ALABAMA
COASTAL AREA MANAGEMENT PROGRAM

SECTION 309
Enhancement Grant Program

ASSESSMENT & STRATEGY

September 1, 2015

ALABAMA DEPARTMENT OF CONSERVATION & NATURAL RESOURCES
State Lands Division, Coastal Section

Table of Contents

Introduction

The Alabama Coastal Area Management Program & National Coastal Zone Management Program

The Alabama Coastal Area Management Program (ACAMP) is a voluntary federal/state partnership established by the Alabama State Legislature in 1979 in accordance with the Coastal Zone Management Act of 1972 (CZMA). There are 34 states and territories that implement a state coastal area program under the guidance of the National Coastal Zone Management Program.

The ACAMP is intended to provide for the protection, restoration, and responsible development of the state's legislatively defined coastal area.

The ACAMP is administered by the Alabama Department of Conservation and Natural Resources (ADCNR), State Lands Division (SLD), Coastal Section. The national program is administered by the U.S. Department of Commerce, National Oceanic and Atmospheric Administration (NOAA), Office for Coastal Management (OCM).

While the states must follow basic requirements set forth by the CZMA and the national program, states are also given the flexibility to design unique programs that best address their coastal challenges and regulations, with the intent to leverage expertise and resources and strengthen the capabilities to address coastal issues.

The major components of the national program include federal consistency, program enhancement and nonpoint pollution control. This 309 Assessment and Strategy document addresses the program enhancement component of the national program as it relates to the state of Alabama. The enhancement component was established in the CZMA as Section 309 Coastal Zone Enhancement Program.

The Section 309 Coastal Zone Enhancement Program

The Section 309 Coastal Zone Enhancement Program (309 Enhancement Program) encourages state and territorial coastal management programs to strengthen and improve their federally approved coastal management programs in one or more of nine areas. These "enhancement areas" include wetlands, coastal hazards, public access, marine debris, cumulative and secondary impacts, special area management plans, ocean and Great Lakes resources, energy and government facility siting, and aquaculture.

Development of the 309 Assessment and Strategy for the ACAMP

In order to comply with the 309 Enhancement Program, the ACAMP staff adhered to the Section 309 Program Guidance – 2016 to 2020 Enhancement Cycle developed by NOAA. This required the staff to conduct self-assessments of the ACAMP to determine problems and enhancement opportunities within each of the nine enhancement areas. The self-assessment includes assessing the effectiveness of existing management efforts to address identified problems, high priority management issues, and important needs and information gaps the program must fill to address these issues.

The self-assessment includes stakeholder input. The manner in which the staff solicited and collected this input is described under the "ACAMP Stakeholder Input" heading.

Following the self-assessment, ACAMP staff consulted with NOAA/OCM to further identify the high priority needs for improvement within one or more of the nine areas. The staff then developed strategies for certain high priority areas, in consultation with OCM, to improve operations that will address management needs. Staff submitted the final 309 Assessment and Strategy document to NOAA/OCM for review and approval. Upon approval of the document, the state is eligible to received Section 309 funding to carry out the strategies.

ACAMP Stakeholder Input

As required by NOAA/OCM, the ACAMP staff solicited stakeholder input by developing and distributing, via email, a survey to 175 stakeholders in Mobile and Baldwin counties and the Coastal Resources Advisory Committee. Responses were collected, organized, analyzed and incorporated into the self-assessment. Details of the stakeholders contacted and the results are included in the "Summary of Stakeholder and Public Comment" section, page 53.

Public Review and Comment

As required by NOAA/OCM, the ACAMP staff published a public notice in the Mobile Press Register on two occasions during a 30-period beginning June 7, 2015, and provided the required 30-day period for the public to review and comment on Alabama 309 Assessment and Strategy, 2016-2020. Copies were made available for pickup at ADCNR, State Lands Division, Coastal Section in Spanish Fort, Ala., and ADEM, Field Office Operations, Coastal Section in Mobile, Ala. Copies were also made available via website at http://www.outdooralabama.com/alabama-coastal-area-management-program and by email and U.S. Mail. See "Summary of Stakeholder and Public Comment" section, page 53 for results.

Summary of Recent Section 309 Achievements

The ACAMP staff submitted two projects under the 309 Assessment and Strategy, 2011-2015. These are the Integrated Comprehensive Habitat Restoration Program and the Coastal Area & Marine Spatial Planning Program (CMSP).

Both were approved by OCM; one has been completed and one is ongoing. These two projects are intended to provide decision-making support and are not expected to result in the need for a formal program change.

Below is a summary of accomplishments and progress for both projects.

Integrated Comprehensive Habitat Restoration Program – completed

The Integrated Comprehensive Habitat Restoration Program provides focus to direct resources toward addressing habitat restoration needs in coastal Alabama. The plan utilizes a comprehensive manner to address the impacts of intense development pressure, extent of impervious surface, sea level rise, shoreline armoring and preservation of sensitive habitat and lands that provide protection from coastal hazards.

The final projects of the Integrated Comprehensive Habitat Restoration Program are the Living Shorelines Model Rules and Ordinances, the Living Shorelines Guidance Document for Homeowners, and an update of the Alabama Gulf Ecological Managements Sites (GEMS).

Program Changes and/or Enhancements included the following products.

The Living Shorelines Guidance Document for Homeowners was drafted and is under review by ADCNR management. A draft has been submitted to NOAA/OCM for the purpose of showing progress made on this project. However, the document is not ready for public release.

A set of Living Shorelines Model Rules and Ordinances was adopted and provided to local communities for consideration and the USACE-Mobile District worked with the ADNCR, ADEM and other resource agencies to develop and approve an Alabama Living Shorelines General Permit.
http://www.mobilebaynep.com/images/uploads/library/Coastal-Alabama-Living-Shorelines-Policies-Manual.pdf

The GEMS program was revised and updated. http://www.mobilebaynep.com/images/uploads/library/GEMSFinalReportALLUpdated.pdf

The Coastal Marine Spatial Planning Program – ongoing

The Coastal Marine Spatial Planning Program (CMSP) is directed at protecting and sustaining coastal and marine resources and allowing use of these resources in appropriate locations. It will provide a process that can assist the ACAMP to achieve this balance in a comprehensive manner.

The CMSP is in year four of a five-year plan, and it is anticipated that the final work products will be a CMSP Program Document and a GIS-based CMSP Decision Support Tool.

The following has been accomplished:

1) A steering committee is established, composed of federal, state, and local agencies and organizations.
2) Priority areas are identified and an inventory drafted to identify datasets for the Coastal Marine Spatial Planning GIS-Based Decision Support Tool update.
3) Collection of relevant geospatial data continues that support the identified priority areas.

In progress is the development of a CMSP web mapping tool, which is available at http://ogb.state.al.us/apps/coastalresources/.

Potential functions of the tool include a predefined layout that users can utilize for printing and sharing, extracting data, and creating useable links for other GIS resources or databases and Google Street View. The basic concept behind the DST is that users and/or user groups will be able to use the DST to visualize proposed activities in the coastal area in relation to natural resources, high hazard areas, cultural resources and other existing uses, in order to determine potential conflicts of use or regulatory hurdles during the planning phase.

Assessments – Phase I

The section contains the Phase I assessment for each of the nine enhancement areas. The ACAMP staff completed the assessments using existing data and information on national, state and local levels.

Aquaculture

Section 309 Enhancement Objective: Adoption of procedures and policies to evaluate and facilitate the siting of public and private aquaculture facilities in the coastal zone, which will enable states to formulate, administer, and implement strategic plans for marine aquaculture. §309(a)(9)

Phase I (High-Level) Assessment: Purpose: To quickly determine whether the enhancement area is a high priority enhancement objective for the CMP that warrants a more in-depth assessment.

Resource Characterization:

1. In the table below, characterize the existing status and trends of aquaculture facilities in the state's coastal zone based on the best available data.

Type of Facility/Activity	Status and Trends of Aquaculture Facilities and Activities		
	# of Facilities	Approximate Economic Value	Change Since Last Assessment (↑, ↓, –, unknown)
Off-Bottom Oyster Aquaculture	3 (With at least 4 additional applications pending)	Unknown	↑

2. If available, briefly list and summarize the results of any additional state- or territory-specific data or reports on the status and trends or potential impacts from aquaculture activities in the coastal zone since the last assessment.

Mississippi/Alabama Sea Grant Consortium (MASGC) implemented an integrated oyster farming program in 2010. There are now nine new commercial oyster farms that have been established in Alabama, with a total farm-gate value exceeding $825,000 to date, which is expected to more than double by the end of this year (2015), increasing incomes and generation of local jobs (at least six full-time positions and over 10 part-time positions). At least five wholesalers in Alabama profited from the sales of these oysters. Two new oyster equipment companies were established in Alabama, with total sales inception well over $100,000. Several applications for new commercial farms are pending the results of the governor's review board mandated by Alabama HB 361. In partnership with Organized Seafood Association of Alabama (OSAA), MASGC has conducted a hands-on training program - Oyster Farming Fundamentals, which trained 16 adult students who have collectively raised 350,000 oyster seed, and is developing a "vo-tech" program that trains high school students to become oyster farmers.

Management Characterization:

1. Indicate if the approach is employed by the state or territory and if there have been any state- or territory-level changes (positive or negative) that could facilitate or impede the siting of public or private aquaculture facilities in the coastal zone.

Management Category	Employed by State or Territory (Y or N)	CMP Provides Assistance to Locals that Employ (Y or N)	Significant Changes Since Last Assessment (Y or N)
Aquaculture comprehensive siting plans or procedures	No (NOAA)	If Requested	Yes
Other aquaculture statutes, regulations, policies, or case law interpreting these	Yes	If Requested	Yes

2. For any management categories with significant changes, briefly provide the information below. If this information is provided under another enhancement area or section of the document, please provide a reference to the other section rather than duplicate the information:
    a. Describe the significance of the changes;
    b. Specify if they were 309 or other Coastal Zone Management (CZM)-driven changes; and
    c. Characterize the outcomes or likely future outcomes of the changes.

As opposed to previous 309 Assessments, aquaculture has become a higher profile topic in coastal Alabama. Changes in off-bottom oyster aquaculture technologies and the emergence of high-end restaurants serving raw oysters has created a demand for high quality oysters. This has resulted in a number of requests to start oyster aquaculture operations in Alabama. This demand has also raised a need to address certain issues related to oyster aquaculture. These issues include siting, impacts to other natural resources (existing oyster beds, marshes and sea grasses), user conflicts, riparian rights and similar issues. It has been recognized that these emerging issues will need to be addressed with a combination of regulations, planning, education and outreach, and proper natural resource management.

In response to requests from interested parties, the Alabama Legislature recently passed legislation establishing a Shellfish Aquaculture Review Board for the purpose of "developing a shellfish aquaculture policy and implementing a sustainable program for leasing land in the coastal waters of Alabama for oyster aquaculture." The efforts of the review board resulted in the Alabama Department of Conservation and Natural Resources (ADCNR) proposing a new shellfish aquaculture rule in February 2014, to provide for the granting of easements of state-owned submerged lands to encourage and support this new practice. The rule was adopted on April 7, 2014. (*Mississippi-Alabama Sea Grant Legal Program, Water Log, vol. 34.2, pg. 3, June 2014*).

The actions of the review board, facilitated by numerous meetings, resulted in the adoption of Alabama Admin. Rule 220-4-.17, Shellfish Aquaculture Easements, by ADCNR. This rule sets requirements for those individuals/corporations applying for easement for, and the siting of, shellfish aquaculture operations on state-owned submerged lands. Additionally, the Alabama Department of Environmental Management issued Coastal Zone Management Consistency Certification for a USACE Nationwide Permit #48, which would facilitate Section 10 and Section 404 permitting of off-bottom oyster aquaculture operations that meet certain specific conditions.

Given the demand for quality oysters and the economic value that is being realized from the sale of these oysters, the number of requests for off-bottom oyster aquaculture operations is expected to increase. To ensure such operations are properly sited and minimize unwanted impacts, development of prudent regulations, planning, education and outreach, and natural resource management will be needed.

