	Significant	Moderate	None
Special Area Management Plans	Significant	Moderate	None
Local hazards mitigation planning	Significant	Moderate	None
Local post-disaster redevelopment plans	Significant	Moderate	None
Real Estate sales disclosure requirements	Significant	Moderate	None
Restrictions on publicly funded infrastructure	Significant	Moderate	None
Public Education and Outreach	Significant	Moderate	None
Mapping/GIS/tracking of hazard areas	Significant	Moderate	None

2. For categories with changes

- Summarize the change
- Specify whether it was a 309 or other CZM driven change and specify funding source
- Characterize the effect of the change in terms of both program outputs and outcomes

Building restrictions

All Gulf-fronting communities adopted the International Building Code just prior to and following Hurricane Ivan in 1994. This code has stringent requirements and standards for construction in velocity zones and hurricane prone areas. Most Gulf-fronting communities have increased the “free-board” requirements under their local flood codes. (Funds: City)

Repair and rebuilding restrictions

All Gulf-fronting communities adopted the International Building Code just prior to and following Hurricane Ivan in 1994. This code is much more restrictive than the previous code with regard to the reconstruction of non-compliant structures. Most have also added freeboard elevations above the Base Flood Elevation (BFE). (Funds: Section 306, City)

Restrict hard shoreline protection structures

All Gulf-fronting communities adopted the International Building Code just prior to and following Hurricane Ivan in 1994. This code severely restricts the construction of seawalls, bulkheads and similar structures in velocity zones. (Funds: City)

Promote alternative shoreline stabilization methodologies

A limited number of studies have been conducted to analyze alternative shoreline stabilization techniques. However, additional research and development of scientifically valid and economically viable alternatives is needed. Additionally, at this point, there is little or no regulatory incentive to utilize such alternatives. (Funds: 306, State, Federal)

Renovation of shoreline protection structures

All Gulf-fronting communities adopted the International Building Code just prior to and following Hurricane Ivan in 1994. This code severely restricts the reconstruction of seawalls, bulkheads and similar structures in velocity zones. (Funds: City)

Beach/dune protection

The City of Gulf Shores, the City of Orange Beach and the Gulf State Park are conducting a large-scale beach nourishment project in order to reduce future damages from storms. At the local level, there has been an increase in beach and dune protection ordinances. The Town of Dauphin Island is actively pursuing funding to pursue a similar course of action, particularly for the devastated west end of the island. (Funds: State, City, County)

Permit compliance

The City of Orange Beach is now delegated by the ADEM to implement the beach and dune protection provisions of the ADEM Division 8 Coastal Program rules. The City of Gulf Shores was re-delegated the authority to implement the beach and dune protection provisions of the ADEM Division 8 Coastal Program rules. The City of Gulf Shores hired additional staff and increased its permit compliance monitoring efforts. The Town of Dauphin Island is considering pursuing such delegation within its jurisdiction. (Funds: Section 306, City)

Inlet Management Plans

The US Army Corps of Engineers (USACE) worked with state, federal and local entities to create a new disposal area (DA8) for the Perdido Pass Navigation Project. DA8 consists of the beach area from the +5' elevation seaward for 3 miles west of the pass. This new DA8, when combined with Beach Nourishment Act easements obtained by the City of Orange Beach, will allow for effective sand bypassing at the project. This new disposal area was used for the first time during December 2005-January 2006. (Funds: Federal, State, City)

Local hazards mitigation planning

A number of local communities revised their local hazard mitigation plans during the 2001-2005 time frame. The Alabama Emergency Management Agency funded multi-jurisdictional (countywide) hazard mitigation plans to meet the Pre Disaster Mitigation Act of 2000 planning requirement. Therefore, all communities are, at the least, included under these multi-jurisdictional plans. The ACAMP and SARPC recently supported an update of the Baldwin County Hazard Mitigation Plan. Other communities have their own plans, which are updated on a timely basis. The ACAMP has supported the update of a number of these plans, including recent updates in the cities of the Gulf Shores and Orange Beach. (Funds: Section 306, State, County, City)

The Alabama Department of Environmental Management Coastal/Facility Section has a regulation for siting construction north of the coastal construction control line (CCL). This has already reduced damages. The CCL was adopted in Baldwin County in 1984 and in Mobile County (Dauphin Island) in 1984. (Funds: Section 306)

It should be noted that the Gulf-fronting communities are a higher priority than inland or bay fronting areas because of their vulnerability to storms, especially given the increased frequency of tropical storms and hurricanes. However, the ACAMP is addressing hazards in the other coastal communities through 306-funded activities such as supporting the development and revision of Hazard Mitigation Plans and Flood Plain Management Plans. Most if not all of these communities have adopted either the International Building Code or the Southern Building Codes, both of which have standards for building in hurricane-prone areas. Further, many of the areas that are experiencing very high growth levels are in fact outside of the Coastal Area boundary, limiting the activities that the ACAMP may fund in those areas.

Public Outreach and Education

Following the adoption of the International Building Code just prior to and following Hurricane Ivan in 1994, local communities made efforts to insure that local builders and developers were aware of these new requirements. Additionally, the ACAMP, in conjunction with its state and local partners, continues to provide the public with hazards information. Following both Hurricane Ivan and Hurricane Katrina, a large amount of media attention has been given to coastal hazards and how to better prepare for such events.

Mapping/GIS/tracking of hazard areas

The ACAMP, Alabama Emergency Management Agency (AEMA), Geological Survey of Alabama (GSA), and the South Alabama Regional Planning Commission (SARPC), other state agencies and local units of government have all pursued additional GIS capabilities during recent years. This has resulted in the greater capability to plan for and respond to natural disasters. As mentioned in Section II. Overview Of Past 309 Efforts, ADEM is pursuing the purchase of GIS hardware and software to increase its capabilities. Additionally, the ACAMP is working with SARPC and local building officials to develop a GIS based building permit program that will assist in tracking development in hazard prone areas. Once both of these projects are in place, the ACAMP and local building officials will be able to share GIS data, allowing for better tracking of development in the Coastal Area and increasing the capability to prepare for and respond to major storm events. (Funds: 306, 309, State)

3. Discuss significant impediments to meeting the 309 objectives (e.g. lack of data, lack of technology, lack of funding, legal defensibility, inadequate policies, etc.).

Given the increased frequency of major tropical storm events, it appears that the base flood elevations and V-zone designations on the Federal Emergency Management Agency flood plain maps for many areas in Mobile and Baldwin Counties may be inadequate. However, local communities appear to be addressing these issues through adoption of the International Building Code and the requirement for increased free-board. Further, while state, federal and local policies and programs have provisions that discourage building in hazardous areas, the high demand to be in these areas has resulted in continued development, even with increased costs for construction and insurance. Given current development pressures, potential damage from coastal hazards is likely to increase.

Conclusion

1. Identify priority needs or major gaps in addressing programmatic objectives for this enhancement area.

Major gaps are:

- a) lack of statutes, policies and regulations at the state and federal level requiring sand bypassing at inlets to alleviate beach erosion;
- b) lack of an inlet management plan and resolution of the Dauphin Island Property Owners vs. USACE lawsuit for Mobile Pass;
- c) lack of research and data on the vulnerability of development to hurricane damages;
- d) lack of a comprehensive shoreline management plan;
- e) governmental programs (i.e. flood hazard subsidies) that encourage development in hazard-prone areas have resulted in increasing the number and value of properties at risk; and.
- f) as far as can be determined, no local units of government in the Alabama coastal area have long-termed recovery plans.

2. What priority was this area previously and what priority is it now for developing a 309 strategy and designating 309 funding and why?

Last Assessment (2000)		2005 (Check one)	
High	X	High	X
Medium		Medium	
Low		Low	

Additional beach monitoring, improved technology, a comprehensive shoreline management plan and long-termed recovery plans are needed to alleviate the potential for damages as the coastal area continues to be the site of increased development. A continued beach monitoring program along the Alabama Gulf coast will continue to provide critical data for the ACAMP, local communities and other agencies.

Many of the gaps identified under the ocean resources category relate to beach nourishment study or research projects. These projects could be considered under the Coastal Hazards category, and if the current monitoring by the local communities reveals a need for additional monitoring, the ACAMP and relevant resource agencies will determine if such monitoring will be required, who will conduct the monitoring, and which funding resource will be used. Coastal Hazards is a high priority for 309 funding.

ENHANCEMENT AREA ANALYSIS: CUMULATIVE & SECONDARY IMPACTS

Section 309 Programmatic Objective

I. Develop, revise or enhance procedures or policies to provide cumulative and secondary impact controls.

Resource Characterization

1. Identify areas in the coastal area where rapid growth or changes in land use require improved management of cumulative / secondary impacts, and provide the following information for each

- type of growth or change in land use (i.e. residential, industrial, etc.)
- rate of growth or change in land use
- types of cumulative and secondary impacts

The population of both coastal counties has increased significantly, as seen in the tables below.

Table 1. County Population (Source US Census)

County	Population 1990	Population 2000	Population Density (persons/mi ²) 2000	Population 2004 (est)	% change 2000-2004 (est)	% change 1990-2004 (est)
Baldwin	98,280	140,415	88.0	156,701	11.6	59.4
Mobile	378,643	399,843	324.3	400,526	0.2	5.8
Coastal Counties	476,923	540,258	191.0	557,227	3.1	16.8

Based on 2004 estimates, Table 1 shows that the Mobile County population is showing signs of stabilization. Baldwin County, however, has a strong growth rate. In 2004, the Alabama Coastal Area Management Program provided Section 306 funding to the Baldwin County Commission to complete a Census tract level analysis of Population and Household projections through 2020. That study predicts that Baldwin County population will grow to 184,375 by 2010 and will reach 227,727 by 2020.

Alabama's coastal counties are rather large, resulting in a fairly low population density. However, as seen in Table 2 below, the population density within the municipalities is well beyond the county density in most cases.

Table 2. Municipal Population^A (Source US Census)

Coastal Municipality	Population 1990	Population 2000	Population Density (persons/mi ²) 2000	Population 2004 (est)	% change 2000-2004 (est)	% change 1990-2004 (est)
Foley	4,937	7,590	531.5	10,421	37.3	111.1
Orange Beach	2,253	3,784	363.9	4,692	24.0	108.3
Gulf Shores	3,261	5,044	274.3	6,295	24.8	93.0
Dauphin Island	824	1,371	221.2	1,503	9.6	82.4
Fairhope	8,485	12,480	1,135.10	14,602	17.0	72.1
Daphne	11,290	16,581	1,230.50	18,115	9.3	60.5
Spanish Fort	3732	5,423	844.2	5,611	3.5	50.3
Satsuma	5,194	5,687	873.1	5,930	4.3	14.2
Bayou La Batre	2,456	2,313	573.9	2,741	18.5	11.6
Creola	1,896	2,002	137.1	2,052	2.5	8.2
Saraland	11,751	12,288	560.9	12,603	2.6	7.3
Mobile	196,278	198,915	1,687.10	192,759	-3.1	-1.8
Chickasaw	6,649	6,364	1,436.30	6,063	-4.7	-8.8
Prichard	34,311	28,633	1,127.60	27,622	-3.5	-19.5

Notes: ^ABaldwin municipalities are shaded. Table includes only those municipalities that intersect the designated Alabama Coastal Area. The City of Spanish Fort was not yet incorporated in 1990. As such, the 1990 population reflects Spanish Fort's listing as a "Census Designated Place" or CDP.

The three beachfront municipalities of Dauphin Island, Gulf Shores, and Orange Beach had some of the highest overall population growth and have collectively grown 97% since 1990. The City of Foley, which is also in south Baldwin County, is the only municipality with a higher growth rate than the Gulf fronting communities. According to the Baldwin County Population and Household Projections study, Census Tract 114.04, which includes the Fort Morgan peninsula and the portions of Gulf Shores and Orange Beach south of the Intracoastal Waterway, will have 15,650 residents by 2010 and will reach 21,601 residents by 2020, when that single tract will account for 1/10th of the county's population. In 2000, there were fewer than 10,000 residents in this tract.

An effect of the population growth is additional buildout, resulting in new housing units. Table 3 shows changes in housing units from 1990 to 2000 and strong growth and development trends in the Alabama Coastal Area.

Table 3. Housing Units (Source US Census)

Municipality	Housing Units 1990	Housing Units 2000	Percent Change
Foley	2121	3,468	63.0
Orange Beach	4398	7,594	72.7
Fairhope	3808	6,000	57.6
Daphne	4874	7,222	48.2
Dauphin Island	1211	1,691	39.6
Gulf Shores	4976	6,810	36.9
Spanish Fort	1673	2,164	29.3
Satsuma	1815	2,107	16.1
Saraland	4494	5,138	14.3
Creola	743	796	7.1
Mobile	82817	86,187	4.1
Chickasaw	2992	2,989	-0.1
Bayou La Batre	883	845	-4.3
Prichard	13037	11,336	-13.0

Cumulative impacts to air, water, aquatic plants, habitat and threatened and endangered species within Alabama's coastal counties include sediment-loading from erosion at development sites, increased impervious surface run-off, decreased natural cover, loss of critical habitat, emissions from additional industrial sites and vehicle and boat traffic.

- 2. Identify areas in the coastal zone (by type/location) that possess sensitive coastal resources (e.g. wetlands, water bodies, fish and wildlife habitats, threatened and endangered species and their critical habitats) and require greater protection from cumulative / secondary impacts of growth / development.**

Alabama Coastal Area	Cumulative & Secondary Impact Threats
Interior Bays and waterways of Gulf fronting communities, including Terry Cove/Cotton Bayou in Orange Beach, Intracoastal Waterway in Gulf Shores, and Dauphin Island.	The residential development trend in these areas is transitioning from single family and duplex development to large townhome and condominium developments. Tied to this is a growth in the number and size of private, multi-slip residential docking facilities. The explosion of this type of development in the Foley cut of the Gulf Intracoastal Waterway prompted the US Army Corps of Engineers to require an Environmental Impact Statement and carrying capacity determination for the waterway.
The "Foley Waterfront," including Bon Secour River and Wolf Bay.	Foley is the fastest growing municipality in Baldwin County. Within its city limits and planning area are the Bon Secour River and Wolf Bay watersheds. Condominium proposals have surfaced in Bon Secour and a major north-south thoroughfare is proposed for Wolf Bay. There are two large landowners in the Wolf Bay area and how their properties build out over the next decade will be significant with regard to cumulative and secondary impacts to coastal waterways. Unlike the Bon Secour River unincorporated area, Wolf Bay is under county zoning.
Bayou La Batre/Coden (Mobile County)	Historically known as a subsistence fishing and seafood processing area, the communities of Bayou La Batre and Coden in Mobile County show signs of population growth and development pressure. The seafood industry ails from an economic slump due to pricing pressure from imports. The Town of Bayou La Batre and a large developer have entered into discussions about public-private partnerships to transform the area to a tourist destination. Some type of development is expected within the next five years.

Management Characterization

- 1. Identify significant changes in the State's ability to address cumulative and secondary impacts since the last assessment (i.e., new regulations, guidance, manuals, etc.), and provide the following for each change.**
 - Characterize the scope of the change
 - Describe recent trends
 - Identify impediments to addressing the change
 - Identify successes in improved management

Alabama-Mississippi Clean Marina Program (2004-2005)

Several partner agencies contributed to the establishment of a bi-state Clean Marina Program for Alabama and Mississippi. Although not funded by Section 309, this effort was initiated within the Marina Working Group, which was established and facilitated using Section 309 funding (see Section II: Overview of Past 309 Efforts). Section 306 funding pays for a part-time coordinator for Alabama marinas. Three Alabama marinas have been certified and nearly a dozen have signed pledges stating their intent to become certified. Result of the program is the voluntary implementation of best management practices at participating marinas. Since the Clean Marina Program was established, a South Alabama Marina Operators Association has formed. One of the conditions for membership is participation in the Clean Marina Program. (Funds: Sections 306 and 310, Federal (MASGC), State, Private)

Phase II NPDES and MS-4 Stormwater Management Implemented

A significant regulatory change is the implementation of statewide NPDES Phase II regulations, which are administered by the Alabama Department of Environmental Management and funded by the EPA. Any development greater than one acre is now required to register with ADEM and adhere to a site-specific BMP plan. Phase II MS-4 areas have also been added in Baldwin County. (Funds: Federal (EPA), State (ADEM), Local)

Enhanced Monitoring and Tracking of Septic Systems

Health departments in Alabama's coastal counties partnered with ADEM and ADCNR to develop a GIS-based monitoring and tracking system for onsite sewage disposal systems. Section 309 funds were used by each county to purchase GIS and GPS hardware and software. Each county now routinely collects GPS readings during all site visits. Section 306 funds were utilized to establish a program to collect pumper records beginning January 1, 2005. These records are also geocoded for spatial analysis. Beginning in 2006, each county will establish a voluntary notification program whereby owners are reminded to maintain their septic systems every three to five years. Again, this effort utilized Section 306 funds. (Funds: Sections 306, 309, and 6217; State, County)

Baldwin County Planning and Zoning Efforts

Being one of only three counties in Alabama to petition the legislature for zoning authority, Baldwin County continues to implement subdivision regulations throughout the unincorporated area and zoning regulations in those districts that, by referendum, choose to fall under the zoning authority of the Baldwin County Planning Commission. Currently, 14 of 33 planning districts have adopted county zoning, and most of this area is in the fast-growing southern portion of the county. Five areas adopted zoning since 2000. Two other communities (Stockton in the north and Barnwell in the south) held zoning referenda that failed. Much of the designated Alabama Coastal Area is either zoned by the county or incorporated. Exceptions include the area from Oyster Bay to Weeks Bay and a large portion of the Mobile-Tensaw River Delta.

In 2005, Baldwin County Commission adopted the Florida Land Use, Cover and Forms Classification System (FLUCC) as its standard methodology for land cover data collection and management. As the name implies, FLUCC is the state standard used by Florida's Water Management Districts. In 2004, Baldwin County implemented a FLUCC classification scheme on high-resolution aerial imagery it had acquired in 2001. In 2005, Baldwin County received Section 306 funds to conduct a 10-year development trend analysis by applying the same classification to 1996 and 2005 imagery. With the high development rates experienced in Baldwin County, this dataset will be very useful in assessing the cumulative and secondary impacts of the recent development on water quality. (Funds: Section 306, EPA, County)

Mobile County Subdivision Regulations

In 2005, the Mobile County Commission formalized and adopted subdivision regulations for the county. Subdivisions have always required approval of the County Engineer, but regulations were never formally developed. The subdivision regulations include specific provisions aimed at protecting the Big Creek Lake watershed, which includes Converse Reservoir, the drinking water source for most of Mobile County. With the codification of these regulations, Mobile County also banned the development of major subdivisions on dirt roads. (Funds: County)

Continued Development and Implementation of the Coastal Nonpoint Program

In 2003, Alabama submitted revised Coastal Nonpoint Pollution Control Program (CNPCP) documentation to NOAA and EPA in order to address remaining program conditions. Alabama sees its CNPCP as a conduit for addressing cumulative and secondary impacts and will continue utilizing Section 306 and 309 funding for implementation. Since 2001, watershed management plans have been developed for Bayou Sara (underway), Little Lagoon, Bon Secour River, and Wolf Bay watersheds (the latter funded by EPA 319). ADEM conducted

watershed surveys for Bayou Sara, Bay Minette Creek, and Fowl River. ADEM developed a methodology for conducting watershed surveys. ADEM CNPCP staff completed targeted agriculture and marina BMP inventories for selected high-use watersheds and conducted targeted water quality surveys in those areas in an effort to ascertain the link between BMP implementation and water quality. Alabama will continue to develop and implement its program in accordance with its 5- and 15-year program plans in response to the Interim Decision document issued by NOAA and EPA in 2004. (Funds: Sections 306, 309, 6217; State, Local)

Conclusion

- 1. Identify priority needs or major gaps in addressing the programmatic objectives for this enhancement area that could be addressed through a 309 strategy (i.e., inadequate authority, data gaps, inadequate analytical methods, lack of public acceptance, etc.**

Major challenges in addressing cumulative and secondary impacts are the following:

- 1) Limited authorities to regulate land use.
 - a. The lack of home rule in unincorporated areas continues to be a significant obstacle in terms of being able to manage land use and protect water quality.
 - b. Aside from the Alabama Coastal Area Management Program wetland regulations, there are currently no state authorities concerning wetlands.
- 2) Underutilization of existing authorities and regulations. A perception exists that enforcement of existing federal, state and local land disturbance regulations is neither fully diligent nor effective.
- 3) Data Challenges.
 - a. Data collection has historically been limited, particularly with respect to spatially oriented data. High-resolution land cover data for Mobile County remains needed. Integrated, cross-agency monitoring, tracking, and sharing of land disturbance data should be a common goal.
 - b. Data sharing has been an historic obstacle. Limitations include lack of political will, data security/sensitivity, and funding for high tech solutions.
 - c. Consistent data collection protocols, including the development of interagency standards for geospatial data management are needed.
- 4) Public Interaction
 - a. Apathy regarding land use issues.
 - b. Limited awareness of cumulative and secondary impacts by the majority of citizens and public officials.

- 2. What priority was this area previously and what priority is it now for developing a 309 strategy and designating 309 funding and why?**

Last Assessment (2000)		2005 (Check one)	
High	X	High	X
Medium		Medium	
Low		Low	

The population of the Alabama Coastal Area and two coastal counties continues to grow. Baldwin County is the second fastest growing county in the state, and its coastal and bayfront communities drive that growth. With the exception of the cities of Mobile, Chickasaw, and Prichard, the coastal communities in Mobile County are experiencing high growth and development rates. In most unincorporated areas, there is no "home rule" authority whereby County Commissions can enact ordinances to manage this growth. Even in areas that have such authority (including municipalities), cumulative and secondary impacts are difficult to address. Cumulative and Secondary Impacts is a high priority for 309 funding.

ENHANCEMENT AREA ANALYSIS: ENERGY & GOVERNMENT FACILITY SITING

Section 309 Programmatic Objectives

- I. Enhance existing procedures and long-range planning processes for considering the needs of energy-related and government facilities and activities of greater than local significance.*
- II. Improve program policies and standards that affect the subject uses and activities so as to facilitate while maintaining current levels of coastal resource protection.*

Management Characterization

- 1. Identify significant changes in the State’s ability to address the siting of energy and government facilities since the last assessment (i.e. new regulations, guidance, manuals, etc.) and provide the following for each change:**
 - Characterize the scope of the change
 - Describe recent trends
 - Identify impediments to addressing the change
 - Identify successes

Recently, ConocoPhillips announced plans to build an offshore LNG facility south of Mobile County. The facility, called Compass Port, will be located in the Gulf of Mexico approximately 11 miles south of Dauphin Island and 15 miles from the mainland. ConocoPhillips has hired Dauphin Island Sea Lab (DISL) to provide baseline data on the potential environmental impacts of an LNG facility in the Gulf. According to calculations based on a very limited data set from the Gulf of Mexico Fishery Management Council and the National Marine Fisheries Service; a proposed ConocoPhillips Company liquefied natural gas terminal could wipe out about a quarter of the annual redfish harvest in Alabama and Mississippi. Company consultants have disputed that conclusion. The DISL studies need to be completed before any changes in state regulations or policy can be made.

TORP Terminal LP intends to construct and operate the Bienville Offshore Energy Terminal in the Gulf of Mexico 62 miles south of Fort Morgan, Alabama. This deepwater port application is currently under review by the State and Federal agencies.

The Alabama State Port Authority has begun construction of a new container terminal named Choctaw Point south of the existing port operations in downtown Mobile. This \$300-million-dollar container terminal with a startup capacity of 350,000 twenty-foot-equivalent units is expected to boost the Port of Mobile into the nation’s Top Ten busiest ports. The Port has received a USACE permit and Federal Consistency. In addition to Choctaw Point the Port Authority has expanded its deepwater container terminal on Mobile River and made improvements to the McDuffie coal terminal operations.

Conclusion

- 1. Identify major gaps in addressing programmatic objectives for this enhancement area.**

The State of Alabama has not committed to developing an independent analysis of the impacts of offshore LNG technology needs. The dependence on either federal or private sector analyses does not always serve the best interests of the State.

- 2. What priority was this area previously and what priority is it now for developing a 309 strategy and designating 309 funding and why?**

Last Assessment (2000)		2005 (Check one)	
High		High	
Medium	X	Medium	
Low		Low	X

The siting of energy and government facilities is regulated by state agencies other than ADCNR. The ACAMP is active in these areas under the 306 program. Thus, Energy and Government Siting is not a high priority for 309 funding.

ENHANCEMENT AREA ANALYSIS: MARINE DEBRIS

Section 309 Programmatic Objective

- 1. Develop/revise programs that reduce the amount of marine/lake debris in the coastal area.*

Resource Characterization

- 1. In the table, characterize the extent of marine / lake debris and the impact on the Coastal Zone.**

Table 1. Marine Debris Characterization

Source: Alabama Coastal Cleanup¹

Source	Impact (Significant/Moderate/ Insignificant)	Type of Impact (aesthetic, resource damage, etc.)
Shoreline & Recreational Activities (i.e. debris from beachgoers, picnics, sports and games, festivals, and litter washed from streets, parking lots, storm drains)	38.74% - Moderate	Aesthetically detrimental to tourism industry; unsanitary; damaging to recreational activities; damaging to living resources.
Ocean/Waterways Activities (i.e. debris from recreational fishing and boating; commercial fishing; cargo, military, and cruise ships; and offshore industries)	5.23% - Insignificant	Aesthetically detrimental to tourism industry; unsanitary; damaging to recreational activities; damaging to living resources.
Smoking-Related Activities (i.e. litter from smoking activities such as cigarette filters, cigar tips, and tobacco product packaging)	50.16% - Moderate	Aesthetically detrimental to tourism industry; unsanitary; damaging to living resources.
Dumping-Related Activities (i.e. debris from legal and illegal dumping of building materials, large household items, cars, and car parts)	1.73% - Moderate	Human health and safety hazard; damaging to living resources; aesthetically detrimental to tourism industry; damaging to recreational activities.
Medical/Personal Hygiene Activities (i.e. debris left by beachgoers as well as disposed of improperly into toilets and city streets)	0.27% Insignificant	Human health and safety hazard; damaging to living resources; aesthetically detrimental to tourism industry. Because medical and hygiene debris often enter the waste stream through sewer systems, its presence on the beach/lake front can indicate the presence of other, unseen pollutants.