Further, NOAA recently proposed a Fishery Management Plan for Regulating Offshore Marine Aquaculture in the Gulf of Mexico (Gulf Aquaculture Plan), which, along with its companion rules, could permit up to 20 offshore aquaculture operations within a 10-year period. While there are no known pending applications for offshore aquaculture operations off of Alabama at this time, it may be advantageous to begin to develop plans and policies to address any concerns with such potential operations.(http://sero.nmfs.noaa.gov/sustainable_fisheries/gulf_fisheries/aquaculture/)

Enhancement Area Prioritization:

1. What level of priority is the enhancement area for the coastal management program?

High	____
Medium	XXX
Low	____

2. Briefly explain the reason for this level of priority. Include input from stakeholder engagement, including the types of stakeholders engaged.

As noted above, several groups are moving to address this issue, and it is the opinion of the ACAMP staff that these groups have the resources to better develop plans and policies to address the management needs and information gaps of this enhancement area. Therefore, Aquaculture rates as a low priority for 309 funding. However, the medium priority rating is a signal to ACAMP staff that continued monitoring is warranted in order to assist as necessary and appropriate with the demands of this enhancement area.

Stakeholder Response:
Aquaculture ranked 8th in priority of the nine enhancement areas. Of the 27 individual responses received, three ranked aquaculture as a top three priority. Three groups were represented in the 3 responses: academic institutions, municipalities, and regional agencies.

The groups that did not rank aquaculture as a top three priority were non-profits, private industry, regional federal/state/local partnerships, state agencies and the Coastal Resources Advisory Council.

Coastal Hazards

Section 309 Enhancement Objective: Prevent or significantly reduce threats to life and property by eliminating development and redevelopment in high-hazard areas, managing development in other hazard areas, and anticipating and managing the effects of potential sea level rise and Great Lakes level change. §309(a)(2)

Note: For purposes of the Hazards Assessment, coastal hazards include the following traditional hazards and those identified in the CZMA: flooding; coastal storms (including associated storm surge); geological hazards (e.g., tsunamis, earthquakes); shoreline erosion (including bluff and dune erosion); sea level rise; Great Lake level change; land subsidence; and saltwater intrusion.

Phase I (High-Level) Assessment: Purpose: To quickly determine whether the enhancement area is a high priority enhancement objective for the CMP that warrants a more in-depth assessment.

Resource Characterization:

1. **Flooding:** Using data from *NOAA's State of the Coast* "Population in the Floodplain" viewer and summarized by coastal county through NOAA's Coastal County Snapshots for Flood Exposure, indicate how many people were located within the state's coastal floodplain as of 2010 and how that has changed since 2000. Other information, graphs or visuals may be used to help illustrate or replace the table entirely if better data is available.
   http://stateofthecoast.noaa.gov/pop100yr/welcome.html

Population in the Coastal Floodplain			
	2000	**2010**	**Percent Change from 2000-2010**
No. of people in coastal floodplain	80,389	77,044	(Decrease) -4.16%
No. of people in coastal counties	540,258	590,043	9.22%
Percentage of people in coastal counties in coastal floodplain	14.88%	13.06%	1.82%

2. **Shoreline Erosion**: Using data from *NOAA's State of the Coast* "Coastal Vulnerability Index," indicate the vulnerability of the state's shoreline to erosion. Other information, graphs or visuals may be used to help illustrate or replace the table entirely if better data is available.
   http://stateofthecoast.noaa.gov/vulnerability/welcome.html

Vulnerability to Shoreline Erosion		
Vulnerability Ranking	**Miles of Shoreline Vulnerable**[11]	**Percent of Coastline**
Very low (>2.0m/yr) accretion	-	-
Low (1.0-2.0 m/yr) accretion)	13	6%
Moderate (-1.0 to 1.0 m/yr) stable	110	52%
High (-1.1 to -2.0 m/yr) erosion	48	23%
Very high (<-2.0 m/yr) erosion	36	17%

3. **Sea Level Rise:** Using data from *NOAA's State of the Coast* "Coastal Vulnerability Index," indicate the vulnerability of the state's shoreline to sea level rise. Other information or graphs or other visuals may be used to help illustrate or replace the table entirely if better data is available. http://stateofthecoast.noaa.gov/vulnerability/welcome.html

Coastal Vulnerability to Historic Sea Level Rise		
Vulnerability Ranking	**Miles of Shoreline Vulnerable**[11]	**Percent of Coastline**
Very low	2	1%
Low	56	26%
Moderate	68	32%
High	52	24%
Very high	31	15%

4. **Other Coastal Hazards:** In the table below, indicate the general level of risk in the coastal zone for each of the coastal hazards. The state's multi-hazard mitigation plan is a good additional resource to support these responses.

Type of Hazard	General Level of Risk (H, M, L)
Flooding (riverine, stormwater)	H
Coastal storms (including storm surge)	H
Geological hazards (e.g., tsunamis, earthquakes)	L
Shoreline erosion	M
Sea level rise	H
Great Lakes level change	L
Land subsidence	L
Saltwater intrusion	M
Other (please specify)	

5. If available, briefly list and summarize the results of any additional data or reports on the level of risk and vulnerability to coastal hazards within your state since the last assessment. The state's multi-hazard mitigation plan or climate change risk assessment or plan may be a good resource to help respond to this question.

Weeks Bay Reserve Disaster Response Plan (DRP) was developed in 2013 by the Weeks Bay National Estuarine Research Reserve (Weeks Bay NERR), in conjunction with other entities, to help improve the reserve's preparation for both natural and technological disasters. Weeks Bay NERR has an emergency preparedness plan emphasizing hurricane response that will benefit from this DRP by incorporation of a more inclusive list of hazards. The DRP will improve preparedness for the types of natural and technological disasters that have affected the NERR within the last decade.
http://www.outdooralabama.com/sites/default/files/Weeks%20Bay%20NERR%20DRP%20%2805-31-13%29.pdf

The State of Alabama Hazard Mitigation Plan was developed in 2013 to rationalize the process of identifying and implementing appropriate hazard mitigation actions across the State. The document includes a detailed characterization of natural hazards statewide; a risk assessment describing potential losses to physical assets, people and operations; a set of goals, objectives, strategies and actions to guide the State's mitigation activities; and a detailed plan for implementing and monitoring the required aspects of the plan. Alabama Emergency Management Agency in January 2013 published "State Hazard Mitigation Plan Update." The purpose of the plan is to rationalize the process of identifying and implementing appropriate hazard mitigation actions across the State. The document includes a detailed characterization of natural hazards Statewide; a risk assessment that

describes potential losses to physical assets, people and operations; a set of goals, objectives, strategies and actions that will guide the State's mitigation activities; and a detailed plan for implementing and monitoring the required aspects of the plan.
http://ema.alabama.gov/filelibrary

Alabama Coastal Recovery Commission (CRC) formed in 2010 with the mission to draft a roadmap to resilience for South Alabama in the wake of the BP Deepwater Horizon oil spill. The commission was charged by the Governor to restore what had been lost due to the disaster. The commission was organized under three broad topics: healthy environment, healthy society and healthy economy. Each topic is connected to the other to respond to future challenges and examine strategies to help the State prepare for future disasters.
The commission's website is http://crcalabama.org/

Mobile Bay National Estuary Program (MBNEP), which originated in 1995 at the request of then-Governor Fob James, is one of 28 federally authorized National Estuary Programs administered and funded by the U.S. Environmental Protection Agency (EPA). The first charge of the MBNEP was to create a Management Conference (MC), a diverse collection of stakeholders representing local, state and federal government agencies; environmental organizations; business and industry; landowners; academic experts; and the general public. Together, this group identified five major issue areas to be addressed: Water Quality, Living Resources, Habitat Management, Human Uses, and Education and Public Involvement. The MC further identified, prioritized, and recommended actions to lead the MBNEP in a second charge of creating a master plan, the Coastal Comprehensive Management Plan (CCMP), which was updated in 2013. Coastal resiliency is addressed under human uses. http://www.mobilebaynep.com/what_we_do/ccmp/

Mississippi/Alabama Sea Grant Consortium - Coastal Community Resiliency Index (CRI) Assessment Tool is a self-assessment tool to provide community leaders with a simple and inexpensive method of predicting if the community will reach and maintain an acceptable level of functioning after a disaster. Experienced local planners, engineers, floodplain managers or administrators can complete this self-assessment using existing sources of information from their community. The goal is for every community to become highly resilient. The assessment may identify problems a community should address before the next disaster and where resources should be allocated. Results of the assessment are presented as a Resilience Index that estimates the adaptability of a community to a disaster.
http://masgc.org/coastal-storms-program/resilience-index

Mississippi/Alabama Sea Grant Legal Program published "Climate Impacts for the Southeastern U.S. and Dauphin Island, AL" in May 2013, discussing the erosion issues on Dauphin Island, Alabama and citing a three-phase study of Dauphin Island regarding erosion and resulting economic impacts. There is no website found to access this study. However, the Sea Grant document can be accessed at http://masglp.olemiss.edu/Advisory/dauphin_island_scoping_document.pdf

The SeaGrant Law and Policy Journal, Vol. 6, No. 2, 2014 published Climate Resiliency on Dauphin Island, Alabama.
http://nsglc.olemiss.edu/sglpj/vol6no2/4-Janasie.pdf

Alabama Department of Economic & Community Affairs and the Alabama Emergency Management Agency published in 2014 "Alabama Post Flood Recovery Guidebook" to assist communities in responding to flood/hurricane events, enforcing the National Flood Insurance Program rebuilding requirements, and outlining suitable disaster recovery measures to reduce future flood damages.
http://adeca.alabama.gov/Divisions/owr/floodplain/Documents/AL%20Post%20Flood%20Recovery%20Guidebook.pdf
http://adeca.alabama.gov/Divisions/owr/floodplain/Pages/default.aspx

Impacts on Climate Change and Variability on Transportation Systems and Infrastructure (2013) was part of the U.S. Department of Transportation's Gulf Coast Study Phase 2. A vulnerability assessment was conducted for the transportation system in Mobile, Alabama. The goal was two-fold: to develop and pilot novel approaches for conducting system-wide vulnerability assessments and to understand where important transportation-related vulnerabilities may exist in the Mobile, Alabama area. In addition, a number of communities updated their comprehensive/master plans that addressed cumulative and secondary impacts, coastal development and growth and environmental. These included the cities of Gulf Shores, Spanish Fort, Chickasaw and Satsuma; the towns of Dauphin Island, Perdido Beach and Mount Vernon; and Baldwin County. http://www.fhwa.dot.gov/environment/climate_change/adaptation/ongoing_and_current_research/gulf_coast_study/phase2_task3/task_3.1/phase2task3.pdf

Management Characterization:

1. Indicate if the approach is employed by the state or territory and if significant state- or territory-level changes (positive or negative) have occurred that could impact the CMP's ability to prevent or significantly reduce coastal hazards risk since the last assessment.

Management Category	Employed by State or Territory (Y or N)	CMP Provides Assistance to Locals that Employ (Y or N)	Significant Changes Since Last Assessment (Y or N)
Statutes, regulations, policies, or case law interpreting these that address:			
elimination of development/redevelopment in high-hazard areas	Yes –Div 8 CCCL	Yes	No
management of development/redevelopment in other hazard areas	Yes – Div 8 CCCL	Yes	No
climate change impacts, including sea level rise or Great Lakes level change	No	No	No
Hazards planning programs or initiatives that address:			
hazard mitigation	Yes – Tech Assistance	Yes- TA	No
climate change impacts, including sea level rise or Great Lakes level change	Yes - TA	Yes -TA	No
Hazards mapping or modeling programs or initiatives for:			
sea level rise or Great Lakes level change	Yes	No	Yes
other hazards	Yes (annual shoreline monitoring)	No	No

2. Briefly state how "high-hazard areas" are defined in your coastal zone.

FEMA flood maps and ADEM Division 8 Coastal Regulations.

a) FEMA defines high hazards areas as follows: V-Zone – Coastal Areas with a 1-percent or greater chance of flooding and additional hazards associated with storm waves. These areas have a 26 percent chance of flooding over a 30-year period. VE-Zone – Same as V-Zone however the "E"

zone stands for elevation. There is always a number given after the E. The number refers to the base flood elevation and how subjectable you are to the high hazards.

b) ADEM Division 8 Regulations does not address high hazards areas directly. However, the regulations define "primary dune system" which means a ridge or series of ridges of unconsolidated and usually mobile sands lying landward of the upper limit of Gulf beaches that serve as the principal defense against storm-wave attack.