Note: The ACAMP is aware that derelict vessels, normally an insignificant impact to the Alabama Coastal Area, have become a moderate to significant impact due to the number of vessels destroyed or stranded as a result of Hurricanes Ivan (2004) and Katrina (2005). The impact is more an economic impact and safety issue than an environmental impact. However, the situation exists and is a topic of discussion between state, federal and academic organizations in the coastal area. This is an issue where the ACAMP would assist but not take a lead since there are legal issues that must be settled and that are outside the ACAMP's purview of authority.

2. If any of the sources or their impacts changed since the last assessment, please explain.

The method of marine debris source tracking changed. Debris categories changed from the general debris description (plastics, metals, wood) to reflect the behaviors that result in debris. The change serves as an additional tool to teach volunteers how the debris gets in the ecosystem and how to change that behavior. Impacts have not changed since the last assessment with the exception of identifying human health and safety hazards due to dumping and medical activities. Alabama continues to participate in the National Marine Debris Monitoring Program and shares the marine debris problems of other coastal states.¹

3. Do you have beach cleanup-data? If so, how do you use it?

Beach cleanup data is collected through the annual Alabama Coastal Cleanup and the National Marine Debris Monitoring Program. Information regarding the debris collected is used in education programs such as the

¹ The following results were recorded during Alabama Coastal Cleanup events held on September 15, 2001, September 21, 2002 and September 20, 2003. The 2004 cleanup was cancelled due to Hurricane Ivan. Analytical results for the 2005 cleanup will be available May 2006. During the 2001, 2002, 2003 Alabama Coastal Cleanups a combined total of 9,929 volunteers participated; 878 miles of beaches and waterways were cleaned; and 247,400 pounds of debris were collected.

Baldwin County Master Environmental Educators nonpoint source pollution, groundwater pollution, solid waste and recycling class lessons that are designed for grades K-12. Information is also used during public events, such as festivals and expos, and at guest speaking engagements

Management Characterization

1. In the categories below, identify significant state, ocean/Great Lake management programs and initiatives developed since the last assessment.

Program	Developed since last Assessment
State/local program requiring recycling	Yes
State/local program to reduce littering	Long-established
State/local regulations consistent with Marine Plastic Pollution Research and Control Act	None
State/local program to reduce wasteful packaging	None
State/local program managing fishing gear	Yes
Marine debris concerns incorporated into harbor, port, marina and coastal solid waste management, boaters' pledge	Yes
Education and outreach programs	Yes

2. For the changes above, provide a brief description of the change and its effect.

- Characterize the scope of the change
- Describe recent trends
- Identify impediments to addressing the change
- Identify successes

State/Local Recycling programs continue to develop including the Alabama Department of Environmental Management's requirement for a 25 percent reduction limit for landfills. **Volunteer** recycling programs by both coastal counties and most of the coastal municipalities have been introduced.

State/Local fish gear management program has been developed by the Alabama Department of Conservation and Natural Resources, Marine Resources Division (MRD) to include TED's, gill-net monitoring, and other commercial fishing gear. Additionally, MRD and the MBNEP have developed an annual volunteer derelict crab trap removal program, which is entering its fourth year.

Marine debris concerns are incorporated into harbor, port, and marina solid waste management programs. The Alabama Coastal Area Management Program conducts a Boater's and Angler's Pledge Program and Adopt-A-Beach Program and participates in the National Marine Debris Monitoring Program. The change from last assessment is that one coastal municipality has been designated as a Blue Wave Beach. Other coastal municipalities are developing debris management programs in order to be considered for this designation.

Education/Outreach Programs are incorporated into the Alabama Coastal Area Management Program's education and public outreach program. It includes the annual International Coastal Cleanup, the Adopt-a-Beach and Boater's and Angler's Pledge programs, and the monthly National Marine Debris Monitoring Program. The change from last assessment is the development and implementation of the Clean Marina Program.

Conclusion

1. Identify major gaps in addressing programmatic objectives for this enhancement area.

Major gaps in the programmatic objectives continue as the following:

- a) Lack of a Derelict Vessels Management Program to inventory and remove derelict vessels from State waters
- b) Lack of state legislation related to marine debris and marine litter (crab traps, garbage from boats, etc).

2. What priority was this area and what priority is it now for developing a 309 Strategy an designating 309 funding and why?

Last Assessment (2000)		2005 (Check one)	
High		High	
Medium	X	Medium	
Low		Low	X

While marine debris in coastal waters remains a problem from both water-based and land-based activities, on-going programs at the local, regional and state/federal levels are active, increasing and improving. The ACAMP is active in the Marine Debris issue through a number of programs that include the crab trap cleanup program, PALS, Coastal Cleanup, and the Boaters – Angler’s Pledge program. The ACAMP stays active in this area through 306 funded interagency coordination tasks. Also under 306 funding, the ACAMP will support activities initiated by other agencies regarding a derelict vessel program. Therefore, Marine Debris, while an important issue area for the ACAMP, is a low priority for funding under the 309 program.

ENHANCEMENT AREA ANALYSIS: OCEAN/GREAT LAKES RESOURCES

Section 309 Programmatic Objectives

- I. *Develop and enhance regulatory, planning and intra-governmental coordination mechanisms to provide meaningful state participation in ocean and Great Lakes resource management and decision-making processes.*

- II. *Where necessary and appropriate, develop a comprehensive ocean and Great Lakes resource management plan that provides for the balanced use and development of ocean resources, coordination of existing authorities and minimization of use conflicts. These plans should consider, where appropriate, the effects of activities and uses on threatened and endangered species and their critical habitats. The designation of specific marine protected areas should be considered.*

Resource Characterization

1. **In the table below, characterize ocean resources and uses, state concern and specify existing and future threats or use conflicts.**

Resource or Use	Concern	Degree of Threat (H/M/L)	Anticipated Threat or Conflict
Marine Fisheries	1) Continued closure of shellfish beds due to nonpoint source pollution. 2) Over-harvesting of particular species. 3) Introduction of nuisance species through ballast water and conflicts with port development and trade. 4) Proposed operation of LNG ports offshore.	1) Moderate 2) Moderate 3) Moderate 4) Moderate	1) Pollution to shellfish is a documented problem. Sewage regulations in the coastal area have improved, but there are concerns of contamination from nonpoint sources and sources outside the coastal area. 2) Fisheries harvest is regulated and monitored, but the potential for over-harvesting remains. 3) The introduction of nuisance species is expected to remain a concern. Regulations to manage ballast water could result in negative economic impacts for the Port of Mobile. 4) Open loop warming of LNG will be particularly problematic unless the impacts can be reduced to an acceptable level or a closed-loop system is constructed.

Resource or Use	Concern	Degree of Threat (H/M/L)	Anticipated Threat or Conflict
Offshore Oil/Gas Development (Note: Alabama's offshore energy development is gas, not oil.)	1) Negative aesthetics for the tourism industry. 2) Potential for accidents or oil spills. 3) See #4 above in Fisheries	1) Low 2) Moderate 3) Moderate	1) Gas drilling rigs and production platforms are within view of the Mobile County and Fort Morgan coastlines, but are a less likely visual threat to the Gulf Shores/Orange Beach tourism industry due to a state-mandated moratorium on siting energy facilities on new leases within 15 miles of these coastlines. 2) Accidents on gas drilling rigs and production platforms, pipeline construction, and spills from tankers utilizing waterways and the Port of Mobile are potential concerns. Damage to drilling rigs and production platforms caused by storm events (high winds and wave action) can result in navigation hazards. 3) The industry believes that use of available thermal energy may be essential to extend the life of the resource and to maintain economic competitiveness.
Offshore sand resources	1) Lack of regional management of sand removal/disposal activities and improper siting of dredged material disposal areas 2) Degradation of the natural beach/dune systems in the face of increased tropical storm activity. 3) Lack of programs in place to locate and allocate future sources of off shore sand resources. 4) Lack of knowledge of the long-term effects of continued beach nourishment projects.	1) Moderate 2) High 3) High 4) Moderate	1) Removal of sand from the littoral system and improper dredged material disposal negatively impact the dynamics of the Gulf of Mexico shoreline. 2) Development on the beaches does not incorporate adequate site controls to maintain an effective sand barrier and threatens infrastructure. 3) Competition among local governments for offshore sand resources could result in an imbalance of protective measures from one local community to another. The impacts of repetitive beach nourishment projects to benthic organisms are unknown.

2. Describe any changes in the resources or relative threat to the resources since the last assessment.

The LNG port issue emerged in the past two years and has potentially serious implications if not managed properly. Studies are being conducted by the Dauphin Island Sea Lab to measure the potential impacts of an open loop LNG facility in the Gulf of Mexico.

There is a growing recognition of the increased potential for tropical storm impacts on shorelines and oyster fisheries. Studies, beach nourishment, and emergency berm projects are currently ongoing.

There is a continued concern over the dredging of the Mobile Ship Channel/ Harbor and the impacts to adjoining shorelines. There is a lawsuit pending by the Dauphin Island Property Owners Association vs. the U.S. Army Corps of Engineers regarding the impacts of the dredging project on Dauphin Island.

The beach nourishment projects in Gulf Shores and Orange Beach have been highly successful in widening and providing extra dune protection for structures and creation of additional habitats. However, in the process,

underwater sand berm resources in state waters that were identified for the nourishment projects have been exhausted. New sources of sand in state and federal waters need to be identified for future beach nourishment projects.

Management Characterization

1. Identify state ocean management programs and initiatives developed since the last assessment:

Check if completed - X

- Statewide comprehensive ocean/Great Lakes management statute
- Statewide comprehensive ocean/Great Lakes mgt plan on system of Marine Protected Areas
- Single purpose statutes related to ocean/Great Lakes resources
- Statewide ocean/Great Lakes resources planning/working groups
- Regional ocean/Great Lakes resources planning efforts
- Ocean/Great Lakes resources mapping or information system
- Dredged material management planning
- Habitat research, assessment, monitoring
- Public education and outreach efforts
- Other: Coastal sediment monitoring

2. For the above categories with changes

- Summarize the change
- Specify whether it was a 309 or other CZM driven change and specify funding source
- Characterize the effect of the changes in terms of both program outputs and outcomes

Regional ocean/Great Lakes resources planning efforts

In December of 2004, the U.S. Ocean Commission released recommendations for a new and comprehensive national ocean policy, emphasizing the need for integrated ecosystem-based management that transcends political boundaries. With the involvement of the federal government and commitment from the five Gulf States, a Gulf of Mexico Alliance Action Plan has been developed. These action items address reducing nutrient loading; improving Gulf water quality with an emphasis on beaches and shellfish; restoring coastal wetlands; identifying Gulf habitats to inform coastal management decisions and Gulf of Mexico education to foster environmental education (Funds: State; Federal: NOAA-CZM 306, EPA funds).

Ocean/Great Lakes resources mapping or information system

An inventory and GIS mapping of all submerged aquatic vegetation has been completed for Mobile and Baldwin County (Funds: Federal: NOAA-CZM 306 & 309, EPA-NEP)

Marine sediment mapping has been a priority for the Geological Survey of Alabama since the early 1990s. Mapping in the last five years has focused on displaying previously collected data in more useful formats and using the GIS environment to compare sediment data to other information about the marine environment and adjacent coastal areas. The latest phase of this project is yielding products of more immediate use to coastal planners and the beach nourishment industry. Results of GSA studies are compared to published reports by other researchers. (Funds: Federal: Minerals Management Service, US Geological Survey)

Dredged material management planning

The U.S. Army Corps of Engineers, Mobile District has developed a Regional Sediment Plan for a 365-mile long area of the Gulf of Mexico, including the coast of Alabama and the Florida Panhandle. A regional sediment budget was developed over the entire area to make more efficient use of dredged spoil material. (Funds: Federal: USACE)

Habitat research, assessment, monitoring

The Coastal Section has participated in the development of the first real-time water quality monitoring system in Mobile Bay. The system is also providing the first ever three-dimensional assessment of the bay dynamics. The Mobile Bay water quality system has been conducted in conjunction with Dauphin Island Sea Lab (DISL). This environmental monitoring is a continuation of over 25 years of metrological and water quality observations by the DISL. The results of this monitoring can be seen at <http://mymobilebay.com>. This collection of data includes the Weeks Bay and Grand Bay NEERS and is valuable in providing real time data on a number of sites around Mobile Bay, Weeks Bay and the Mississippi Sound. The most valuable benefit to ACAMP and the public is the ability to check real time weather and water conditions in various coastal areas. The ACAMP is currently working with DISL, the Alabama Port Authority and NOAA in expanding this system and linking it to the NOAA Physical Oceanographic Real-Time System (PORTS). There is a proposal for these entities to work with the Port and link

it with the existing DISL monitoring to provide efficient navigation to all commercial and recreational vessels. (Funds: State; Federal: NOAA-CZM 306, EPA-NEP; Private)

Monitoring of coastal and nearshore habitats by the Geological Survey of Alabama began in 2002. Initial results suggest that organisms living in the beach and dunes respond to environmental conditions that may relate to human activities. (Funds: Federal: Minerals Management Service)

The MBNEP Habitat Working group is working on habitat indicators for many habitat types including Ocean Resources. This is an ongoing effort and the focus is on biological indicators. (Funds: Federal: EPA-NEP)

Marine Resources Division assesses, monitors, and restores oyster reef habitat on an on-going basis. (Source of Funds: Federal: NOAA-Fisheries)

The MS-AL Sea Grant and MBNEP are taking the lead in investigating the creation of an Alabama Coastal Habitat Restoration Database, which would track and monitor coastal habitat restoration efforts. (Funds: Federal: NOAA-Sea Grant)

Coastal Sediment monitoring

Recently completed evaluation of beach-sediment quality by the Geological Survey of Alabama will be used to develop a more precise and accurate map of offshore sediment suitable for beach nourishment. (Funds: Federal: Minerals Management Service)

Conclusion

1. Identify priority needs or major gaps in addressing the programmatic objectives for this enhancement area that could be addressed through a 309 Strategy.

Coastal Section should encourage and support the Marine Resources Division in the development of a systematic monitoring of the living resource base so that status and trend analysis could be accomplished with confidence.

Beach nourishment in the past two years has depended upon sand sources that are generally closer to shore than the areas studied so far. In addition, mining sand too close to shore may undo the beneficial effects of beach nourishment projects. Also, while individual beach nourishment projects may not seriously affect benthic biotas, the repeated disturbance may have a cumulative effect. Thus, an evaluation of sand sources in state waters, a study of the long-termed effects of frequent nearshore sand mining, and a study of the cumulative effect to benthic organisms by beach nourishment projects appear to be warranted.

2. What priority was this area previously and what priority is it now for developing a 309 strategy and designating 309 funding and why?

Last Assessment (2000)		2005 (Check one)	
High		High	
Medium	X	Medium	X
Low		Low	

Many of the gaps identified under the ocean resources category relate to beach nourishment study or research projects. These projects could be considered under the Coastal Hazards category, which is a high priority for 309 funding. However, at this time, the evaluation of sand sources in nearshore waters has been conducted by the USGS and the Geological Survey of Alabama and is currently being conducted by the cities of Gulf Shores and Orange Beach. Additionally, the borrow sites used by the recent beach nourishment project are being monitored by the local communities as a requirement of the permits issued for the beach nourishment projects. Therefore, these issues, while important to the ACAMP, are not considered a high priority for the limited 309 funding available to the ACAMP. If the monitoring by the local communities reveals a need for additional monitoring, the ACAMP and relevant resource agencies will determine if such monitoring will be required, who will conduct the monitoring, and which funding resource to tap. Thus, Ocean Resources is not a high priority for 309 funding.

ENHANCEMENT AREA ANALYSIS: PUBLIC ACCESS

Section 309 Programmatic Objectives

- I. Improve public access through regulatory, statutory and legal systems.
- II. Acquire, improve, and maintain public access sites to meet current and future demand through the use of innovative funding and acquisition techniques.
- III. Develop or enhance a Coastal Public Access Management Plan, which takes into account the provision of public access to all users of coastal areas of recreational, historical, aesthetic, ecological, and cultural value.
- IV. Minimize potential adverse impacts of public access on coastal resources and private property rights through appropriate protection measures.

Resource Characterization

Extent and trends in providing public access (publicly owned or accessible):

1. Provide a qualitative and quantitative description of the current status of public access in your jurisdiction. Also, identify any ongoing or planned efforts to develop quantitative measures to assess your progress in managing this issue area.

See descriptions in the table below. Ongoing or planned efforts to develop quantitative measure to assess progress in managing this issue area are described in the "Conclusion."

Access Type	EXISTING (REPORTED LAST ASSESSMENT)	Changes Since Last Assessment
State/County/Local Parks	<p>Thirty-one (31) parks were reported on the last assessment. These parks are funded by a variety of state, federal and local funding sources.</p> <p>Additionally, the historic coastal sites and swimming areas reported in the last assessment remain the same and are as follows:</p> <p><u>Historic Sites</u> Historic Fort Morgan Dauphin Island Shell Mound Blakely Historical Park Historic Fort Gaines</p> <p><u>Swimming Sites</u> Perdido Point Public Beach (6,000-plus feet) Cotton Bayou Public Beach Gulf State Park Public Beach (10,000-plus feet) Gulf State park at Romar Beach (4-acre beach) Gulf Shores Public Beach (1,700-plus feet) Gulf Shores 2nd, 5th and 6th Streets</p>	<p><u>Additions:</u> Mobile County added one park, Dead Lake Marina, which was purchased with CIAP funds.</p> <p>The ADCNR-State Lands Division acquired through donation and leased Helen Wood Park to the City of Mobile, which constructed improvements to the site with funding from the city, the ACAMP 306(a) program and MBNEP funds.</p> <p>The State Lands Division acquired additional tracts of land in the Mobile-Tensaw Delta.</p> <p>The City of Satsuma constructed a park in association with the Steele Creek Landing Boat Ramps. Funds were provided to the city under the 306(a) program.</p> <p>The Weeks Bay NERR, which is part of ADCNR State Lands Division, acquired a 98-acre tract of land on the Fish River, adding to the miles of shoreline that will be accessible to the public in the near future.</p> <p><u>Nature Centers:</u> The Wehle Nature Center, located at Blakely Historic State Park and operated by the ADCNR, State Lands Division (SLD), was opened in 2003.</p> <p>The Mobile-Tensaw Delta Resource Center, located on the US Hwy 98 Battleship Causeway in Spanish Fort, is being constructed by the ADCNR, SLD. This site will feature a welcome center, a nature center, a pier, a canoe and kayak launch, classrooms, walking trails and other amenities. It is tentatively scheduled to open in late summer 2006.</p>

Access Type	EXISTING (REPORTED LAST ASSESSMENT)	Changes Since Last Assessment
		<p>Many, if not all, parks and similar sites suffered damage during Hurricanes Ivan and Katrina. Many were repaired after Ivan only to be damaged again during Katrina. Some have been rebuilt and/or repaired, some are partially functional and some are still closed.</p> <p>The Gulf State Park Hotel and Convention Center was destroyed by Hurricane Ivan and is still awaiting demolition. The Main Beach Pavilion was destroyed and is currently being rebuilt. Gulf State Parks' Cotton Bayou and Romar Beach access points were destroyed and both have recently been rebuilt with much improved facilities.</p>
Beach/Shoreline Access Sites (#)*	The exact number of beach and shoreline access points is unknown. However, in Baldwin County, there are several Gulf-fronting beach access points owned and/or operated by state, local and federal entities. In Mobile County, access points along the Gulf beaches are limited to a small number on Dauphin Island. There are numerous access sites along the bay and riverine shoreline in the coastal area. Most, if not all, of these access sites are captured in other Access Type categories.	As noted in Column 2, most, if not all, of these access sites are captured in other Access Type categories. Changes will be reported under those categories.
Recreational Boat (power/non-power) Access sites (#)	Twenty-eight (28) boat ramp sites were reported on the last assessment.	<p>A new boat ramp at Steele Creek Landing was opened by the City of Satsuma. Construction of associated amenities was funded by the 306(a) program.</p> <p>Rice Creek Boat Ramp, owned by the ADCNR, State Lands Division, was renovated using 306(a) funds. Many boat ramps were damaged by Hurricanes Ivan and Katrina. Some of these have been repaired, some are still damaged but operational and some are closed. Most if not all will be reopened as funding and manpower become available.</p> <p>The Weeks Bay NERR acquired a small marina site on the Fish River near the mouth of Weeks Bay that will be improved.</p>
Designated Scenic Vistas or Overlook Points	Scenic vistas reported in the last assessment remain. However, many sights were damaged by Hurricane Ivan and again by Hurricane Katrina. Most of these sites qualify for FEMA funding for reconstruction and the appropriate authorities are pursuing repair of the sites.	The Coastal Connection Trail, which is a driving trail that follows the Alabama Gulf Coast shoreline is under development and the Battleship Causeway was designated State Scenic Byway, by Executive Order of the Governor.
State / Local Designated Perpendicular Rights-of-Way (street ends, easements) (#)	The exact number of such sites is unknown. Baldwin County identified and marked numerous, at least 113, Rights of Way (ROW) that provide access to bay and river waters within the county. Others most probably exist, and the county is continuing to pursue the placement of signage or improvements at these sites. Similar efforts have been ongoing in Mobile County.	Baldwin County has not "added" any new ROW access points since the last assessment. However, the county has continued to maintain existing sites and all sites have been marked and inventoried since the last assessment as part of the development of the Baldwin County Parks and Public Access Plan.

Access Type	EXISTING (REPORTED LAST ASSESSMENT)	Changes Since Last Assessment
Fishing Points (i.e. Piers, jetties) (#)	<p>Fishing piers reported last assessment are</p> <p>Dauphin Island East End Fishing Pier Dauphin Is. Main Beach 850-foot fishing pier Fort Morgan 225-foot fishing pier Sea wall along Mobile Bay causeway Ala. Pt. Bridge Park 1,000-foot sea wall Gulf Shores Canal Park Orange Beach Waterfront Park</p> <p>There are no jetties specifically designated or improved as fishing sites. However, shore fishermen do fish, at their own risk, on the jetties at Perdido Pass and along the eastern end of Dauphin Island.</p>	<p>The Cedar Pt. Pier, Gulf State Park Pier and Dauphin Island East End Pier were destroyed or severely damaged by Hurricane Ivan or Hurricane Katrina. These have not yet been rebuilt.</p> <p>The Town of Dauphin Island is constructing a new fishing pier at Billy Goat Hole on the east end of the Island.</p> <p>Helen Wood Park is now open to fishing as are most waterfront parks in the Alabama Coastal Area.</p>
Coastal Trails & Boardwalks (# and Miles)	<p>Coastal Trails reported last assessment are</p> <p>Audubon Bird Sanctuary – 160 acres, 2 miles of trails Bon Secour Wildlife Refuge – 4500 acres, 4 miles of trails Weeks Bay NERR – one-mile trail Gulf State Park Nature Trails</p>	<p><u>Additions:</u></p> <p>The State Lands Division added the Bartram Canoe Trail, which is located in the Mobile-Tensaw River Delta. Phase I of the trail system has over 150 miles of marked canoe trails. Another 150 miles are planned for Phase II. Additionally, there are a number of floating and land-based camping sites along the trail. The floating campsites sustained major damage during Hurricane Katrina and are being repaired.</p> <p>The State Lands Division constructed a boardwalk (Cockleshell Mound Boardwalk) near the Wehle Nature Center at the Blakeley Historic State Park.</p> <p>The Blakeley Historic State Park increased the length of its Tensaw River waterfront boardwalk.</p> <p>The Eastern Shore Trail, which is located in eastern Baldwin County, is under construction, with sections in Point Clear, Montrose, and the Mobile Bay Causeway being located in the coastal area.</p> <p>The City of Daphne constructed Alligator Trail, a short trail that crosses and parallels D'Olive Creek and ends at the tourism center adjacent to I-10.</p> <p>The City of Orange Beach and Gulf State Park are constructing a walking/biking trail that will eventually link Orange Beach, Gulf State Park and Gulf Shores. The exact number of miles is not known.</p> <p>The City of Orange Beach is constructing a canoe trail, with landings located around the city at parks and ROWs. This project has been delayed by Hurricanes Ivan and Katrina. The exact number of miles and landings to be developed is not yet known.</p> <p>Most of the ten (10) boardwalks reported in the last assessment sustained major damage during Hurricanes Ivan and Katrina and are in need of repair and/or are closed.</p>

Access Type	EXISTING (REPORTED LAST ASSESSMENT)	Changes Since Last Assessment
		The Alabama Coastal Birding Trail was established by the US Fish & Wildlife Service and the Alabama Gulf Coast Convention and Visitors Bureau developed an historic sites trail marked points of interest throughout the coastal counties, including the designated Alabama Coastal Area.
ADA Compliant Access (%)	Of the 81 public access sites in the Alabama Coastal Area that were inventoried by Coastal Programs staff in Summer 2000, there are 37 (46%) handicapped accessible sites.	All projects funded under the ACAMP 306(a) Public Access Grant Program are or will be ADA compliant to the maximum extent possible. It is assumed that ADA compliant sites damaged or destroyed by Hurricanes Ivan and Katrina will be reconstructed in the same manner.
Dune Walkovers (#)	The exact number of Gulf-fronting public dune walkovers is unknown. However, as far as can be determined, all public dune walkovers are associated with sites reported under other Access Type categories.	Most public dune walkovers were damaged or destroyed by Hurricane Ivan and/or Hurricane Katrina. Many have been rebuilt but many are still unserviceable. Most sites qualify for FEMA funding for reconstruction and the appropriate authorities are pursuing repair of the sites.
Public Beaches with Water Quality Monitoring and Public Notice (% of total beach miles) and Number closed due to water quality concerns (# of beach mile days)	Twenty-five public access sites are monitored under the ADEM BEACH Water Quality Monitoring Program. During the 2005 swimming season, 14 swimming advisories were issued, which covered 8 of those sites. This program is site specific. Therefore, a calculation of beach miles closed is not possible.	The ADEM BEACH Monitoring Program has evolved from five sites in 1999 to the current 25 sites. One site will be added in 2006. The location of sites will change as data or public need changes.
Number of existing public access sites that have been enhanced (i.e. parking, restrooms, signage - #)*	Since Hurricanes Ivan and Katrina impacted the area, almost all public access sites in the Alabama coastal area have been damaged and subsequently re-built, modified or enhanced. However, exact numbers are not available at this time. Most of these sites qualify for FEMA funding for reconstruction and the appropriate authorities are pursuing repair of the sites.	Since the last assessment, 21 public access improvement projects were funded under the ACAMP 306(a) program. This included the addition of restrooms, boardwalks, gazebos, dune walkovers, interpretive signage, and other similar low-cost construction projects.