3. For any management categories with significant changes, briefly provide the information below. If this information is provided under another enhancement area or section of the document, please provide a reference to the other section rather than duplicate the information:
    a) Describe the significance of the changes. None
    b) Specify if they were 309 or other CZM-driven changes. None
    c) Characterize the outcomes or likely future outcomes of the changes. None

a) The Sentinel Site Program (SSP) at the NERRs uses instruments and measurement platforms (e.g., SWMP data loggers, telemetered weather stations, vegetation transects, Surface Elevation Tables), located within a geospatial framework, to monitor the effects of sea level rise on coastal ecosystems.

b) CZM/NERRs

c) The ultimate goal of the NERRs SSP is to help determine reserve vulnerabilities to climate change (initially, sea level change and inundation and habitat response), and to translate our understanding to coastal communities and coastal managers to support adaptation planning.

Enhancement Area Prioritization:

1. What level of priority is the enhancement area for the coastal management program?

High	XXX
Medium	_____
Low	_____

2. Briefly explain the reason for this level of priority. Include input from stakeholder engagement, including the types of stakeholders engaged.

Both historical data and stakeholder input places this enhancement area as a medium to high ranking priority, thus ACAMP staff have determined that Coastal Hazards is a high priority for 309 funding.

While ACAMP does not have authority to address emergency management issues directly, staff can coordinate efforts with the Alabama Emergency Management Agency (AEMA) and/or local governments. In addition, Alabama State Code (11-52-8) vests land use planning with local governments and does not by statue allow any agency of the state to plan for land use; thus, staff have the opportunity to use resources to continue and strengthen the relationship with local government by assisting in determining risks and addressing coastal hazard mitigation and resiliency.

By working with AEMA, local governments, and other relevant organizations, there is the potential for coastal Alabama to address the issues stated under Resource Characterization: the risk and effects of sea level rise and the moderate to high potential for flooding and shoreline erosion in coastal Alabama and the concern that there are no serious discussions at the local and state levels regarding the potential for and effects of sea level rise. Additionally, at the state and local levels, the topics of flooding and shoreline erosion are not discussed or planned for in terms of true resiliency. Today's

scientific and weather data and literature indicates that risk for these three coastal hazards should be studied and planned for in all coastal areas.

Stakeholder Response:
Coastal Hazards ranked 2nd in priority of the nine enhancement areas. Of the 27 individual responses received, 15 ranked coastal hazards as a top three priority. All eight groups were represented in the 15 responses: academic institutions, municipalities, non-profits, private industry, regional agencies, regional federal/state/local partnerships, state agencies, and the Coastal Resources Advisory Council.

Cumulative and Secondary Impacts

Section 309 Enhancement Objective: Development and adoption of procedures to assess, consider, and control cumulative and secondary impacts of coastal growth and development, including the collective effect on various individual uses or activities on coastal resources, such as coastal wetlands and fishery resources. §309(a)(5)

Phase I (High-Level) Assessment: Purpose: To quickly determine whether the enhancement area is a high priority enhancement objective for the CMP that warrants a more in-depth assessment.

Resource Characterization:

1. Using National Ocean Economics Program Data on population and housing, indicate the change in population and housing units in the state's coastal counties between 2012 and 2007. Additional trend comparisons to look at longer time horizons may be added (data available back to 1970), but at a minimum, show change over the most recent five year period (2012-2007) to approximate current assessment period.

Trends in Coastal Population and Housing Units				
Year	**Population**		**Housing**	
	Total (# of people)	% Change (compared to 2002)	Total (# of housing units)	% Change (compared to 2002)
2007	576,175	10.49 percent (547,315 in 2002)	280,566	10.84 percent (253,122 in 2002)
2012	604,726		285,758	

Information from the EPA National Coastal Condition Report IV: Based on 2003-2006 data used in the report, the overall condition for coastal waters of the Gulf of Mexico is rated FAIR. This is an improvement over the FAIR to POOR rating of 1990. Data used were coastal monitoring, national ocean condition, offshore fisheries, and advisory and closure data.

2. Using provided reports from NOAA's Land Cover Atlas, indicate the status and trends for various land uses in the state's coastal counties between 2006 and 2011. Other information and graphs and figures may be used to help illustrate the information.

Distribution of Land Cover Types in Coastal Counties		
Land Cover Type	**Land Area Coverage in 2010 (Acres)**	**Gain/Loss Since 2006 (Acres)**
Developed, High Intensity	31,859.2	3,558.4
Developed, Low Intensity	88,556.8	6131.2
Developed, Open Space	50,432.0	4,288.0
Grassland	106,713.6	2,368.0
Scrub/Shrub	266,284.8	-5,177.6
Barren Land	19,360.0	652.8
Open Water	528,121.6	-0.09
Agriculture	240,480.0	-7,072.0
Forested	496,294.4	-2,054.4
Woody Wetland	459,808.0	-6,412.8
Emergent Wetland	56,838.4	3,488.0 (SAVs have increased)

3. Using provided reports from NOAA's Land Cover Atlas, indicate the status and trends for developed areas in the state's coastal counties between 2006 and 2011 in the two tables below. Other information, graphs and figures may be used to help illustrate the information.

Development Status and Trends for Coastal Counties			
	2006	**2011**	**Percent Net Change**
Percent land area developed	6.69 percent	7.29 percent	0.6 percent
Percent impervious surface area	2.03 percent	2.22 percent	0.19 percent

How Land Use Is Changing in Coastal Counties	
Land Cover Type	**Areas Lost to Development Between 2006-2011** (Acres)
Barren Land	1,171.2
Emergent Wetland	537.6
Woody Wetland	3,296.0
Open Water	217.6
Agriculture	6,547.2
Scrub/Shrub	2,976.0
Grassland	3,340.8
Forested	7,027.2

4. Using data from NOAA's State of the Coast "Shoreline Type" viewer, indicate the percent of shoreline that falls into each shoreline type. Other information, graphs, or visuals may be used to help illustrate.

Shoreline Types	
Surveyed Shoreline Type	**Percent of Shoreline**
Armored	11 percent
Beaches	10 percent
Flats	4 percent
Rocky	2 percent
Vegetated	73 percent

5. If available, briefly list and summarize the results of any additional state- or territory-specific data or reports on the cumulative and secondary impacts of coastal growth and development, such as water quality and habitat fragmentation, since the last assessment to augment the national data sets.

As stated under the Coastal Hazards Enhancement Area, impacts on Climate Change and Variability on Transportation Systems and Infrastructure (2013) was part of the U.S. Department of Transportation's Gulf Coast Study Phase 2. A vulnerability assessment was conducted for the transportation system in Mobile, Alabama. The goal was two-fold: to develop and pilot novel approaches for conducting system-wide vulnerability assessments and to understand where important transportation-related vulnerabilities may exist in the Mobile, Alabama area. In addition, a number of communities updated their comprehensive/master plans that addressed cumulative and secondary impacts, coastal development and growth and environmental. These included the cities of Gulf Shores, Spanish Fort, Chickasaw and Satsuma; the towns of Dauphin Island, Perdido Beach and Mount Vernon; and Baldwin

County. http://www.fhwa.dot.gov/environment/climate_change/adaptation/ongoing_and_current_research/gulf_coast_study/phase2_task3/task_3.1/phase2task3.pdf

A comprehensive shoreline mapping and shoreline change study in coastal Alabama was conducted under Section 309, and the final phase and report was completed under NA#10NOS4190206. The study, conducted by the Geological Survey of Alabama's Geologic Investigations Program and entitled "COMPREHENSIVE SHORELINE MAPPING, BALDWIN AND MOBILE COUNTIES, ALABAMA: PHASE III - OPEN FILE REPORT 1204," was designed to document only the areas already developed and prone to development, because a large portion of the Alabama shoreline is within the Mobile-Tensaw Delta and other large marsh or bluff areas not likely to be developed. The study areas are located in the most southern portions of the two coastal counties of Baldwin and Mobile and are either on or in close proximity to the Gulf of Mexico.
http://www.mobilebaynep.com/images/uploads/library/Shoreline_Mapping-Baldwin_amp_Mobile_Counties,_AL-PhaseIII-JonesampTidwell2012.pdf

In the table below, the shoreline types have been summarized into only two classifications, armored and natural/unretained. For this assessment, the term "armored" represents 55 types of hardened shoreline protection, which are derived from the study's description of 16 categories of hardened protection that were further subdivided with modifiers to better depict the types of protection.

Natural/unretained represents a shore "protected" within a natural setting by vegetation or sediment with no apparent hard shoreline modification to protect the land behind it.

BALDWIN COUNTY
Summary: 180.9 miles of surveyed shoreline, 69.4 miles armored; 38.4 percent armored

Miles of Shoreline & Surveyed Shoreline Type in Percentages	**Ono Is.**	**Bayou St. John**	**E. Perdido Bay**	**W. Perdido Bay**	**Arnica Bay**	**Bay La Launch & S. Wolf Bay**	**Hammock Creek**	**Wolf Bay tributaries**	**Baldwin beaches**
Miles of Shoreline	***23.5***	***27.3***	***10.2***	***21.5***	***10.9***	***20.9***	***11.2***	***23.1***	***32.3***
Armored (%)	22.2	64.4	37.0	33.8	59.4	19.6	19.7	20.2	56.1
Natural/unretained (%)	77.8	35.6	63.0	66.2	40.6	80.4	80.3	79.8	42.5

MOBILE COUNTY
Summary: 204.4 miles of surveyed shoreline, 58.86 miles armored; 27.8 percent armored

Miles of Shoreline & Surveyed Shoreline Type in Percentages	**N. Fowl River**	**S. Fowl River**	**Herron Bay**	**Fowl River Bay & Portersville Bay**	**Grand Bay**	**Bayou LaBatre**	**Coden Bayou**	**Isle aux Herbes**	**Dauphin Is.**
Miles of Shoreline	***38.3***	***29.1***	***27.6***	***17.7***	***21.8***	***15.1***	***2.6***	***8.4***	***43.8***
Armored (%)	26.9	14.0	3.5	24.7	0.9	60.4	70.3	9.7	57.5
Natural/unretained (%)	72.9	86.0	96.5	75.3	99.1	39.6	29.7	90.3	42.5

Summary Total: 385.3 miles of surveyed shoreline, 126.3 miles armored; 32.8 percent armored

Management Characterization:

1. Indicate if the approach is employed by the state or territory and if there have been any significant state-level changes (positive or negative) in the development and adoption of procedures to assess, consider, and control cumulative and secondary impacts of coastal growth and development, including the collective effect on various individual uses or activities on coastal resources, such as coastal wetlands and fishery resources, since the last assessment.

Management Category	**Employed by State or Territory** (Y or N)	**CMP Provides Assistance to Locals that Employ** (Y or N)	**Significant Changes Since Last Assessment** (Y or N)
Statutes, regulations, policies, or case law interpreting these	Y	If requested	N
Guidance documents	Y	If requested	N
Management plans (including SAMPs)	N	If requested	N

2. For any management categories with significant changes, briefly provide the information below. If this information is provided under another enhancement area or section of the document, please provide a reference to the other section rather than duplicate the information:
    a. Describe the significance of the changes;
    b. Specify if they were 309 or other CZM-driven changes; and
    c. Characterize the outcomes or likely future outcomes of the changes.

No significant changes.

Enhancement Area Prioritization:

1. What level of priority is the enhancement area for the coastal management program?

High ____
Medium XXX
Low ____

2. Briefly explain the reason for this level of priority. Include input from stakeholder engagement, including the types of stakeholders engaged.

The transition from natural landscape to development continues and is more intense in the near coastal areas, increasing the acreage of impervious surfaces, vulnerability to coastal hazards, and pressure to displace wetlands and SAV's.

As stated under "Resource Characterization," the comprehensive shoreline mapping and shoreline change study documented the areas already developed and prone to development. The study areas are located in the most southern portions of Baldwin and Mobile counties and are either on or in close proximity to the Gulf of Mexico. The study is a better gauge of cumulative and secondary impacts, since a large portion of the Alabama shoreline is within the Mobile-Tensaw Delta and other large marsh or bluff areas and is not likely to be developed. Therefore, the percentage armored in the critical development-prone areas is 32.8 percent as opposed to the 11 percent for the entire coast line.