2. Briefly characterize the demand for coastal public access within the coastal zone, and the process for periodically assessing public demand.

Demand for public access continues to increase in the Alabama Coastal Area. Given the level of development and the increase in population being experienced by both coastal counties, this demand is projected to increase. Annual assessment of local demand is made each year during the 306(a) application process. All coastal municipalities, both counties and other entities with public access facilities are given the opportunity to apply for public access funds. Additionally, in FY 2006, the ACAMP will be conducting a survey of public access demand and sentiment in the Coastal Area.

3. Identify any significant impediments to providing adequate access, including conflicts with other resource management objectives.

Significant impediments to increased public access are real estate values and lack of funding, especially with regard to waterfront property.

4. Please explain any deficiencies or limitations in data.

The columns under "Resource Characterization" was changed from "Access Type, Current Number, and Changes Since Last Assessment" to "Access Type, EXISTING (reported on the last assessment), and Changes Since Last Assessment."

5. Does the state have a Public Access Guide or website? How current is the publication or how frequently is the website updated?

The ACAMP published a guide to public access sites approximately 10 years ago. However, statewide public access information for state-owned sites is included on the Alabama Department of Conservation and Natural Resources web site. This information is updated as needed. Further, Mobile and Baldwin Counties and most local communities in the coastal area have websites that list public parks and other public access opportunities.

Management Characterization

1. For each of the categories below, identify significant changes since the last assessment.

Category	Changes since Fall 2001		
Statutory, regulatory, legal system that affect public access	significant	<u>moderate</u>	none
Acquisitions programs or techniques	<u>significant</u>	moderate	none
Comprehensive access management planning (incl. GIS data layers or databases)	significant	<u>moderate</u>	none
Operation / maintenance programs	significant	moderate	<u>none</u>
Funding sources or techniques	significant	<u>moderate</u>	none
Education and outreach (access guide or website, outreach initiative delivered at access sites, other education materials such as pamphlets)	significant	<u>moderate</u>	none
Beach water quality monitoring and/or pollution source identification and remediation programs	<u>significant</u>	moderate	none

2. For categories with changes, provide the following for each change:

- Summarize the change
- Specify whether it was a 309, 306a, or other CZM driven change and specify funding source
- Characterize the effect of the changes in terms of both program outputs and outcomes

Statutory, Regulatory, Legal System

During the past three years, both coastal counties have begun to identify and reclaim publicly-owned lands that have been encroached upon by private individuals. In a significant number of cases, private individuals have built permanent structures on these sites. Efforts have not gone unchallenged; however, several sites have been re-acquired, and officials continue to pursue the county's right-of-ownership. (Funds: County)

Acquisition Programs

The State of Alabama continues to be aggressive in acquiring additional lands in the Mobile-Tensaw Delta, which is located in the Alabama Coastal Area and which has numerous possibilities for a variety of public access sites. These acquisitions received significant publicity and have heightened awareness of the need for public ownership of lands bordering the waters. The City of Orange Beach has worked with a local developer and federal funding sources to obtain Robinson Island in Orange Beach. Further, the Coastal States are working with federal authorities to convert the Coastal and Estuarine Land Conservation Program (CELCP) into a competitive program. Given the state matching funds available through the successful Forever Wild Program, which funded by royalties from gas and lease sales, Alabama should prove to be competitive in this program. It should be noted that almost half of the acreage purchased through the Forever Wild Program has been located in Mobile and Baldwin Counties with most of it in the Alabama Coastal Area. (Funds: State: General Funds and Forever Wild Program, and Federal: USF&WS Wetland Conservation Grants)

Comprehensive Access Management Planning

The Alabama Coastal Area Management Program published a Comprehensive Public Access Plan that was developed with the cooperation of local officials and citizen groups and provides for the identification of current and potential access sites and the identification of funding opportunities. During the summer of 2000, Coastal Programs staff updated its inventory of 81 public access sites in the state's designated coastal area and produced a GIS layer. (Funds: Sections 306 & 309)

In the summer of 2000, Baldwin County updated the Parks and Public Access Inventory and Assessment component of their comprehensive plan, produced a complete listing and evaluation of public sites, and listed proposed improvements. Baldwin County also recently completed and published the Baldwin County Parks and Public Access Plan. The cities of Orange Beach and Gulf Shores, and the Town of Dauphin Island recently

produced, or are in the process of producing, comprehensive plans. Each plan addresses public access in some manner and all acknowledge the need for public access planning. Also, the City of Orange Beach identified and evaluated all unimproved, city-owned properties that abut the north side water ways and that have the potential to expand the city's inventory of water access sites. (Funds: County/City).

Public access is addressed in the Mobile Bay National Estuary Program's Comprehensive Conservation Management Plan under Human Uses. Sub-objectives 1C and 1D promote increased public access to water resources and development / implementation of county-wide comprehensive plans related to quality of life. Public access for fishing, both boat and shoreline, has become a major issue in south Mobile County, particularly on Dauphin Island. This is the closest point to the Gulf of Mexico and the launching site is the busiest in the entire State of Alabama. As part of the ACAMP, the Mobile Bay NEP contracted with Auburn University's Department of Landscape Architecture to assess the problem and develop a suite of possible solutions for public review and preference.

The ACAMP has designated 306 funds to be utilized during FY 2006 to conduct a survey of public opinion on public access demands and needs in the Alabama Coastal Area. (Funds: Federal, State, Local)

Funding Sources or Techniques

Partnerships have been formed among municipalities, county governments, non-profit groups and private citizens to acquire and/or provide additional public access sites. Additionally, through the Planned Unit Development approval process, many developers are granting funds and/or lands to local governments for public access.

The Mobile Bay National Estuary Program established and facilitates the Coastal Habitat Coordination Team, as part of its Comprehensive Conservation and Management Plan. The CHCT is a stakeholder based steering committee that exists to define and prioritize land acquisition for habitat conservation in the coastal counties.

Public Education and Outreach

The Alabama Department of Conservation and Natural Resources, State Lands Division, Coastal Section staff, under Section 306, in conjunction with local partners, continues to produce and distribute education and outreach materials to the public. The use of websites by local, state and federal agencies has made information on public access in coastal Alabama more readily available to the public. These sites are funded by a variety of sources. ADCNR has launched a comprehensive website (www.OutdoorAlabama.com), which also hosts the Bartram canoe trail website and booking system (www.bartramcanoetrail.com) and the Forever Wild Program Website (www.alabamaforeverwild.com).

Beach Water Quality Monitoring

ADEM and the Alabama Department of Public Health have continued to expand and evolve the EPA funded BEACH Water Quality Monitoring program.

Conclusion

1. Identify priority needs or major gaps in addressing programmatic objectives for this enhancement area that could be address through a 309 strategy.

No major needs or information gaps currently exist that would require 309 funding. The ACAMP will continue to manage, study and plan for public access utilizing 306 funds. Priority areas targeted for 306 funding include additional access on Dauphin Island and along the lower western shore of Mobile Bay, on the Perdido River and Perdido Bay and in "new" coastal municipalities, that is, those municipalities that have recently annexed land located in the designated Alabama Coastal Area. During FY 2006, the ACAMP will utilize 306 funds for a survey of public access needs and perceptions as part of its Indicators development program. Further, the ACAMP will continue to fund low-cost construction projects with its local government partners and plans to update the coastal public access inventory and brochure.

2. What priority was this area previously and what priority is it now for developing a 309 strategy and allocating 309 funding and why?

Last Assessment (2000)		2005 (Check one)	
High		High	
Medium	X	Medium	
Low		Low	X

The Alabama Coastal Area Management Program addresses public access to the water through the Comprehensive Public Access Plan (produced in 2000 with 309 funding) and through Sections 306 and 306(a). Public access is also being addressed within the Alabama Coastal Area by numerous entities, including the Marine Resources Division, the State Parks Division, and the Lands Division of the Alabama Department of Conservation and Natural Resources, by the two coastal counties, most municipalities and federal agencies such as the USFWS, as a quality of life issue and tourism attraction. Therefore, given the strong public support and funding at the federal, state, county and local level, Public Access is not considered a high priority for 309 funding.

ENHANCEMENT AREA ANALYSIS: SPECIAL AREA MANAGEMENT PLANNING

Section 309 Programmatic Objectives

I. Develop and implement special area management planning in coastal areas applying the following criteria:

- *Areas with significant coastal resources (e.g., threatened and endangered species and their critical habitats, wetlands, water bodies, fish and wildlife habitat) that are being severely affected by cumulative or secondary impacts;*
- *Areas where a multiplicity of local, state, and federal authorities hinder effective coordination and cooperation in addressing coastal development on an ecosystem basis;*
- *Areas with a history of long-standing disputes between various levels of government over coastal resources that has resulted in protracted negotiations over the acceptability of proposed uses;*
- *There is a strong commitment at all levels of government to enter into a collaborative planning process to produce enforceable plans;*
- *A strong state or regional entity exists which is willing and able to sponsor the planning program.*

Resource Characterization

1. Using the criteria listed above, identify areas of the coast subject to use conflicts that can be addressed through special area management planning.

Area	Major Conflicts
<p>Intracoastal Waterway (The segment of the Intracoastal Waterway known as the Foley Cut, which is the area between Mobile Bay and Wolf Bay and is located in Baldwin County)</p>	<p>The waterway is under the jurisdiction of the U.S. Army Corps of Engineers (USACE) and the adjacent lands are under the jurisdiction of the cities of Gulf Shores and Orange Beach, with a smaller unincorporated area that is within Baldwin County.</p> <p>The issue is that the USACE has received an influx of permit applications in a relatively short period of time from developers who are planning marina facilities that will accompany multi-family residential development along this segment of the waterway. Included in the requests are several thousand boat slips and all of the associated amenities (e.g. fueling facilities, etc.). Before issuing or denying these permits, the USACE has decided to require a comprehensive Environmental Impact Statement (EIS). The EIS will be conducted by a contractor chosen by the USACE; the cost of the EIS will be the responsibility of the applicants. Allocation and collection of payments will be coordinated by the cities of Gulf Shores and Orange Beach, who have determined that the results of an EIS will be of great value to the area as a whole. The EIS will address the concerns of the USACE (e.g. carrying capacity, impacts to navigation, etc.) along with issues of concern to the municipality (e.g. evacuation routes and groundwater availability). The EIS will include a public scoping meeting where the public will be able to voice their main issues and request that the geographic area be expanded. All appropriate state and federal agencies will be involved in the process as cooperating agencies.</p> <p>This process is in the beginning stages. The contractor has been selected by the USACE. The cities are in the process of assigning allocation to and collection of payment from the developers.</p>

<p>Dauphin Island (located in Mobile County)</p>	<p>Dauphin Island is a migratory bird stopover and has a significant number of wetlands. Its coastline has been severely impacted by a number of hurricanes during the past five years, most recently and most severely by Hurricane Katrina in 2005. Because of the extent of destruction to homes, infrastructure, and habitat, the island residents, officials and organizations are facing decisions of whether or not to rebuild some areas and, if so, how to rebuild.</p> <p>The entities involved in the land use decisions of the island are the Town of Dauphin Island, the Dauphin Island Property Owners Association, the island's water and sewer authority and the Dauphin Island Park & Beach Board. In addition, the town officials are working with the Federal Emergency Management Agency (FEMA) to conduct long-termed recovery planning for the island. Included in the process are the four entities mentioned above and the Mississippi-Alabama Sea Grant Consortium, the Dauphin Island Sea Lab, the Mobile Bay National Estuary Program, and, to a certain degree, the U.S. Army Corps of Engineers. The Alabama Department of Transportation is involved to the extent that the causeway leading to the island should be managed in a different way since it is always inundated during storm events.</p> <p>Some of the specific issues are the rebuilding of the West End, the rebuilding of an expensive berm that has provided only temporary defense against erosion, how to rebuild and where, what will be the effects of decisions not to rebuild in certain areas, identifying solutions to the inundation of the causeway, protection of migratory bird habitat, and wetland conservation.</p> <p>The intent is to develop a long-termed recovery plan, use the plan to develop a strategic plan that will then lead to an update of the Town of Dauphin Island's comprehensive plan. All plans are to be developed with the input of the entire Dauphin Island community.</p> <p>This process is in the beginning stages. Meetings are being held, which includes all of the entitles mentioned above, to develop a long-termed recovery plan.</p>
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Management Characterization

- 1. Identify areas of the coast that have or are being addressed by a special area plan since the last assessment:**

Area	Major Conflicts
<p>Mobile Bay Causeway (located in Mobile & Baldwin Counties)</p>	<p>There have been several efforts to manage the causeway for various reasons. Efforts have either been unsuccessful or have been piece meal studies that were conducted for specific reasons.</p> <p>An effort to manage the causeway by obtaining a designation as a Scenic Byway was being conducted and spearheaded by a private, non-profit organization. However, work on this project was stopped for several reasons, including the fact that the jurisdiction of the causeway is no longer an issue since it has been incorporated into the City of Spanish Fort and funding for the effort was lost.</p> <p>It should be noted that 57 percent of the road frontage is owned by the state of Alabama; the causeway and adjacent land is very narrow; and the roadway is often inundated during storms events.</p> <p>One of the issues of the causeway is the question of should restoration plans be designed and implemented to restore the original hydrology to</p>

	<p>portions of the causeway, that is, restore it to its 1920s condition. The U.S. Army Corps of Engineers (USACE), at the request of the Alabama Department of Conservation and Natural Resources (ADCNR), conducted a preliminary restoration study regarding increased flows through the causeway. The result was a report listing a number of restoration projects ranging from \$500,000 to several million. The report was delivered to ADCNR for consideration. No action has been taken. The Dauphin Island Sea Lab, through a sub-grant with the ACAMP, conducted a pilot study entitled "Assessment of Sediment Contamination in the Lower Mobile-Tensaw Delta (Rangia Study)" in order to provide the Mobile-Baldwin community with information on the effects of hydrological modification on the productivity of ecological communities. The study was recently completed and is available to any decision-making entity.</p>
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2. Identify any significant changes in the state's SAMP programs since the last assessment (i.e., new regulations, guidance, MOUs, completed SAMPs, implementation activities, etc.).