There are land use and comprehensive plans implemented by local governments located in Alabama's two coastal counties. Although the focus of each plan is confined to the municipal and planning

jurisdiction boundaries and to traditional resources, uses and threats (especially flooding and stormwater issues), several of the cities have begun to extend their municipal boundaries, thus extending protections to once unincorporated areas of the county.

In addition, for the last several years the ACAMP has, under the ACAMP Coastal Resource Improvement Program (CRIP), accepted requests for proposals (RFP) for projects that protect, enhance, and improve the management of natural, cultural and historical coastal resources and that increase the sustainability, resiliency and preparedness of coastal communities. Grant applications must meet the purpose of at least one of the following focus areas:

- Government Coordination and Local Government Planning
- Coastal Hazards and Resilient Communities
- Coastal Habitats, Wetland Protection and Coastal Resource Stewardship
- Coastal Nonpoint Source Pollution Control
- Public Access to Coastal Resources: Construction or Land Acquisition

A number of the RFP's have been developed to updating local comprehensive plans and low impact development ordinances, all of which have helped local governments lessen the impacts of cumulative and secondary impacts in the coastal area. ACAMP staff plans to continue to assist local governments through the 306 process.

For these reasons, Cumulative & Secondary Impacts rates as a medium priority for 309 funding.

Stakeholder Response:
Cumulative and Secondary Impacts ranked 3rd in priority of the nine enhancement areas. Of the 27 individual responses received, 11 ranked cumulative and secondary impacts as a top three priority. Five groups were represented in the 11 responses: academic institutions, municipalities, non-profits, state agencies, and the Coastal Resources Advisory Council.

The groups that did not rank cumulative and secondary impacts as a top three priority were private industry, regional agencies, and regional federal/state/local partnerships.

Energy and Government Facility Siting

Section 309 Enhancement Objective: Adoption of procedures and enforceable policies to help facilitate the siting of energy facilities and Government facilities and energy-related activities and Government activities which may be of greater than local significance. §309(a)(8)

Phase I (High-Level) Assessment: Purpose: To quickly determine whether the enhancement area is a high priority enhancement objective for the CMP that warrants a more in-depth assessment.

Resource Characterization:

1. In the table below, characterize the status and trends of different types of energy facilities and activities in the state's or territory's coastal zone based on best available data. If available, identify the approximate number of facilities by type. The MarineCadastre.gov may be helpful in locating many types of energy facilities in the coastal zone.

Status and Trends in Energy Facilities and Activities in the Coastal Zone				
Type of Energy Facility/Activity	**Exists in CZ**		**Proposed in CZ**	
	(# or Y/N)	Change Since Last Assessment (□	(# or Y/N)	Change Since Last Assessment (□
Energy Transport				
(no. of companies) Pipelines	Yes	8 ↑	N	↓
Electrical grid (transmission cables)		Not available for Coastal Counties ONLY		
Ports	1	---	N	---
Liquid natural gas (LNG)	0	---	N	---
Other (please specify)				
Energy Facilities				
(Theodore Cogen & James M. Barry Plant – Mobile Co.) Oil and gas	2	↓	N	---
(James M. Barry Plant – Mobile Co.) Coal	1	---	N	---
Nuclear	0	---	N	---
Wind	0	---	N	---
Wave	0	---	N	---
Tidal	0	---	N	---
Current (ocean, lake, river)	0	----	N	----
Hydropower	0	----	N	----
Ocean thermal energy conversion	0	----	N	----
Solar	0	----	N	----
(Mobile Energy Svc., Mobile Co.) Biomass	1	----	N	----
Other (please specify)				

2. If available, briefly list and summarize the results of any additional state- or territory-specific information, data, or reports on the status and trends for energy facilities and activities of greater than local significance in the coastal zone since the last assessment.

N/A

3. Briefly characterize the existing status and trends for federal government facilities and activities of greater than local significance in the state's coastal zone since the last assessment.

During the period of 2009 through 2013, eight pipeline expansion projects were approved in the Alabama Coastal Area.

Approved 2009

Florida Gas Transmission Company, LLC/Phase VIII Expansion Project
Southern Natural Gas Company, et a./South System Expansion III Project
Transcontinental Gas Pipe Line Co. LLC Mobile Bay South Expansion Project

Approved 2010

Transcontinental Gas Pipe Line Corporation Mobile Bay South II Expansion Project
Florida Gas Transportation Co. Mobile Bay Lateral Extension Project
Transcon Gas Pipe Line Cp/FGT Co. Pascagoula Expansion Project

Approved 2011

Transcontinental Gas Pipe Line Co., LLC Mid-South Expansion Project

Approved 2013

Gulf South Pipeline Company, LP Southeast Market Expansion Project

Management Characterization:

1. Indicate if the approach is employed by the state or territory and if significant state- or territory-level changes (positive or negative) that could facilitate or impede energy and government facility siting and activities have occurred since the last assessment.

Management Category	**Employed by State or Territory** (Y or N)	**CMP Provides Assistance to Locals that Employ** (Y or N)	**Significant Changes Since Last Assessment** (Y or N)
Statutes, regulations, policies, or case law interpreting these	Y	N	N
State comprehensive siting plans or procedures	Y	N	N

2. For any management categories with significant changes, briefly provide the information below. If this information is provided under another enhancement area or section of the document, please provide a reference to the other section rather than duplicate the information:
    a. Describe the significance of the changes;
    b. Specify if they were 309 or other CZM-driven changes; and
    c. Characterize the outcomes or likely future outcomes of the changes.

N/A

Enhancement Area Prioritization:

1. What level of priority is the enhancement area for the coastal management program?

High	_____
Medium	_____
Low	XXX

2. Briefly explain the reason for this level of priority. Include input from stakeholder engagement, including the types of stakeholders engaged.

Energy & Government Facility Siting rates as a low priority for 309 funding. There were no significant changes since the previous assessment and the state continues to provide comprehensive management of this category through the state lease plan and follows the BOEM process for leasing inshore tracks.

Stakeholder Response:
Energy & Government Facility Siting ranked 9th in priority of the nine enhancement areas. Of the 27 individual responses received, no respondent ranked energy and government facility siting as a top three priority.

Marine Debris

Section 309 Enhancement Objective: Reducing marine debris entering the nation's coastal and ocean environment by managing uses and activities that contribute to the entry of such debris. §309(a)(4)

Phase I (High-Level) Assessment: Purpose: To quickly determine whether the enhancement area is a high priority enhancement objective for the CMP that warrants a more in-depth assessment.

Resource Characterization:

1. In the table below, characterize the existing status and trends of marine debris in the state's coastal zone based on the best available data.

Source of Marine Debris	Existing Status and Trends of Marine Debris in Coastal Zone		
	Significance of Source (H, M, L, unknown)	**Type of Impact** (aesthetic, resource damage, user conflicts, other)	**Change Since Last Assessment** (↑, ↓, –, unknown)
Land-based			
Beach/shore litter	M	Aesthetically detrimental to tourism, resource damage, human health issues	-
Dumping	M	Aesthetically detrimental to tourism, resource damage, human health issues	-
Storm drains and runoff	M	Aesthetically detrimental to tourism, resource damage, impaired water quality, human health issues	-
Fishing (e.g., fishing line, gear)	M	Aesthetically detrimental to tourism, resource damage, damage to recreational activities	-
Other (please specify)	N/A		
Ocean or Great Lakes-based			
Fishing (e.g., derelict fishing gear)	M	Aesthetically detrimental to tourism, resource damage, damage to recreational activities	-
Derelict vessels	L	Aesthetically detrimental to tourism, resource damage, damage to recreational activities; human health and safety hazards	-
Vessel-based (e.g., cruise ship, cargo ship, general vessel)	L	Aesthetically detrimental to tourism, resource damage, damage to recreational activities	-
Hurricane/Storm	H	Aesthetically detrimental to tourism, resource damage, damage to recreational activities; human health and safety hazards; water quality impacts, high economic impacts	-
Tsunami	N/A		
Other (please specify)	N/A		

2. If available, briefly list and summarize the results of any additional state- or territory-specific data or reports on the status and trends or potential impacts from marine debris in the coastal zone since the last assessment.

NOAA Marine Debris Program developed a Marine Debris Response Plan to specifically address "acute" waterway debris incidents, such as debris generated by natural disasters, in Baldwin and Mobile counties. The purpose of this effort is to improve preparedness for response and recovery operations following an acute waterway debris release incident in coastal Alabama. The plan stated that Coastal Alabama is vulnerable to many natural and man-made hazards that could result in an acute waterway debris incident. An overview of the risk of occurrence for hazards that could result in a release of incident waterway debris in Mobile and Baldwin counties showed that there is a high risk of incidents resulting from the three hazards that routinely occur in Coastal Alabama: flooding; hurricanes/tropical storm; tornado/wind storms. It is important to note that the plan does not address chronic waterway debris issues.
http://mariendebris.noaa.gov/emergency-response/alabamas-response-plan-diaster-marine-debris-now-available

Management Characterization:

1. Indicate if the approach is employed by the state or territory and if there have been any significant state- or territory-level management changes (positive or negative) for how marine debris is managed in the coastal zone.

Management Category	**Employed by State/Territory** (Y or N)	**CMP Provides Assistance to Locals that Employ** (Y or N)	**Significant Changes Since Last Assessment** (Y or N)
Marine debris statutes, regulations, policies, or case law interpreting these	Y	N	N
Marine debris removal programs	Y	Y	N

2. For any management categories with significant changes, briefly provide the information below. If this information is provided under another enhancement area or section of the document, please provide a reference to the other section rather than duplicate the information:
    a. Describe the significance of the changes;
    b. Specify if they were 309 or other CZM-driven changes; and
    c. Characterize the outcomes and likely future outcomes of the changes.

No significant changes.

Enhancement Area Prioritization:

1. What level of priority is the enhancement area for the coastal management program?

High _____
Medium XXX
Low _____

2. Briefly explain the reason for this level of priority. Include input from stakeholder engagement, including the types of stakeholders engaged.

Marine debris issues are being addressed though cleanup events and management programs: Annual Alabama Coastal Cleanup, Fish River Cleanup, MLK Day of Service Tire Cleanup, Island of Perdido Service Day Cleanup, Toulminville Cleanup, Monofilament Recycling Program, Clean Marina Program, City of Mobile Clean Water Partnership, Eco-Team Recycling at Bayfest and Mardi Gras, Derelict Vessel Removal programs. In addition, the Gulf of Mexico Alliance identified marine debris as a cross-cutting issue to be addressed in Action Plan III. Thus, Marine Debris rates as a medium priority for 309 funding.

Stakeholder Response:
Marine Debris ranked 5th in priority of the nine enhancement areas. Of the 27 individual responses received, seven ranked marine debris as a top three priority. Six groups were represented in the seven responses: academic institutions, municipalities, non-profits, private industry, regional agencies, and regional federal/state/local partnerships.

The groups that did not rank marine debris as a top three priority were state agencies and the Coastal Resources Advisory Council.

Ocean and Great Lakes Resources

Section 309 Enhancement Objective: Planning for the use of ocean [and Great Lakes] resources. §309(a)(7)

Phase I (High-Level) Assessment: *Purpose: To quickly determine whether the enhancement area is a high priority enhancement objective for the CMP that warrants a more in-depth assessment.*

Resource Characterization:

1. Understanding the ocean and Great Lakes economy can help improve management of the resources it depends on. Using Economics: National Ocean Watch (ENOW), indicate the status of the ocean and Great Lakes economy as of 2010, as well as the change since 2005, in the tables below. Include graphs and figures, as appropriate, to help illustrate the information.

Status of Ocean and Great Lakes Economy for Coastal Counties (2010)				
	Establishments (# of Establishments)	**Employment** (# of Jobs)	**Wages** (Millions of Dollars)	**GDP** (Millions of Dollars)
Living Resources	*124*	*1,133*	*$44,300,000*	*$143,000,000*
Marine Construction	*44*	*404*	*$13,800,000*	*$28,100,000*
Marine Transportation	*134*	*4,072*	*$190,800,000*	*$447,300,000*
Offshore Mineral Extraction	*35*	*680*	*$45,100,000*	*$629,000,000*
Tourism & Recreation	*784*	*13,891*	*$206,500,000*	*$431,100,000*
All Ocean Sectors	*1,167*	*24,998*	*$651,600,000.00*	*$2,000,000,000.00*

Change in Ocean and Great Lakes Economy for Coastal Counties (2005-2010)				
	Establishments (% change)	**Employment** (% change)	**Wages** (% change)	**GDP** (% change)
Living Resources	*87.94%*	*33.57%*	*82.65%*	*63.36%*
Marine Construction	*104.76%*	*553.42%*	*113.11%*	*106.04%*
Marine Transportation	*115.52%*	*131.52%*	*158.47%*	*185.76%*
Offshore Mineral Extraction	*120.69%*	*109.15%*	*137.50%*	*70.19%*
Tourism & Recreation	*122.50%*	*118.38%*	*136.85%*	*135.44%*
All Ocean Sectors	*114.08%*	*116.14%*	*140.61%*	*105.26%*

In the table below, characterize how the threats to and use conflicts over ocean and Great Lakes resources in the state's or territory's coastal zone have changed since the last assessment.

Significant Changes to Ocean and Great Lakes Resources and Uses	
Resource/Use	**Change in the Threat to the Resource or Use Conflict Since Last Assessment** (↑, ↓, –, unkwn)
Resource	
Benthic habitat (including coral reefs)	No Change
Living marine resources (fish, shellfish, marine mammals, birds, etc.)	Increase
Sand/gravel	No Change
Cultural/historic	No Change
Other (please specify)	No Change
Use	
Transportation/navigation	No Change
Offshore development	No Change
Energy production	No Change
Fishing (commercial and recreational)	Increase
Recreation/tourism	No Change
Sand/gravel extraction	No Change
Dredge Disposal	No Change
Aquaculture	No Change
Other (please specify)	

2. For the ocean and Great Lakes resources and uses in Table 2 (above) that had an increase in threat to the resource or increased use conflict in the state's or territory's coastal zone since the last assessment, characterize the major contributors to that increase.

Outside of the impacts from the Deepwater Horizon (DWH) Oil Spill of 2010, which are being assessed by the Natural Resource Damage Assessment Trustees and will not be discussed here, there does not appear to be a significant increase in threats or user conflicts concerning ocean resources. The one exception is the increased conflict and controversy concerning offshore recreational fisheries, more specifically, the severe federal restrictions placed on the red snapper, triggerfish and other reef fishes. However, this issue is being addressed by the ADCNR Marine Resources Division and it is not considered a significant issue to be addressed by the ACAMP 309 Strategy.

Major Contributors to an Increase in Threat or Use Conflict to Ocean and Great Lakes Resources												
Resource	**Major Reasons Contributing to Increased Resource Threat or Use Conflict** (Note All that Apply with "X")											
	Land-based development	Offshore development	Polluted runoff	Invasive species	Fishing (Comm & Rec)	Aquaculture	Recreation	Marine Transportation	Dredging	Sand/Mineral Extraction	Ocean Acidification	Other (Specify)
Example: Living marine resources		*X*	*X*	*X*	*X*	*X*		*X*	*X*			
Living Marine Resources (Reef Fish Fisheries)												X
Fishing (commercial and recreational)												X

Other: Fisheries Management Conflict

If available, briefly list and summarize the results of any additional state- or territory-specific data or reports on the status and trends of ocean and Great Lakes resources or threats to those resources since the last assessment to augment the national data sets.

Management Characterization:

1. Indicate if the approach is employed by the state or territory and if any significant state or territory-level changes (positive or negative) in the management of ocean and Great Lakes resources have occurred since the last assessment?

Management Category	**Employed by State or Territory** (Y or N)	**CMP Provides Assistance to Locals that Employ** (Y or N)	**Significant Changes Since Last Assessment** (Y or N)
Statutes, regulations, policies, or case law interpreting these	Yes	Yes	Yes
Regional comprehensive ocean/Great Lakes management plans	Yes	Yes	Yes
State comprehensive ocean/Great Lakes management plans	No	No	No
Single-sector management plans	No	No	No

2. For any management categories with significant changes, briefly provide the information below. If this information is provided under another enhancement area or section of the document, please provide a reference to the other section rather than duplicate the information:
    a. Describe the significance of the changes;
    b. Specify if they were 309 or other CZM-driven changes; and
    c. Characterize the outcomes or likely future outcomes of the changes.

The State of Alabama recently passed a statute adopting a nine-mile extension of state waters for fisheries management purposes. This was not a CZM driven change. A state red snapper catch data program was also implemented. These changes will likely result in better management of the red snapper fishery off of Alabama.

As part of the most recent 309 assessment and strategy, the ACAMP is developing a Coastal Marine Spatial Planning and Decision Support Tool, scheduled to be completed in FY2016 and should result in improved marine planning, coordination and decision-making. In the past two years, the US Army Corps of Engineers formed an Interagency Working Group to address the beneficial use (BU) of dredged materials in Alabama. These efforts have resulted in the filling of a large, deep man-made dredge hole, the adoption of new thin-layer, open bay disposal techniques and similar efforts. Additional BU projects are in the planning stages.

3. Indicate if your state or territory has a comprehensive ocean or Great Lakes management plan.

Comprehensive Ocean/Great Lakes Management Plan	State Plan	Regional Plan
Completed plan (Y/N) (If yes, specify year completed)	No	No
Under development (Y/N)	Yes	No
Web address (if available)	n/a	n/a
Area covered by plan	State Waters out to limit of EEZ	n/a

Enhancement Area Prioritization:

1. What level of priority is the enhancement area for the coastal management program?
    High ____
    Medium ____
    Low XXX

2. Briefly explain the reason for this level of priority. Include input from stakeholder engagement, including the types of stakeholders engaged.

Due to current 309 funding to develop the Coastal Marine Spatial Planning and Decision Support Tool, the ACAMP staff proposes to invest future 309 funding in other enhancement areas. Additionally, fisheries management issues are being addressed by the ADCNR Marine Resources Division. Thus, Ocean and Great Lakes Resources rates as a low priority for 309 funding.

Stakeholder Response:
Ocean Resources ranked 6th in priority of the nine enhancement areas. Of the 27 individual responses received, six ranked ocean resources as a top three priority. Four groups were represented in the six responses: academic institutions, municipalities, non-profits, and state agencies.

The groups that did not rank ocean resources as a top three priority were private industry, regional agencies, regional federal/state/local partnerships, and the Coastal Resources Advisory Council.

Public Access

Section 309 Enhancement Objective: Attain increased opportunities for public access, taking into account current and future public access needs, to coastal areas of recreational, historical, aesthetic, ecological, or cultural value. §309(a)(3)

PHASE I (HIGH-LEVEL) ASSESSMENT: *Purpose: To quickly determine whether the enhancement area is a high priority enhancement objective for the CMP that warrants a more in-depth assessment.*

Resource Characterization:

1. Use the table below to provide data on public access availability within the coastal zone.

Public Access Status and Trends			
Type of Access	**Current number**	**Changes or Trends Since Last Assessment** (ndwn)	**Cite data source**
Beach access sites	14	Unknown	*Gulf Shores/Orange Beach Tourism website *Dauphin Island Park and Beach website
Shoreline (other than beach) access sites	133	Unknown; shoreline access includes beach access, boat access and fishing access sites	*Public Access Inventory 2013
Recreational boat (power or non-motorized) access sites	35 hard surface boat launches 84 carry down access	↑; carry down access sites includes shoreline access that may not be designated as a launch	*Public Access Inventory 2013
Number of designated scenic vistas or overlook points	0	*Many of the sites provide scenic vistas or overlooks, but none are designated	*Public Access Inventory 2013
Number of fishing access points (i.e. piers, jetties)	67 posted 85 not posted	↑	*Public Access Inventory 2013 *Previous 309 Assessment
Coastal trails/ boardwalks	No. of Trails/ boardwalks 32/41 Miles of Trails/board-walks > 160 miles	↑	*Public Access Inventory 2013 *Previous 309 Assessment
Number of acres parkland/open space	Total sites Sites per miles of shoreline	*unknown acreage; There are 189 total public access sites (beach, shoreline, boat and fishing) as recorded in the Public Access Inventory (2013) with approximately 653 miles of shoreline available for public access	
Other (please specify)	none		

2. Briefly characterize the demand for coastal public access and the process for periodically assessing demand. Include a statement on the projected population increase for your coastal counties. There are several additional sources of statewide information that may help inform this response, such as the Statewide Comprehensive Outdoor Recreation Plan, the National Survey on Fishing, Hunting, and Wildlife Associated Recreation, and your state's tourism office.

The population within the state's coastal shoreline counties is projected to increase by 11 percent between 2010 and 2020. With an increasing coastal population, the demand for public access, including boat launches, fishing piers, walking trails, and beach access, is significant for citizens within the two coastal counties of Alabama, as well as tourists to the area. ADCNR Coastal Section assesses demand for public access through regular communication with local governments and county officials. Additionally, a public access inventory is maintained to keep track of the numbers and types of public access points within each of the coastal counties.

3. If available, briefly list and summarize the results of any additional data or reports on the status or trends for coastal public access since the last assessment.

N/A

Management Characterization:

1. Indicate if the approach is employed by the state or territory and if there have been any significant state- or territory-level management changes (positive or negative) that could impact the future provision of public access to coastal areas of recreational, historical, aesthetic, ecological, or cultural value.

Management Category	**Employed by State or Territory** (Y or N)	**CMP Provides Assistance to Locals that Employ** (Y or N)	**Significant Changes Since Last Assessment** (Y or N)
Statutes, regulations, policies, or case law interpreting these	Y	Y	N
Operation/maintenance of existing facilities	Y	N	N
Acquisition/enhancement programs	Y	Y	N

2. For any management categories with significant changes, briefly provide the information below. If this information is provided under another enhancement area or section of the document, please provide a reference to the other section rather than duplicate the information:
    a. Describe the significance of the changes;
    b. Specify if they were 309 or other CZM-driven changes; and
    c. Characterize the outcomes or likely future outcomes of the changes.

No significant changes.

3. Indicate if your state or territory has a publically available public access guide. How current is the publication and how frequently it is updated?

Public Access Guide	Printed	Online	Mobile App
State or territory has? (Y or N)	N	N	N
Web address (if applicable)	N	N	N
Date of last update	Inventory update 2006	N	N
Frequency of update	Inventory update 6-7 years	N	N

Enhancement Area Prioritization:

1. What level of priority is the enhancement area for the coastal management program?

High ____
Medium ____
Low XXX

2. Briefly explain the reason for this level of priority. Include input from stakeholder engagement, including the types of stakeholders engaged.

The ACAMP staff is active in public access planning efforts and routinely provides 306 funding to local and state governments and academic institutions to plan for public access sites throughout the coastal area. As a follow-up to planning, the staff earmarks 10 percent of annual 306 funding for 306a low-cost construction projects to be built within the Alabama Coastal Area. These efforts are monitored and improved upon as needed each year. Therefore, Public Access rates as a low priority for 309 funding.

Stakeholder Response:
Public Access ranked 4th in priority of the nine enhancement areas. Of the 27 individual responses received, 11 ranked public access as a top three priority. Six groups were represented in the 11 responses: academic institutions, municipalities, non-profits, regional agencies, regional federal/state/local partnerships, and state agencies.

The groups that did not rank public access as a top three priority were private industry and the Coastal Resources Advisory Council.

Note: The number of responses ranking public access as a top three priority was equal to the number of responses that rated cumulative and secondary impacts as a top three priority. However, the level of overall rankings resulted in cumulative and secondary impacts being rated higher (3rd) than public access (4th).

Special Area Management Planning

Section 309 Enhancement Objective: Preparing and implementing special area management plans for important coastal areas. §309(a)(6)

The Coastal Zone Management Act defines a Special Area Management Plan (SAMP) as "a comprehensive plan providing for natural resource protection and reasonable coastal-dependent economic growth containing a detailed and comprehensive statement of policies; standards and criteria to guide public and private uses of lands and waters; and mechanisms for timely implementation in specific geographic areas within the coastal zone. In addition, SAMPs provide for increased specificity in protecting natural resources, reasonable coastal-dependent economic growth, improved protection of life and property in hazardous areas, including those areas likely to be affected by land subsidence, sea level rise, or fluctuating water levels of the Great Lakes, and improved predictability in governmental decision making."