Provide the following information for each change:

- Characterize the scope of the threat
- Describe recent trends
- Identify impediments to addressing the threat
- Identify successes

There have been no changes in the state's SAMP program since the last assessment.

Conclusion

1. Identify priority needs or major gaps in addressing the programmatic objectives for this enhancement area that could be addressed through a 309 Strategy.

Major gaps are a lack of understanding by the coastal community of the benefits of special area management planning and the hesitancy of various groups (local governments, real estate professionals, developers, state and federal agencies, etc., to commit resources (personnel and cash) to a non-regulatory process that is viewed as time-consuming, difficult, and uncertain.

Unless a great cost-benefit to the process is perceived, it is unlikely that any state or regional entity will want to commit the resources necessary to sponsor a SAMP, especially if the concerns can be adequately addressed under other enhancement areas, such as Cumulative & Secondary Impacts.

2. What priority was this area previously and what priority is it now for developing a 309 strategy and designating 309 funding and why?

Last Assessment (2000)		2005 (Check one)	
High	X	High	
Medium		Medium	
Low		Low	X

The amount of resources (personnel and funding) required for a SAMP process may not be a cost-effective method of effecting change in the Alabama Coastal Area. Instead, areas of coastal Alabama that could benefit from a planning process would be more appropriately addressed through the cumulative and secondary impacts issue area, which has been, and continues to be, a high priority area for the ACAMP. Thus, the Special Area Management Planning issue area is a low priority for Section 309 funding.

ENHANCEMENT AREA ANALYSIS: WETLANDS

Section 309 Programmatic Objectives

- I. Protect / preserve existing levels of wetlands as measured by acreage and functions, from direct/indirect/cumulative adverse impacts, by developing / improving regulatory programs.
- II. Increase acres and associated functions (e.g. fish and wildlife habitat, water quality protection, flood protection) of restored wetlands, including restoration and monitoring of habitat for threatened and endangered species.
- III. Utilize non-regulatory and innovative techniques to provide for the protection and acquisition of coastal wetlands.
- IV. Develop and improve wetlands creation programs as the lowest priority.

Resource Characterization

1. Extent of coastal wetlands

Wetlands Type	Extent (acres & year of data)	Trends (+/-) acres / year
Tidal	See Narrative Below	See Narrative Below
Non-Tidal/Freshwater		
Publicly Acquired Wetlands		
Restored Wetlands		
Created Wetlands		
Other: Grassbeds		

2. ***If information is not available to fill in the above table, provide a qualitative description of wetland status and trends based on the best available information. Also identify any ongoing or planned efforts to develop quantitative measures for this issue area. Provide explanation for trends.***

The ACAMP and the Mobile Bay National Estuary Program (MBNEP), utilizing Sections 306 and 309 funds, are in the final year of a multi-year project to generate wetlands maps of Mobile and Baldwin Counties at the quarter-quadrangle scale. Mapping of Mobile County is complete. Mapping of Baldwin County is near completion. Upon the completion of the mapping project, the ACAMP and MBNEP will partner to produce a wetlands and SAV status and trends report; expected completion date is March 2007.

Prior to the completion of this ongoing effort, differences between classification systems and geographic area of coverage by various inventories make it difficult to confidently assess either the current status of wetlands in the Alabama Coastal Area or related trends or changes in the resources. However, as reported in the last assessment, the general description of wetlands in the Alabama Coastal Area (area below the continuous 10-foot contour seaward three miles) is as follows:

- a) Non-fresh marsh: 29,282 acres
- b) Fresh marsh: 2, 867 acres
- c) Scrub-shrub: 6,109 acres
- d) Forested: 19,839 acres
- e) Other - Grassbeds: 5,391 acres

A general description of the wetlands in the coastal counties of Alabama (below and above the 10-foot contour) is stated in the Wetlands Conservation and Management Initiative (WCAMI) Final Report Vol. 1, "Status of Coastal Wetlands of Alabama" (page 135).

"[According to] the most recent inventory (Field and others, 1991), there are approximately 437,400 acres of wetlands in Mobile and Baldwin Counties and 1,070,500 acres of wetlands in coastal Alabama drainage areas. The majority of these wetlands are of the scrub-shrub/forested types (96 percent)."

In the Mississippi Sound, Mobile Bay and Perdido Bay estuarine drainage areas, 1,893,600 acres were delineated, portions of which are in Mississippi and Florida.

During July 2001, the ACAMP partnered with the MBNEP to map submerged aquatic vegetation (SAV) in the coastal area. During this mapping project, a total of 6,641 acres of SAV were mapped. This is an increase of 1,250 over that found during the Coastal Area Board mapping effort during 1980 and 1981. The 2001 mapping effort took place following at least two years of drought conditions, which reduced SAV coverage. Anecdotal evidence indicated that the extent of SAV beds had increased during 2002, 2003 and 2004. However, further anecdotal evidence indicates that the SAV beds located along the upper end of Mobile Bay and the lower Mobile-Tensaw River Delta were severely damaged during Hurricane Katrina in September 2005. While SAV beds are normally quick to begin recovery following natural events, it may be some time before full recovery is attained. The ACAMP is considering re-mapping SAV during the 2006 growing season.

Wetlands located inside of the Alabama Coastal Area are more regulated than those outside of the boundary. Given that wetlands in the coastal area are more regulated, the number of wetland acres in the coastal area which are publicly acquired and/or protected through mitigation agreements, conservation easements, permit conditions, and deed restriction is expected to increase. Because wetlands outside the coastal area are less regulated, greater impacts to these wetlands are expected, especially those located in the fast-growing two coastal counties. While these wetlands are outside the coastal area, the filling of these wetlands will have an impact on coastal watersheds and possibly lead to secondary impacts inside the coastal area.

3. Characterize direct and indirect threats to coastal wetlands, both natural and manmade.

Threat	Significance		
Development/fill	high	medium	low
Alteration of hydrology	High	medium	low
Erosion	high	medium	low
Pollution	high	medium	low
Channelization	high	medium	low
Nuisance or exotic species	high	medium	low
Freshwater input	high	medium	low
Sea/Lake level rise	High	medium	low
Other: Habitat loss	high	medium	low

For threats identified, provide the following information:

- *Scope of the threat*
- *Recent trends*
- *Impediments to addressing the threats*

Development/Fill

Development pressure to waterfront or near waterfront property in the coastal counties continues to increase with increased population, so wetlands continue to be filled. Mitigation is required in the Alabama Coastal Area, but potential for a net loss within particular watersheds exists where mitigation occurs far from the area of impact. Industrial expansion poses a threat in specific areas. Acres being filled on smaller developments under the Nationwide and General permitting process are not being adequately tracked and have the potential to pose the largest cumulative threat to wetlands and habitat loss in the Alabama Coastal Area. Impediments to addressing threats are a lack of wetlands statutes at the State and local levels, lack of land use controls, limited approved mitigation banks within the watershed being impacted, and ineffective or inappropriate BMPs.

Erosion

Shoreline bulkheads in residential areas increase the potential for wetland erosion. Erosion in the Weeks Bay watershed has been documented by the Weeks Bay NERR researchers and volunteers. Erosion from residential, commercial and road construction contributes to the filling of wetlands throughout both coastal counties. Impediments are a lack of appropriate land use controls, failures to protect riparian buffers, and ineffective or inappropriate BMPs.

Additionally, chronic natural erosion along the Mississippi Sound shoreline and islands is causing significant erosion of these shorelines. Anecdotal evidence indicates that this erosion is being caused by natural events, including the shifting of Petit Bois Pass earlier this century and the shifting of the Escatawpa River during recent geological time. Planning efforts are underway or planned for restoration projects at some sites, including Isle Aux Herbes, Cat Island and Marsh Island.

Nuisance or exotic species

Threats from terrestrial nuisance species (cogon grass, Japanese honeysuckle, Chinese tallow, Chinese privet, etc.) are increasing. Aquatic species (nutria, salvinia, Eurasian watermilfoil, etc.) are increasing and have the

potential to cause significant impacts. Trends show an acceleration in the occurrence of nuisance species. Impediments are lack of State plans and policies; lack of understanding by the citizens, municipal officials, road crews, gardeners, nursery owners, and related associations; and lack of ability to connect past mistakes to current situations. An invasive species task force was developed by ADCNR Wildlife & Freshwater Fisheries in 2005.

Other: Habitat Loss

Threatened habitats in the coastal counties include boggy pine savannas and bottomland hardwood forests. Impediments are lack of stewardship by the general public, lack of control by local governments, increasing population, desire to live on or near water, and high profit potential of waterfront or near waterfront developments.

Not Considered A Threat

Not considered a significant or medium threat to coastal Alabama wetlands are the alteration of hydrology, pollution, channelization, freshwater input or lack of freshwater input and subsidence and/or sea level rise.

Management Characterization

1. *Within each of the categories below, identify changes since the last assessment.*

2.

Category	Changes since the last assessment		
Regulatory Programs	significant	<u>moderate</u>	none
Wetland Protection Policies & Standards	significant	moderate	<u>none</u>
Assessment Methodologies (health, function, extent)	significant	<u>moderate</u>	none
Impact Analysis	significant	moderate	<u>none</u>
Restoration/Enhancement Programs	significant	<u>moderate</u>	none
Special Area Management Plans	significant	moderate	<u>none</u>
Education / Outreach	significant	<u>moderate</u>	none
Wetlands Creation Programs	significant	<u>moderate</u>	none
Mitigation banking	significant	<u>moderate</u>	none
Mapping/GIS/tracking systems	<u>significant</u>	moderate	none
Acquisition Programs	<u>significant</u>	moderate	none
Publicly funded infrastructure restrictions	significant	moderate	<u>none</u>

2. *For categories with changes, provide the following for each change:*

- *Characterize the scope of the change*
- *Describe recent trends*
- *Identify impediments to addressing the change*

Regulatory Programs

The City of Orange Beach adopted an ordinance that requires wetland impacts to be mitigated within the city's political boundary. This has had an impact on projects within the city limits. The City of Gulf Shores is considering adopting a similar program. (Funds: 306 & City)

Assessment Methodologies

As noted above, the ACAMP and MBNEP are partnering to map wetlands and SAVs in the two coastal counties. (Funds: Sections 306 & 309, EPA, State, County, City).

In 2003, the Baldwin County Commission completed an EPA-funded study (the Baldwin County Wetland Conservation Plan) to map and assess wetlands in Baldwin County. The effort included the development of a remote wetland functional assessment model, which scored each wetland polygon for its suitability for conservation, enhancement, or restoration.

Restoration/Enhancement Programs

The Alabama Department of Environmental Management received a three-year EPA grant to restore wetlands on State-owned lands in Baldwin County. Additionally, the Alabama Coastal Foundation received an EPA Gulf of Mexico Program grant to restore wetlands at the mouth of East Fowl River. The MBNEP, ACAMP and USACE

are planning restoration activities along Mobile Bay, the Dauphin Island Causeway and Isle aux Herbes. (Funds: EPA, COE, State, NGO)

Education/Outreach

Education and outreach efforts include increased collaboration between the Weeks Bay NERR-Weeks Bay Watershed Project and various partners on nonpoint source initiatives and on a Grasses in Classes K-12 program; activities conducted by the MBNEP and the Public Outreach Task Force in the coastal counties; and activities of federal and state agencies or local watershed protection groups (like Dog River Clearwater Revival). There has been significant activity in providing education to real estate agents, brokers, and developers on the following topics: wetlands, floodplain management and cumulative and secondary impacts. These activities have been conducted through a partnership that includes the Dauphin Island Sea Lab Coastal Policy Center, Baldwin County Commission, members of the real estate industry, homebuilders associations and grassroots, inc. (a non-profit educational organization). The EPA-funded Baldwin County Wetland Conservation Plan was completed in 2003 and included numerous education outreach efforts that are described in the final summary document. The Commission also received a follow-up grant from EPA to implement the plan. This includes coordination with municipal governments in the county to provide wetland data and/or mapping support for planning commissions as they consider new developments. (Funds: Section 306, NOAA/NERR, EPA, State, Private)

Wetlands Creation Programs

Baldwin County utilized Wetland Reserve Program funding administered by the USDA Natural Resources Conservation Service to construct a wetland area on a property along Keeney Drive on Fish River.