PHASE I (HIGH-LEVEL) ASSESSMENT: Purpose: To quickly determine whether the enhancement area is a high priority enhancement objective for the CMP that warrants a more in-depth assessment.

Resource Characterization:

1. In the table below, identify geographic areas in the coastal zone subject to use conflicts that may be able to be addressed through a special area management plan (SAMP). This can include areas that are already covered by a SAMP but where new issues or conflicts have emerged that are not addressed through the current SAMP.

Geographic Area	Opportunities for New or Updated Special Area Management Plans
	Major conflicts/issues
NONE	

2. If available, briefly list and summarize the results of any additional state- or territory-specific data or reports on the status and trends of SAMPs since the last assessment.

NONE

Management Characterization:

1. Indicate if the approach is employed by the state or territory and if there have been any significant state- or territory-level management changes (positive or negative) that could help prepare and implement SAMPs in the coastal zone.

Management Category	Employed by State or Territory (Y or N)	CMP Provides Assistance to Locals that Employ (Y or N)	Significant Changes Since Last Assessment (Y or N)
SAMP policies, or case law interpreting these	None	If requested	N
SAMP plans	None	If requested	N

2. For any management categories with significant changes, briefly provide the information below. If this information is provided under another enhancement area or section of the document, please provide a reference to the other section rather than duplicate the information:
    a. Describe the significance of the changes;
    b. Specify if they were 309 or other CZM-driven changes; and
    c. Characterize the outcomes or likely future outcomes of the changes.

No significant changes.

Enhancement Area Prioritization:

1. What level of priority is the enhancement area for the coastal management program?

High	____
Medium	____
Low	XXX

2. Briefly explain the reason for this level of priority. Include input from stakeholder engagement, including the types of stakeholders engaged.

Special Area Management Planning rates as a low priority for 309 funding. No gaps have been identified that can be addressed by a SAMP, which targets use conflicts within a geographic area. Needs and information gaps relevant to the Alabama Coastal Area can be more appropriately addressed under one of the other eight enhancement objectives. A SAMP approach is a less effective method of addressing use conflict issues in Coastal Alabama.

Stakeholder Response:
Special Area Management Planning ranked 7th in priority of the nine enhancement areas. Of the 27 individual responses received, four ranked special area management planning as a top three priority. Three groups were represented in the four responses: municipalities, non-profits, and state agencies.

The groups that did not rank Special Area Management Planning as a top three priority were academic institutions, private industry, regional agencies, regional federal/state/local partnerships, and the Coastal Resources Advisory Council.

Wetlands

Section 309 Enhancement Objective: Protection, restoration, or enhancement of the existing coastal wetlands base, or creation of new coastal wetlands. §309(a)(1).

Note: For the purposes of the Wetlands Assessment, wetlands are "those areas that are inundated or saturated at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions." [33CFR328.3(b)]. See also pg. 17 of the CZMA Performance Measurement Guidance for a more in-depth discussion of what should be considered a wetland.

Phase I High-Level Assessment: Purpose: To quickly determine whether the enhancement area is a high priority enhancement objective for the CMP that warrants a more in-depth assessment.

Resource Characterization:

1. Using reports from NOAA's Land Cover Atlas, indicate the extent, status, and trends of wetlands in the state's coastal counties. Additional or alternative information or use of graphs or other visuals can be used to help illustrate or replace the table entirely if better data are available.

Coastal Wetlands Status and Trends		
Current state of wetlands in 2011 (acres)		
Percent net change in total wetlands (% gained or lost)*	from 1996-2011	from 2006-2011
	-2.61%	-1.45%
Percent net change in freshwater (palustrine wetlands) (% gained or lost)*	from 1996-2011	from 2006-2011
	-2.87%	-2.69%
Percent net change in saltwater (estuarine) wetlands (% gained or lost)*	from 1996-2011	from 2006-2011
	-0.52%	-0.33%

How Wetlands Are Changing*		
Land Cover Type	**Area of Wetlands Transformed to Another Type of Land Cover between 1996-2011 (Sq. Miles)**	**Area of Wetlands Transformed to Another Type of Land Cover between 2006-2011 (Sq. Miles)**
Development	3.48	1.22
Agriculture	1.72	0.0
Barren Land	0.46	0.08
Water	0.99	0.11

2. If available, briefly list and summarize the results of any additional state- or territory-specific data or reports on the status and trends of coastal wetlands since the last assessment to augment the national data sets.

The ACAMP and the Mobile Bay NEP conducted submerged aquatic vegetation mapping in 2008 and 2009, published "Submerged Aquatic Vegetation Mapping in Mobile Bay and Adjacent Waters in Coastal Alabama in 2008 and 2009." As noted in the previous 309 Assessment, the acreage and species composition of SAV coverage in coastal Alabama has fluctuated widely from 1980-2009. Mapping results from 2008-2009 indicate that since the 2002 mapping efforts, significant acreage of SAVs were lost on the lower Mobile-Tensaw River Delta and upper Mobile Bay. These losses primarily involved the loss of large acreages of Milfoil on the lower Delta and a reduction in the acreage of Vallisneria on the upper bay. These losses appear to be the result of recent drought and tropical storm events. An anecdotal review of aerial imagery produced since 2009 indicates that SAV coverage in upper Mobile Bay and the lower Mobile-Tensaw Delta has increased significantly since 2009. However, SAV mapping has not taken place since 2009, and these changes cannot be quantified, especially in Little Lagoon.
http://www.mobilebaynep.com/images/uploads/library/SAVfinal_Jan2010.pdf

In regards to seagrass coverage (Halodule wrightii and Ruppia maritima) which are found in the more saline environments in Mississippi Sound, Little Lagoon and lower Perdido Bay, a comparison between 2002 and 2008-2009 data indicates an increase in coverage. This may have been the result of the recent drought conditions experienced during 2006-2007. During the drought, these areas experienced decreased freshwater inflows and the resulting increased salinities and water clarity may have facilitated the expansion of these more salt tolerant species. When comparing the 2008 and 2009 data, there was significantly more seagrasses in Mississippi Sound during 2008 (the last year of the drought) than 2009 (a year of above normal rainfall). Once again, an anecdotal review of aerial imagery produced since 2009 indicates that seagrass coverage in lower Perdido Bay has continued to increase since the 2009 mapping effort. The trend in the imagery for Mississippi Sound is less apparent. But once again, SAV mapping has not taken place since 2009, and these changes cannot be quantified.

Overall, the trend in SAV coverage appears to be precipitation and tropical storm event driven, with minimal direct losses due to docks, piers and dredging.

HOWEVER, it is important to note that the ADEM, which administers the regulatory and enforcement segments of the ACAMP, wrote the following regarding wetlands and SAVs:

> Wetlands:
> "Permitted wetlands impacts due to filling and dredging have reduced with time; however, new development continues to exert pressure on this resource."
>
> To address this problem, ADEM recommended improvements to the technical assistance, education and outreach methods, and improved coastal management efforts, regulations, policies, and planning.
>
> SAV's:
> "Submersed grassbeds have the highest level of regulatory protection under the ACAMP. Nevertheless, requests to dredge for recreational navigation very near known existing grassbeds and even to move them to other, more convenient areas are more frequent. Updated mapping of existing grassbed resources would be beneficial to the regulatory process."

To address this problem, ADEM recommended mapping, GIS and modeling, and improved technical assistance, education and outreach methods.

Management Characterization:

1. Indicate if there have been any significant changes at the state or territory level (positive or negative) that could impact the future protection, restoration, enhancement, or creation of coastal wetlands since the last assessment.

Management Category	Significant Changes Since Last Assessment (Y or N)
Statutes, regulations, policies, or case law interpreting these	No
Wetlands programs (e.g., regulatory, mitigation, restoration, acquisition)	Yes

2. For any management categories with significant changes, briefly provide the information below. If this information is provided under another enhancement area or section of the document, please provide a reference to the other section rather than duplicate the information:
    a. Describe the significance of the changes;
    b. Specify if they were 309 or other CZM-driven changes; and
    c. Characterize the outcomes or likely future outcomes of the changes.

The Deepwater Horizon Incident (DWH) has resulted in significant funding becoming available for wetlands restoration in coastal Alabama. During Phase I of the DWH Natural Resource Damage Assessment Early Restoration Program, the restoration of 50 acres of salt marsh at Marsh Island in Portersville Bay, Mobile County, was approved. Additionally, significant funds from fines and settlements from the DWH Incident have been provided to the National Fish and Wildlife Foundation (NFWF) for coastal restoration and conservation in Alabama. Also, the RESTORE Act allocates significant funds for coastal restoration in Alabama. Based on existing DWH settlements, much of this funding, especially NFWF funds, will become available during the five years of this 309 Assessment and Strategy implementation. This could result in significant wetlands restoration and conservation in coastal Alabama.

Enhancement Area Prioritization:

1. What level of priority is the enhancement area for the coastal management program?

High ____
Medium XXX
Low ____

2. Briefly explain the reason for this level of priority. Include input from stakeholder engagement, including the types of stakeholders engaged.

Wetlands Enhancement Area is ranked as medium for the following reasons:

1. The rate of wetlands loss in coastal Alabama due to regulated activities is relatively low;
2. SAV coverage appears to be increasing since 2009, with recent changes in losses appearing to be related to weather events and little direct impact from regulated activities;
3. Based on anecdotal observations and shoreline change data, the most significant losses appear to be from erosion along Mississippi Sound shorelines. There are no apparent anthropogenic factors involved in these losses.

4. It appears that funds from the DWH incident, such as NFWF and RESTORE "Bucket 2 & 3" will be made available for restoration of wetlands during the five years of this 309 Assessment and Strategy implementation.
5. Local governments have begun to exert more control over wetlands impacts through city ordinances, which are more stringent than the USACE and ADEM. For example, the cities of Foley and Gulf Shores have provided for a buffer in excess of what is currently allowed by USACE and ADEM.

Stakeholder Response:
Wetlands ranked 1st in priority of the nine enhancement areas. Of the 27 individual responses received, 25 ranked wetlands as a top three priority. All eight groups were represented in the 25 responses: academic institutions, municipalities, non-profits, private industry, regional agencies, regional federal/state/local partnerships, state agencies, and the Coastal Resources Advisory Council.

Assessment – Phase II

Coastal Hazards

This section contains the Phase II assessment for the one high priority enhancement area.

The ACAMP has determined that the following enhancement area is a high priority for the Alabama Coastal Area: Coastal Hazards

In-Depth Resource Characterization:
Purpose: To determine key problems and opportunities to improve the CMP's ability to prevent or significantly reduce coastal hazard risk by eliminating development and redevelopment in high-hazard areas and managing the effect of potential sea level rise and Great Lakes level change.

1a. Flooding In-depth (for all states besides territories): Using data from *NOAA's State of the Coast* "Population in the Floodplain" viewer[1] and summarized by coastal county through NOAA's Coastal County Snapshots for Flood Exposure[2], indicate how many people at potentially elevated risk were located within the state's coastal floodplain as of 2010. This data only reflects two types of vulnerable populations. You can provide additional or alternative information or use graphs or other visuals to help illustrate or replace the table entirely if better data are available. *Note: National data is not available for territories. Territories can omit this question unless they have similar alternative data or include a brief qualitative narrative description as a substitute.*

2010 Populations in Coastal Counties at Potentially Elevated Risk to Coastal Flooding[3]				
	Under 5 and Over 65 years old		In Poverty	
	# of people	% Under 5/Over 65	# of people	% in Poverty
Inside Floodplain	18,400	23%	12,800	16%
Outside Floodplain	576,857	NA thru NOAA site	88,393	15%

1b. Flooding In-depth: Using NOAA C-CAP data[4] summarized by coastal county through NOAA's Coastal County Snapshots for Flood Exposure[5], indicate the amount of land converted to development within the coastal floodplain between 2006 and 2011. You can provide additional information or use graphs or other visuals to help illustrate or replace the table entirely if better data is available. *Note: Time periods for available data for the islands will differ. Islands should indicate the appropriate time period the available data reflects. Also, trend data is not available for PR and CNMI so those CMPs can omit this question unless the territory has similar alternative data or brief qualitative narrative description it would like to substitute.*

Amount of Land Cover Converted to Development in Coastal Counties Between 2006 & 2011		
	SQUARE MILES	Percent Converted
Baldwin County	11.41 sq. miles (acreage not available)	12.48%
Mobile County	11.60 sq. miles (acreage not available)	6.88%

[1] http://stateofthecoast.noaa.gov/pop100yr/welcome.html
[2] http://www.csc.noaa.gov/digitalcoast/tools/snapshots
[3] *To obtain exact population numbers for the coastal floodplain, download the excel data file from the State of the Coast's "Population in Floodplain" viewer.*
[4] http://www.csc.noaa.gov/digitalcoast/data/ccapregional
[5] http://www.csc.noaa.gov/digitalcoast/tools/snapshots
*http://coast.noaa.gov/dataregistry/search/collection/info/ccapregional

1c. Flooding In-depth (for all states besides territories): Using data from FEMA's HAZUS[6] and summarized by coastal county through NOAA's Coastal County Snapshots for Flood Exposure[7], indicate how many different establishments (businesses or employers) and critical facilities are located in the FEMA floodplain. You can provide more information or use graphs or other visuals to help illustrate or replace table entirely if better information is available.

Critical Facilities in the FEMA Floodplain						
	Schools[4] [3]	**Police Stations**[43]	**Fire Stations**[43]	**Emergency Center1s**[43]	**Medical Facilities**[43]	**Communication Towers**[43]
Coastal Counties Inside Floodplain	8	4	6	1	0	7
Coastal Counties Outside Floodplain	230	35	37	0	12	34

2. Based on the characterization of coastal hazard risk, what are the three most significant coastal hazards[8] within the coastal zone? Also indicate the geographic scope of the hazard, i.e., is it prevalent throughout the coastal zone or is a specific area(s) most at risk?

	Type of Hazard	**Coastal Uses Resources Most Threatened** (throughout coastal zone or specific area(s) most threatened)
Hazard 1	Coastal Storms	Community Infrastructure
Hazard 2	Coastal Development	Habitat (wetlands/natural shorelines), public access, water quality
Hazard 3	Sea Level Rise	Human, wildlife, habitat and community infrastructure.
Hazard 4	Coastal Inundation/Flooding	Human, wildlife, habitat and community infrastructure.

3. Briefly explain why these are currently the most significant coastal hazards within the coastal zone. Cite stakeholder input and/or existing reports or studies to support this assessment.

Because of potential sea level rise and the ever-present risk from coastal storms, there is a continuing need to assist coastal communities in understanding the benefits and use of various methods to increase resilience, including risk assessment tools, when planning for economic development and conservation/preservation.

One type of development that alters the natural protection of the coastal area is explained in the Phase I Assessment for Cumulative & Secondary Impacts, Resource Characterization, Q. 5.

"A comprehensive shoreline mapping and shoreline change study in coastal Alabama was conducted under Section 309, and the final phase and report was completed under NA#10NOS4190206. The study, conducted by the Geological Survey of Alabama's Geologic Investigations Program and

[6] *http://www.fema.gov/hazus; can also download data from NOAA STICS http://coastalsocioeconomics.noaa.gov/download/download2.html.*
[7] *http://www.csc.noaa.gov/digitalcoast/tools/snapshots*
[8] *See list of coastal hazards at the beginning of this assessment template.*

entitled “COMPREHENSIVE SHORELINE MAPPING, BALDWIN AND MOBILE COUNTIES, ALABAMA: PHASE III - OPEN FILE REPORT 1204.”

The study documented continued increases in shoreline armoring in coastal Alabama. With this increase in armoring comes an accompanying loss of intertidal habitats and a loss of productivity along with impact to adjacent shorelines.

Population movement toward the coast is another trend that will increase the vulnerability of coastal populations, infrastructure, and habitats. Development will follow, impacting more of the natural areas that contribute to water quality, coastal hazard barriers, and fish and wildlife habitats.

While the population living in the floodplain of Baldwin and Mobile counties decreased 4.19 percent from 2000 to 2010 (see Phase I Assessment for Coastal Hazard, Resource Characterization, Q. 1), sea level rise would increase the land area within the floodplain, putting at risk those populations, infrastructure and habitats that had previously been outside of the floodplain.

4. Are there emerging issues that are of concern, but you lack sufficient information to evaluate the level of the potential threat? If so, please list. Include additional lines if needed.

Emerging Issue	Information Needed
Sea Level Rise	Updated data for modeling; more definitive information on high-risk areas vulnerable to sea level rise and flooding; updated maps.

In-Depth Management Characterization:
Purpose: To determine the effectiveness of management efforts to address identified problems related to the coastal hazards enhancement objective.

1. For each coastal hazard management category below, indicate if the approach is employed by the state or territory and if there has been a significant change since the last assessment.

Management Category	Employed by State/Territory (Y or N)	CMP Provides Assistance to Locals that Employ (Y or N)	Significant Change Since the Last Assessment (Y or N)
Statutes, Regulations, and Policies:			
Shorefront setbacks/no build areas	Y	Y	N
Rolling easements	N	N	N
Repair/rebuilding restrictions	N	N	N
Hard shoreline protection structure restrictions	Y	Y	N
Promotion of alternative shoreline stabilization methodologies (i.e., living shorelines/green infrastructure)	Y	N	Y
Repair/replacement of shore protection structure restrictions	Y	Y	N
Inlet management	Y	N	N
Protection of important natural resources for hazard mitigation benefits (e.g., dunes, wetlands, barrier islands, coral reefs) (other than setbacks/no build areas)	Y	Y	N
Repetitive flood loss policies (e.g., relocation,	Y	N	N

buyouts)			
Freeboard requirements	N	N	N
Real estate sales disclosure requirements	N	N	N
Restrictions on publicly funded infrastructure	N	N	N
Infrastructure protection (e.g., considering hazards in siting and design)	N	N	N
Other (please specify)	NA		
Management Planning Programs or Initiatives:			
Hazard mitigation plans	Y	Y	N
Sea level rise/Great Lakes level change or climate change adaptation plans	N	N	N
Statewide requirement for local post-disaster recovery planning	N	N	N
Sediment management plans	Y	Y	N
Beach nourishment plans	Y	Y	N
Special Area Management Plans (that address hazards issues)	N	N	N
Managed retreat plans	N	N	N
Other (please specify)	NA		
Research, Mapping, and Education Programs or Initiatives:			
General hazards mapping or modeling	Y	N	N
Sea level rise mapping or modeling	N	N	N
Hazards monitoring (e.g., erosion rate, shoreline change, high-water marks)	Y	N	N
Hazards education and outreach	Y	N	N
Other (please specify)	NA		

2. Identify and describe the conclusions of any studies that have been done that illustrate the effectiveness of the state's management efforts in addressing coastal hazards since the last assessment. If not, is there any information that you are lacking to assess the effectiveness of the state's management efforts?

There are no studies illustrating the effectiveness of management efforts in addressing this enhancement area. It is difficult to determine the effectiveness of long-termed planning efforts and programs. However, through the ACAMP and OCM funding and ACAMP enforceable policies, local governments have been able to document some improvements to comprehensive plans and public access facilities and reduced impacts to natural habitats within the defined Alabama Coastal Area, resulting in public participation and information that supports the balance of economic development and conservation/preservation.

Identification of Priorities:

1. Considering changes in coastal hazard risk and coastal hazard management since the last assessment and stakeholder input, identify and briefly describe the top one to three management priorities where there is the greatest opportunity for the CMP to improve its ability to more effectively address the most significant hazard risks. *(Approximately 1-3 sentences per management priority.)*

Management Priority 1: Improved methods of assessing risks to identify gaps in ordinances and regulations across local government boundaries.

Description: As stated in Phase I Assessment for Coastal Hazards, Enhancement Area Prioritization, Q2, "…at the state and local levels, the topics of flooding and shoreline erosion are not discussed or planned for in terms of true resiliency. Improved risk assessment methods would give local governments the tools to identify gaps in local ordinances and regulation.

Management Priority 2: Improved local governments' ability to make informed decisions and enact improved, new and/or updated ordinances, regulations and enforcement.

Description: Although current regulations help mitigate impacts to the coastal area, there is an increasing pressure being exerted upon resources because of an increase in the coastal population. Utilizing sound assessment tools would provide local government officials and staff the support needed to update ordinances and regulations and improve enforcement to avoid increased impacts from coastal hazards.

Management Priority 3: Improved state, local and citizen education on the effects of the stressors and the tools available to mitigate impacts.

Description: As stated in Phase I Assessment for Coastal Hazards, Enhancement Area Prioritization, Q2, "in coastal Alabama…there is concern that there are no serious discussions at the local and state levels regarding the potential for and effects of sea level rise." Citizens will benefit from improved education on the effects of the three stressors on the environment, how these stressors impact their lives (i.e. health issues, resiliency issues), and the tools available to elected officials to enact ordinances and regulations to mitigate effects.

2. Identify and briefly explain priority needs and information gaps the CMP has to help it address the management priorities identified above. The needs and gaps identified here should not be limited to those items that will be addressed through a Section 309 strategy but should include any items that will be part of a strategy.

Priority Needs	**Need?** (Y or N)	**Brief Explanation of Need/Gap**
Research	Y	Continued research on the effects of armoring, as well as the efficacy of living shorelines techniques.
Mapping/GIS	Y	Sea and coastal flooding vulnerability mapping; improved GIS.
Data and information management	Y	Data and mapping for floodplain management and programs (CRS and NFIP approval).
Training/Capacity building	Y	Training local government officials, planners and building officials on resiliency.
Decision-support tools	Y	CRS and NFIP approval tools.
Communication and outreach	Y	Additional Coastal Training Program (CTP) support training.
Other (Specify)	Y	Implement planning and education strategies across local boundaries.

Enhancement Area Strategy Development:

1. Will the CMP develop one or more strategies for this enhancement area?

Yes XXX
No ____

2. Briefly explain why a strategy will or will not be developed for this enhancement area.

A strategy will be developed for this enhancement area that will enable a mechanism to

- engage local governments and citizens in addressing the potential risk and effects of sea level rise, the potential for increased flooding and shoreline erosion due to a number of factors, and the effects of growth and development on the resiliency of a community;
- develop coastal resources in a responsible and orderly manner so that the resiliency of the coast can be assured; and
- educate the population regarding the impact of the stressors on their lives and livelihood (i.e. health issues, resiliency issues).

Reasons to develop a Coastal Hazards Strategy:

a. Population increase and subsequent development issues and loss of natural habitat that exist in the coastal area.

b. Flooding and shoreline erosion remain moderate to high in coastal Alabama and the transition from natural landscapes to development continues and is more intense in the near coastal areas, increasing the acreage of impervious surfaces, vulnerability to coastal hazards, and pressure to displace wetlands and SAV's.

c. There are no serious discussions at the local and state levels regarding the potential for and effects of sea level rise and the increasing need for resilient communities. Additionally, at the state and local levels, the topics of flooding and shoreline erosion are not discussed or planned for in terms of true resiliency.

d. Today's scientific and weather data and literature indicates that risk for coastal hazards should be studied and planned for in all coastal areas.

e. The land use and comprehensive plans implemented by local governments located in Alabama's two coastal counties are confined to the municipal and planning jurisdiction boundaries and to traditional resources, uses and threats (especially flooding and stormwater issues). Plans do not take into consideration the interdependency of the region and neighboring locales, the interdependency of nearshore and offshore resources and uses, and the potential threat of sea level rise, which is estimated to be between 0.6 and 2.0 feet in the next century, according to the International Panel on Climate Change IPCC. Thus, the assessment of and planning for coastal hazard impacts and the implementation of coordinated coastal area plans are hampered.

f. Coastal Hazards ranked 2nd in priority of the nine enhancement areas. Of the 27 individual responses received, 15 ranked coastal hazards as a top three priority. All eight groups were represented in the 15 responses: academic institutions, municipalities, non-profits, private industry, regional agencies, regional federal/state/local partnerships, state agencies, and the Coastal Resources Advisory Council.