Mitigation Banking

The Alabama Mitigation Bank Review Team continues to meet on an as needed basis to review new mitigation bank proposals. The City of Orange Beach adopted an ordinance that requires wetland impacts to be mitigated within the city's political boundary. This has had an impact on projects within the city limits. The City of Gulf Shores is considering adopting a similar program. This will most likely result in the creation of mitigation banks in their respective jurisdictions. (Fund: State, Federal, Section 306 & City)

Mapping/GIS Tracking Systems

As noted above, the ACAMP and MBNEP are partnering to map wetlands and SAV's in the two coastal counties. Baldwin County has implemented a GIS based mapping program that produces wetlands maps of the county for planning purposes. These maps are provided to the public, developers, local governments, etc., as needed. (Source of Funds: Sections 306 & 309, EPA, state, county, city). Baldwin County Planning and Zoning Department routinely prepares site-specific wetland maps to planning commissions for each municipality within the county.

Acquisition Programs

The State continues to pursue acquisition of wetlands in the Mobile-Tensaw Delta, Grand Bay Savannah, Lillian Swamp and other parts of the Alabama Coastal Area. (Funds: Federal; State (including the Forever Wild Program))

Publicly Funded Infrastructure Restrictions

There are no specific restrictions on publicly funded infrastructure. However, all projects, even those deemed to be a use of regional benefit must minimize impacts to wetlands and are required to mitigate for all impacts to wetlands.

Conclusion

- 1. Identify priority needs or major gaps in addressing the programmatic objectives for this enhancement area that could be addressed through a 309 strategy.***

Major gaps are (a) inadequate tracking or trends information to understand wetlands and SAV losses; (b) lack of a sense of stewardship by the general public; (c) too much reliance on the U.S. Army Corps of Engineers by local and State governments and agencies; and (c) lack of wetlands protection legislation. These major gaps prevent the ACAMP's ability to protect or restore wetlands and SAVs or employ effective mitigation requirements either through regulatory means or voluntary programs.

2. What priority was this area previously and what priority is it now for developing a 309 strategy and designating 309 funding and why?

Last Assessment (2000)		2005 (Check one)	
High	X	High	X
Medium		Medium	
Low		Low	

Coastal wetlands and SAVs serve as important habitats for fish and shellfish and for game and non-game animals as well as provide for water purification and storm protection. Protecting the wetland and SAV resource requires up-to-date data, ongoing monitoring and various proactive and protective measures. While wetlands and SAV mapping will soon be completed for both coastal counties, a program to collect current data and provide for the tracking of future impacts is necessary for management, acquisition, restoration, and protection of the resource within the Alabama Coastal Area. Given the lack of a wetlands and SAV protection legislation at the State level, assistance to local governments wishing to pursue local wetlands and SAV protection ordinances is critical. Monitoring of the SAV resources would be utilized to determine status and trends of this critical coastal resource. Therefore, wetlands are a high priority for 309 funding.

SECTION IV: STRATEGIES TO ADDRESS PRIORITY ENHANCEMENT AREAS

The Alabama Coastal Area Management Program developed strategies to address three high priority enhancement areas identified in the assessment: Coastal Hazards, Cumulative and Secondary Impacts, and Wetlands.

The proposed projects in the strategy are designed for flexibility in selecting, scheduling, and funding. Although the proposed projects may illustrate a sequential work plan for the purposes of preparing this strategy, it may be necessary during the next five years to be flexible in adapting to changes to take advantage of other opportunities.

Section 309 Strategy Format

The Alabama Coastal Area Management Program five-year plan to address the three priority enhancement areas is presented in the following format:

A. Summary Matrix of Enhancement Areas: a table of each priority enhancement area, tasks, schedule and funding.

B. Enhancement Area Strategy: a narrative description for each priority enhancement area, as required by OCRM guidance. The narrative description includes the following:

- Information for each priority enhancement area.
- Identification of proposed program changes.
- Description of implementation activities. (Note: No implementation activities are proposed.)
- Discussion of anticipated effects of the changes.
- Explanation as to why the proposed program changes are most appropriate in addressing the priority need.
- General work plan and general schedule.
- Explanation of why the proposed program change is the most appropriate means to address the priority need.
- Summary of estimated costs.
- Likelihood of attaining the proposed program changes including: the nature and degree of support for pursuing the strategy and the proposed changes and the specific actions necessary to maintain or build future support for achieving and implementing program changes, including education and outreach activities.

Summary Matrix of Enhancement Areas

Coastal Hazards: Goal: Improve Beaches, Dunes, and Shoreline Management	FY06/07	FY07/08	FY08/09	FY09/10	FY10/11	TOTAL
Beach Monitoring – CH Task #1 1. Continuation of existing air photo and beach profile monitoring and analysis, including monitoring data collected by others (municipalities, COE, FEMA, etc.). 2. Increase density of beach profile data collection and continue <i>State of the Beaches</i> summary reports. 3. Develop a public education segment for local governments to encourage policy and ordinance changes.	\$46,000	\$46,000	\$46,000	\$46,000	\$46,000	\$230,000
ESTIMATED TOTAL / COASTAL HAZARDS	\$46,000	\$46,000	\$46,000	\$46,000	\$46,000	\$230,000

Cumulative & Secondary Impacts: Goal: Improve Coastal Decision Making	FY06/07	FY07/08	FY08/09	FY09/10	FY10/11	Total
Comprehensive Shoreline Mapping (C&SI Task #1) 1. Map and classify shoreline of all bays and major river systems in the two coastal counties and produce a comprehensive dataset on shoreline armoring and the placement of structures (piers, docks, etc) on public trust lands. 2. Use data to provide a baseline for determining inland areas of erosion or accretion of land along the shoreline. 3. Develop a public education segment for local governments to encourage policy and ordinance changes.		\$40,000	35,000			\$75,000
Guidance for Determination of State-owned Water Bottoms & Riparian Areas (C&SI Task #2) 1. Develop a technical guidance document for use by engineers/surveyors and landowners when identifying state-owned water bottoms and delineating riparian (public trust) area along the waterfront. 2. Develop policy based on the technical guidance. Include a legal review of federal and state guiding statute and case law.			\$25,000			\$25,000
Wetland Monitoring/Tracking Database (C&SI Task #3) 1. Develop an interagency spatial database and tracking program that will, at a minimum, include information on individual permits. 2. If feasible, the database will be expanded to include data on general and nationwide permits for wetland, stream, and submerged lands impacts. 3. Use data to strengthen and/or establish state and local permitting authorities.			Funding TBD, if task is undertaken	Funding TBD, if task is undertaken	Funding TBD, if task is undertaken	
High Resolution Land Cover Data for Mobile County (C&SI Task #4) 1. Encourage work with the Mobile County Commission and municipalities within the county, and other state and local agencies to leverage funding to adopt the Florida Land Use, Cover, and Forms, Classification System (FLUCC). 2. Collect a baseline, countywide dataset.				\$20,000	\$60,000	\$80,000
Technical Support-Health Department Septic Tank Data Management (C&SI Task #5) 1. Place a contract employee in each county for a period of one year, or shared between the counties for two years, with the technical expertise to fully integrate the health departments' existing data into a functional Geographic Information System. 2. Use the results to satisfy one of the outstanding conditions in Alabama's coastal nonpoint pollution control program.	\$20,000	\$20,000				\$40,000
ESTIMATED TOTAL / CUMULATIVE AND SECONDARY IMPACTS	\$20,000	\$60,000	\$60,000	\$20,000	\$60,000	\$220,000

Wetlands: Goal: Enhance / establish wetland/SAV protection authorities.	FY06/07	FY07/08	FY08/09	FY09/10	FY10/11	Total
SAV Mapping (WET Task #1) 1. Continue update of SAV data sets and map in cooperation with partners. 2. Assess information. 3. Implement recommended program changes through State and local planning efforts, MOAs with local governments, and regulatory change	\$40,000			\$40,000		\$80,000
ESTIMATED TOTAL / WETLANDS	\$40,000			\$40,000		\$80,000

Administration	FY06/07	FY07/08	FY08/09	FY09/10	FY10/11	Total
ADCNR annual Administration of Section 309 projects will be included in the project task and defined in the grant applications for NOAA/OCRM approval on an annual basis. However, ADCNR administrative costs will be nominal.	AS SUBMITTED IN ANNUAL GRANT APPLICATIONS AND APPROVED BY NOAA/OCRM					

Summary of Estimated Totals	FY06/07	FY07/08	FY08/09	FY09/10	FY10/11	Total	%
ESTIMATED TOTAL / COASTAL HAZARDS	\$46,000	\$46,000	\$46,000	\$46,000	\$46,000	\$230,000	43%
ESTIMATED TOTAL / CUMULATIVE AND SECONDARY IMPACTS	\$20,000	\$60,000	\$60,000	\$20,000	\$60,000	\$220,000	42%
ESTIMATED TOTAL / WETLANDS	\$40,000	\$0	\$0	\$40,000	\$0	\$80,000	15%
ESTIMATED TOTAL / ADMINISTRATION (Nominal costs included in project costs and submitted for NOAA/OCRM approval on an annual basis.							
TOTAL	\$106,000	\$106,000	\$106,000	\$106,000	\$106,000	\$530,000	100%

ENHANCEMENT AREA STRATEGY: COASTAL HAZARDS

- **Information for COASTAL HAZARDS priority enhancement area.**

As described in “Enhancement Area Analysis: Coastal Hazards,” beach monitoring, improved technology and a comprehensive shoreline management plan are needed to alleviate the potential for damages from shoreline erosion and coastal storms as the coastal area continues to be the site of increased development. Also, proper management lessens development pressure in environmentally sensitive areas.

- **Identification of proposed program change.**

Coastal Hazards Goal: Improve Beaches, Dune, and Shoreline Management.

Beach Monitoring (CH Task #1) has the potential to achieve the following: new regulations and enforceable policies; local coastal programs and ordinances; new guidelines and procedures; and shoreline management plans.

- **Discussion of anticipated effects of the changes.**

Beach Monitoring (CH Task #1)

On-going beach monitoring efforts have proven invaluable in recent years and have led to substantial improvements in ADEM permitting abilities. Continuation of trend analysis provides baseline information and could ultimately lead to improvements in policies, local ordinances and predictive abilities.

In the past, this data has been utilized by the USACE Regional Sediment Management Program in improving sand bypassing at Perdido Pass; has influenced the decision to implement large-scaled beach nourishment in Gulf Shores and Orange Beach; and has been utilized to make permitting decisions by the ADEM and in other decision making processes.

Given the large-scaled monitoring now being conducted by the local communities along the recently nourished beaches, an on-the-ground monitoring effort under this round of Section 309 funding would be re-focused to the Fort Morgan and Dauphin Island areas. This data would be combined with the local community data to provide a more comprehensive view of the status and trends in erosion and accretion along the Alabama Gulf Coast. The resulting reports would, in turn, be used to determine if regulatory changes are needed at the state or local ordinance level, whether or not improved sand bypassing at tidal inlets is working or needs modification and whether or not other program changes are needed to further address program goals. In the end, the monitoring and a resulting *State of the Beaches* report should lead to improved local government policies and ordinances and proper resource management that would also lessen development pressure in environmentally sensitive areas.

To support the likelihood of local communities engaging in policy and ordinance changes, a public education segment for segment for local governments would be developed and implemented.

- **Explanation of why the proposed program change or implementation activities are the most appropriate means to address the priority need (referencing how these relate to the key findings in the assessment).**

Beach Monitoring (CH Task #1)

This task is appropriate in addressing the priority needs. The annual coastal engineering and monitoring reports continue to educate the public and policy makers at all levels of government about natural and man-induced coastal processes that play a role in hazard mitigation.

- **General work plan that identifies major steps necessary for achieving the program changes and general schedule for completing the plan.**

See table in Summary Matrix of Enhancement Areas.

- **Summary of estimated costs.**

See table in Summary Matrix of Enhancement Areas.

- **Likelihood of attaining the proposed program changes and implementation activities including: the nature and degree of support for pursuing the Strategy and the proposed changes and the specific actions necessary to maintain or build future support for achieving program changes, including education and outreach activities.**

Beach Monitoring (CH Task #1)

The Alabama Coastal Area Management Program has built a basis for continued improvements in resolving issues associated with coastal hazards and has been successful in addressing information needs. Years of funded beach monitoring tasks have contributed to a knowledge base on coastal processes, which has assisted ADEM Coastal/Facility Section in its permit decisions. Similarly, the ADCNR, SLD Coastal Section has provided technical assistance to local governments and funding to university researchers, and conducted significant education and outreach activities including a website (under construction) geared toward high school students and coastal decisions makers. There is a need for additional information to fill knowledge gaps, such as: What are results of improved sand bypassing of inlets on adjacent shorelines? What is the impact of large scale beach nourishment? There is a likelihood of attaining this information through the proposed project and a likelihood that this information will lead to the development of State or local shoreline management plans and local ordinances.

ENHANCEMENT AREA STRATEGY: CUMULATIVE AND SECONDARY IMPACTS

- **Information for CUMULATIVE & SECONDARY IMPACTS priority enhancement area.**

As described in "Section III: Enhancement Area Analysis: Cumulative and Secondary Impacts," Alabama's two coastal counties continue to rapidly grow with limited or underutilized local authority to regulate land use, lack of data and consistent data protocols and limited awareness on the part of the general public of the impacts of unchecked growth. Cumulative and Secondary Impacts of this growth has been identified as a priority area for Section 309 funding.

- **Identification of proposed program changes.**

Goal: Improve coastal decision making.

Comprehensive Shoreline Mapping (C&SI Task #1) has the potential to achieve the following: new regulations and enforceable policies; memoranda of agreement or understanding with local governments; new local programs and ordinances; and a shoreline management plan. This task provides fundamental baseline data from which to determine the effectiveness of existing submerged lands regulations and, if necessary, modify regulations for improved shoreline management.

Guidance for Determination of State-owned Water Bottoms and Riparian Areas (C&SI Task #2) has the potential to achieve the following: new regulations and enforceable policies; memoranda of agreement or understanding; and shoreline management and restoration programs. Since 2003, Alabama State Lands Division has increased its regulatory functions concerning submerged lands with the adoption of new regulations. Since adoption of those regulations, discrepancies have been identified in the way various agencies and survey professionals delineate riparian area. This guidance document will provide uniform standards for riparian area determination. It is expected that such standards will be made part of the regulatory process.

Wetland Monitoring/Tracking Database (C&SI Task #3) has the potential to achieve the following: regulations and enforceable policies, memoranda of agreements or understanding; and local ordinances. (Note: This need is also cited in the assessment under the Wetlands category.)

High Resolution Land Cover Data for Mobile County (C&SI Task #4) has the potential to achieve the following: new regulations and enforceable policies; memoranda of agreement or understanding; and local ordinances. Although detailed land cover data exists countywide for Baldwin County, it is not currently available in Mobile. Current land use data is a fundamental component of any comprehensive plan. It is anticipated that such data could be utilized in Mobile County, if not on a regional basis, to better plan for and regulate land use.

Technical Support-Health Department Septic Tank Data Management (C&SI Task #5) has the potential to achieve the following: new regulations and enforceable policies; memoranda of agreement or understanding; and management (maintenance) programs or ordinances.

- **Discussion of anticipated effects of the changes.**

Comprehensive Shoreline Mapping – C&SI Task #1

Although bulkheads have long been considered to be of concern in Alabama, there is no comprehensive mapping of hardened shoreline. Mapping these structures will allow for quantification of the extent of shoreline armoring as well as assessment of associated habitat impacts. This information is a minimum requirement for advocating behavioral change and increasing state and local government land use management.

Guidance for Determination of State-Owned Water Bottom and Riparian Areas – C&SI Task #2

The establishment of discrete protocols for delineating state-owned water bottoms and waterfront riparian (public trust) areas should minimize, if not eliminate, subjectivity and uncertainty.

Wetland Monitoring and Tracking Database – C&SI Task #3

Real time data on wetland impacts will benefit state and local governments as they decide whether or not to pursue additional authorities to regulate wetlands.

Mobile County Land Cover – C&SI Task #4

High resolution land cover data will allow for sophisticated modeling of the relationship between land use and water quality. This information will be useful to local governments and watershed groups in the development of management plans and land use policies.

Technical Support-Health Department Septic Tank Data Management – C&SI Task #5

Once completed and engrained in the permitting process, the septic tank spatial data management system should satisfy one of the outstanding conditions in Alabama's coastal nonpoint pollution control program.

- **Explanation of why the proposed program change or implementation activities are the most appropriate means to address the priority need (referencing how these relate to the key findings in the assessment).**

The five tasks described above are appropriate for addressing the priority needs of cumulative and secondary impacts of development in the Coastal Area. Tasks 1, 3, 5, and 5 deal with data gaps of the type that were identified in the assessment and all relate to collection of baseline data for better analyzing the impacts of coastal development.

Comprehensive Shoreline Mapping – C&SI Task #1

Although limited shoreline mapping has been conducted for specific water bodies, a comprehensive baseline mapping of hardened shoreline and structural improvements has not been completed for coastal Alabama. This baseline data is needed in order to quantify the extent of such development impacts and to determine what, if any, action is needed to remediate those impacts. Mapping of pier and dock facilities is fundamental for State Lands Division submerged land management efforts.

Guidance for Determination of State-Owned Water Bottom and Riparian Areas – C&SI Task #2

This technical guidance document will serve as a standard operating procedural guide for submerged lands activities in Alabama. Further, this effort will delineate the physical extent of State Lands Division jurisdiction in submerged lands management.

Wetland Monitoring and Tracking Database – C&SI Task #3

Alabama's limited ability to monitor and track permitted wetland impacts, particularly outside the designated Coastal Area, has been routinely documented in Section 309 assessments and is partially responsible for Alabama's conditioned coastal nonpoint pollution program approval.

Mobile County Land Cover – C&SI Task #4

Collection of detailed land cover data for Mobile County was identified in the Section 309 Assessment as a pressing need. Collection of FLUCC data for Mobile County will be consistent with data already collected in Baldwin County and should be of benefit for regional planning efforts.

Technical Support-Health Department Septic Tank Data Management – C&SI Task #5

Septic tank data management has greatly improved in coastal Alabama, thanks in part to Section 309 funds from the previous assessment. However, there is a definite manpower limitation in each county, particularly with respect to the technological advancements needed to build a comprehensive GIS. This task will provide the necessary technical support that will complete each county's transition to a fully functional GIS-based monitoring and tracking system for septic tanks.

- **General work plan that identifies major steps necessary for achieving the program changes or implementation, and general schedule for completing the plan.**

See table in Summary Matrix of Enhancement Areas.

- **Summary of estimated costs.**

See table in Summary Matrix of Enhancement Areas.

- **Likelihood of attaining the proposed program changes and implementation activities including: the nature and degree of support for pursuing the Strategy and the proposed changes; and, the specific actions necessary to maintain or build future support for achieving and implementing program changes, including education and outreach activities.**

Comprehensive Shoreline Mapping – C&SI Task #1

There is a very high likelihood that data collected under this task will be utilized by local governments to assess development impacts along waterways. Bulkheads are often targeted as detrimental to waterway health, but the full extent of shoreline armoring has never been fully quantified for both coastal counties. Such information has already been important components of localized watershed management plan development (e.g., Little Lagoon Watershed Management Plan, 2006).

Guidance for Determination of State-Owned Water Bottom and Riparian Areas – C&SI Task #2

It is reasonable to expect that this guidance will be accepted and implemented by landowners and developers of waterfront property. Since State Lands Division modified its submerged lands rules in 2003, several neighbor-to-neighbor disputes over the delineation of riparian area have arisen, with some entering litigation. At the crux of each of these disputes is the delineation of riparian area. Established guidance should settle such matters before they result in legal battles.

Wetland Monitoring and Tracking Database – C&SI Task #3

In the absence of any guiding state statute for wetland management, the success of this task rests in the ability of several state agencies and the US Army Corps of Engineers to cooperatively and openly collaborate. With the exception of wetlands in the designated coastal area, State and local governments defer to the Corps' authority when it comes to permitting wetlands. Although State Lands Division and ADEM actively participate in and have the ability to fully track individual permits, general and nationwide permits outside the coastal area are not individually reviewed by any state or local entity.

Mobile County Land Cover – C&SI Task #4

Based on early success of Baldwin County data collection, it is reasonable to expect that Mobile County Land Cover data will be a welcomed new planning tool.

Technical Support-Health Department Septic Tank Data Management – C&SI Task #5

There is a high likelihood of success with this project. Alabama strongly believes that the implementation of a spatial database for managing septic tank permitting, inspection, and maintenance data will result in an approvable coastal nonpoint pollution control program for this category. Adequate septic tank location data are necessary for making spatial relationships with water quality data.

ENHANCEMENT AREA STRATEGY: WETLANDS

- **Information for WETLANDS priority enhancement area.**

As described in "Section III: Enhancement Area Analysis: Wetlands," complete and up-to-date data is needed in order to protect the SAV resources. The most recent data, collected during 2000-2001, is currently being analyzed and will be used as a baseline for tracking status and trends of wetlands and SAV. A program to collect current data, provide for the tracking of future impacts, and establish a trend is necessary for management, acquisition, restoration and protection of this resource.

- **Identification of proposed program changes and/or implementation activities.**

Wetlands Goal: Enhance / establish wetland/SAV protection authorities.

SAV Mapping (WET Task #1) has the potential to achieve the following: new regulations and enforceable policies, local coastal programs and ordinances, and land acquisition, management and restoration programs. As new data is gathered, it would be reviewed by the ACAMP and relevant resource agencies to determine if changes in policy and regulatory programs are needed. Further the data would reveal areas that have supported SAVs and that may be a target area for SAV restoration projects. Additionally, this data would be utilized in the siting and permitting of marinas and other similar projects.

- **Discussion of anticipated effects of the changes or implementation activities:**

SAV Mapping–WET Task #1

Accurate and measured data will provide the essential information to improve protection mechanisms for SAV. For instance, with a measurable database, efforts could be directed more local government initiatives to manage activities that impact SAV, and/or through enhanced utilization of coastal consistency provisions for federal actions. The information will also chart the locations and types of SAV with respect to watersheds in order to develop effective watershed management programs and other habitat protection and restoration programs that encourage citizen-based efforts and advocacy.

- **Explanation of why the proposed program change or implementation activities are the most appropriate means to address the priority need (referencing how these relate to the key findings in the assessment).**

SAV Mapping–WET Task #1

The proposed SAV task provides the means of obtaining and disseminating an accurate database relative to the location, extent and type of SAV resources. This database is an essential component in the creation, enhancement or revision of protection strategies and regulations.

- **General work plan that identifies major steps necessary for achieving the program changes or implementation, and general schedule for completing the plan.**

See table in Summary Matrix of Enhancement Areas.

- **Summary of estimated costs.**

See table in Summary Matrix of Enhancement Areas.

- **Likelihood of attaining the proposed program changes and implementation activities including: the nature and degree of support for pursuing the Strategy and the proposed changes; and, the specific actions necessary to maintain or build future support for achieving and implementing program changes, including education and outreach activities.**

SAV Mapping– WET Task #1

There is evidence of growing local concern and support for enhancing and improving SAV protection mechanisms -- both regulatory and non-regulatory. The ACAMP, Baldwin County and the Mobile Bay National Estuary Program (MBNEP) initiated efforts to acquire and identify wetland and SAV resources within the two coastal counties. Efforts described in this task are a continuation of the recent status and trend s effort and will

be coordinated with the efforts of the county and the MBNEP. This effort will further the likelihood of developing a comprehensive database for broad use within local governments and State and federal agencies, and enhancing the management of the resource through new and revised local ordinances and programs and State regulations.

Monitoring of the SAV resources would be utilized to determine status and trends of this critical coastal resource. As new data would be gathered, it would be reviewed by the ACAMP and relevant resource agencies to determine if changes in policy and regulatory programs are needed. Further the data would reveal areas that have supported SAVs and that may be a target area for SAV restoration projects. Additionally, this data would be utilized in the siting and permitting of marinas and other similar projects.

SECTION V: STATEMENT OF FISCAL AND TECHNICAL NEEDS

The Alabama Coastal Area Management Program (ACAMP) is administered by two state agencies, the Alabama Department of Conservation and Natural Resources (ADCNR) and the Alabama Department of Environmental Management (ADEM). The ADCNR conducts the planning and policy, fiscal management, public education and research activities. The ADEM carries out the regulatory, permitting, monitoring and enforcement activities. Section 309 funds will allow both agencies to engage in projects that will strengthen and enhance the program, while Section 306 funding will allow both agencies to continue to advance elements of the current program and supplement the 309 program by funding related tasks.

At the federal level, Section 306 funding is expected to be maintained or slightly decreased. At the state level, a dedicated funding source was established for the ADCNR ACAMP and the ADEM continues to receive general funds. Both funding sources are expected to adequately provide matching funds for the operation of the program. In addition, matching funds for Section 306 from local government partners, state agencies and academic institutions have improved. A very slight increase is expected in Section 309 funding, and it will be possible to fund alternate 309 projects through Section 306 and matching funds. However, current efforts to redirect Section 306 core funding to Section 309 competitive funding could impact State coastal management funding.

The ADCNR and ADEM annually contribute less than 50 percent of the non-federal funds required to match federal funding under Section 306. The balance of non-federal matching funds is contributed by local governments, regional planning agencies, educational institutions and non-profit organizations, which are recipients of CZM funds through grants and contracts. These agencies and organizations also supply the additional expertise and manpower needed to accomplish the proposed Section 309 tasks.