Strategy

Community Resiliency Initiative: Planning for Resilient Communities

This section establishes a strategy ACAMP plans to pursue during the five-year strategy period based on the management needs identified in the assessment for the high priority enhancement area: Coastal Hazards. This strategy includes a description of new and revised local rules and ordinances that will address the needs identified in the Coastal Hazards assessment and a work plan to achieve appropriate and cost-effective improvements that will aid the ACAMP in furthering the goals and objectives of a resilient coastal area.

I. Issue Area(s)

The proposed strategy or implementation activities will support the following high-priority enhancement areas *(check all that apply)*:

- ☐ Aquaculture
- ☐ Energy & Government Facility Siting
- **XX Coastal Hazards**
- ☐ Ocean/Great Lakes Resources
- ☐ Special Area Management Planning
- ☐ Cumulative and Secondary Impacts
- ☐ Wetlands
- ☐ Marine Debris
- ☐ Public Access

II. Strategy Description

A. The proposed strategy will lead to, or implement, the following types of program changes *(check all that apply):*

- ☐ A change to coastal zone boundaries;
- ☐ New or revised authorities, including statutes, regulations, enforceable policies, administrative decisions, executive orders, and memoranda of agreement/understanding;
- ☐ New or revised local coastal programs and implementing ordinances;
- ☐ New or revised coastal land acquisition, management, and restoration programs;
- ☐ New or revised special area management plans (SAMP) or plans for areas of particular concern (APC) including enforceable policies and other necessary implementation mechanisms or criteria and procedures for designating and managing APCs; and,
- **XX** New or revised guidelines, procedures, and policy documents which 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 improvements in coastal resource management.

B. ***Strategy Goal:***

To help coastal communities mitigate and adapt to coastal hazards and stressors through enhanced floodplain management, technical assistance, and public outreach programs.

C. Strategy Description:

The ADCNR proposes to use Section 309 over a five-year period to develop and initiate a project entitled Community Resiliency Initiative: Planning for Resilient Communities.

To implement the initiative, the ADCNR will develop a Section 309 grant program to provide guidance and funding to local governments within Mobile and Baldwin counties for the purpose of becoming active in the Community Rating System (CRS) and developing and implementing local ordinances related to floodplain management and community resiliency from coastal hazards. Included in the initiative is the establishment of a public awareness program by local governments relating to coastal resiliency. Guidance will be provided through ADCNR and an advisory committee of local partners, such as the Alabama Department of Economic and Community Affairs, Mississippi/Alabama Sea Grant Consortium, Alabama Association of Floodplain Managers, Mobile Bay National Estuary Program, academic institutions, etc.

Throughout the initiative, the ADCNR will require an outreach component where the local governments incorporate actions that engage the public in the process by conducting public forums, public service announcements and other actions at strategic points in the process. ADCNR, an advisory committee of local partners (created for the strategy implementation), and other coastal partners of the ACAMP will work with communities to develop and disseminate information and presentations targeting public awareness and input.

ADCNR would work closely with the Alabama Department of Economic and Community Affairs (ADECA), Office of Water Resources (OWR) on training materials and information sources related to OWR floodplain management programs. This is done in conjunction with FEMA and local communities to build relationships and to strengthen mitigation plans and actions to better protect residences and communities through flood mapping and flood studies.
www.adeca.alabama.gov/Divisions/owr/floodplain

Additional partners in the effort could include the Alabama Association of Floodplain Managers (AAFM), who sponsor conferences and seminars that provide up-to-date educational programs and network opportunities with other partners interested and experienced in floodplain management (http://www.aafmfloods.org) and the South Alabama Regional Planning Commission (SARPC). Staff from the SARPC Environmental Management Department serve a number of local governments in preparation of various grant applications including hazard mitigation grant programs. The department's staff can also assist with pre- and post-disaster planning efforts such as preparation of long-termed recovery plans and the CRS program. (www.sarpc.org)

III. Needs and Gaps Addressed

The following three management priorities will be addressed.

Management Priority 1: Improved methods of assessing risks to identify gaps in ordinances and regulations in community resiliency across local government boundaries.

Management Priority 2: Improved local governments' ability to make informed decisions and enact improved, new and/or updated ordinances, regulations and enforcement.

Management Priority 3: Improved state, local and citizen education on the effects of the stressors and the tools available to mitigate impacts.

The following needs/gaps will be addressed: Research, Mapping/GIS, Data and Information Management, Training/Capacity building, Decision-Support Tools, Communication and Outreach, and Other - Implement planning and education strategies across local boundaries.

IV. Benefits to Coastal Management

Discuss the anticipated effect of the strategy, including the scope and value of the strategy, in advancing improvements in the CMP and coastal management, in general.

The ADCNR will conduct the following activities:

- Conduct research to obtain data sets relating to flooding, sea level rise and natural barriers.
- Identify gaps in data sets and engage federal and state partners in the efforts to fill those gaps.
- Identify and assess methods that enhance natural protective features and help decrease the use of methods that reduce the protective properties of natural barriers (such as hard armoring of the shoreline and destruction of sea grasses, wetlands, forested areas and dunes).
- Review and present Community Rating System (CRS) criteria and its applicability to the Alabama Coastal Area in order to assist interested coastal communities in improving floodplain management.
- Utilize the expertise of the Weeks Bay National Estuarine Research Reserve's (WBNERR) Coastal Training Program (CTP) to educate government officials and staff regarding the CRS. Under CTP, the benefits of a resilient coast and the methods to obtain such would be extended to coastal residents and interested parties.
- Establish a small grants program, in addition to revising the existing Coastal Resources Improvements Program (CRIP), to select local governments within Mobile and Baldwin counties to engage in the process and provide the selected government(s) guidance and funding for the purpose of becoming active or increasing their rating in the NFIP Community Rating System (CRS) and developing local ordinances related to coastal resiliency.
- Explore the creation and support of a local CRS Users-Group to assist with community relationships and dissemination of outreach material.

The local governments will conduct the following activities:

1) At the local level, the topics of flooding and shoreline erosion will be discussed and methods to improve resiliency will be utilized to revise or develop new local ordinances and actions. This process will engage local government officials, planners and building officials in the risk assessment process and the use of CRS and NFIP approval tools. This process will lead to informed decision-making related to mitigating the impacts of coastal hazards, reducing the loss of natural barriers and engaging city residents.
2) The local governments would seek to obtain CRS approval and/or a higher rating in the CRS program, and revise or develop new ordinances in order to enhance the ability to prepare and mitigate for future hazard events.
3) The local government will conduct outreach activities that engage and inform the public, and especially the local residents, of the benefits of coastal resiliency.

All activities described address objectives to achieve the ACAMP goal of mitigating the effects of coastal hazards impacts through a cooperative relationship between local governments and ACAMP.

Mitigating the effects of coastal hazards:
Specifically, state and local activities will increase awareness of the need for and benefits of coastal resiliency. As stated in Phase I Assessment for Coastal Hazards, Enhancement Area Prioritization, Q2, "…at the state and local levels, the topics of flooding and shoreline erosion are not discussed or planned for in terms of true resiliency." Improved risk assessment methods would give local governments the tools to identify gaps in local ordinances and regulation.

Creating a cooperative relationship between local governments and ACAMP:

Specifically, activities described will address the need stated under the in-depth assessment for Coastal Hazards, Enhancement Area Strategy Development, Q. 2, "A mechanism is needed to engage local governments and citizens in addressing the potential risk and effects of sea level rise, the potential for increased flooding and shoreline erosion due to a number of factors, the effects of growth and development on the resiliency of a community; to develop coastal resources in a responsible and orderly manner so that the resiliency of the coast can be assured; and to educate the population regarding the impact of the stressors on their lives and livelihood (i.e. health issues, resiliency issues)."

V. Likelihood of Success

Discuss the likelihood of attaining the strategy goal and program change (if not part of the strategy goal) during the five-year assessment cycle or at a later date. Address the nature and degree of support for pursuing the strategy and the proposed program change and the specific actions the state or territory will undertake to maintain or build future support for achieving and implementing the program change, including education and outreach activities.

There is a high likelihood of success due to existing partnerships and local initiatives. This strategy will build upon the existing momentum of NFIP participation, CRS enrollment and partners' endeavors.

The ACAMP (ADCNR and ADEM staff) has a long history of working with federal, state, regional and local partners and would engage each in the process according to their interest and expertise, including the US Army Corps of Engineers, US Fish & Wildlife Service, Alabama Department of Economic and Community Affairs, Alabama Emergency Management Agency, Alabama Geological Survey, Mississippi/Alabama Sea Grant, Auburn University Marine Extension and Research Center, Dauphin Island Sea Lab, Mobile Bay National Estuary Program, South Alabama Regional Planning Commission and citizen groups to resolve coastal issues and disseminate information. The Weeks Bay NERR is housed within the ADCNR, State Lands Division, Coastal Section, as is the planning staff of the ACAMP. The WBNERR has a history of working with additional partners including the Alabama Association of Floodplain Managers and local communities and residents.

The ACAMP is engaged on a routine basis with local governments, providing funding for new or revised comprehensive plans and public access projects. The enforcement arm of the ACAMP (ADEM) is engaged on a routine basis with local governments through the beach and dune program and implementation of rules and regulations that relate to various types of coastal development. It is not uncommon for local governments to consult ACAMP staff (both ADCNR and ADEM) on coastal issues.

Mississippi-Alabama Sea Grant Consortium (MASGC) is a recognized regional leader in hazard resilience outreach, providing tools and information to multiple audiences to help communities in Mississippi and Alabama plan for hazards. MASGC worked with municipalities in coastal Mississippi that have since taken action to improve resilience to natural hazards after completing the Coastal Community Resilience Index (CRI), a self-assessment exercise that was developed by MASGC and partners to gauge resilience. Through MASGC efforts, the city of Foley, Ala., has taken steps to join the Community Rating System and reports better hazard planning communication among city offices. The town of Perdido Beach, Ala., updated its Comprehensive Plan, funded by an ACAMP 306 sub-award, to include periodic reviews of the CRI to assess progress toward resilience, and the town is also developing a communications plan to encourage citizens to participate in resilience planning efforts.

Participation in the NFIP is the first criteria for engaging local governments in this process. As of March 8, 2015, both coastal counties (Baldwin and Mobile) are participating in the NFIP along with 13 municipalities in Baldwin County and nine municipalities in Mobile County.

ADCNR Coastal Section has already established a relationship with the Alabama Department of Economic and Community Affairs (ADECA) CRS specialist to engage in CRS efforts on the coast.

Participation in the CRS program is already established in the Alabama Coastal Area, through ADECA's Office of Water Resources. Therefore, there are examples to draw from in implementing this 309 strategy.

As of June 1, 2014, Baldwin County and three local governments have CRS ratings and a current status in the program: Baldwin County has the highest rating with a six, then the City of Orange Beach with a rating of 7. The City of Gulf Shores and Town of Dauphin Island follow with a rating of 8 each. These communities are not new to the program, with Baldwin County dating back to 1995. These facts represent one of the two coastal counties and three coastal cities and illustrate that very few local governments are enrolled in the CRS. There is a great need for improved participation, and ACAMP staff will use 309 funds toward that effort.

VI. Strategy Work Plan

Strategy Title	Year 1	Year 2	Year 3	Year 4	Year 5
Advisory Committee					
	Establish advisory committee				
Research & Data Collection					
	Needs assessment				
	FEMA community rating quick check tool for quick responders on needs assessment				
	Research needs & gaps				
Pilot Program; Develop & Deliver Training Workshops					
		Initiate pilot program for 1st of 2 C communities			
		Develop training workshops			
		Conduct training workshops	Conduct training workshops		
Community Completion of CRS Process					
		Develop request for proposals	Solicit proposals	Solicit proposals	
			Enroll 2 or 3 more communities in CRS	Enroll additional communities in CRS	Enroll additional communities in CRS
Outreach					
		Guide book "primer," presentations, outreach, develop technical bulletins	Continue to refine and develop technical bulletins as addendums to the primer	Continue to refine and develop technical bulletins as addendums to the primer	Continue to refine and develop technical bulletins as addendums to the primer

The following work plan describes in detail the major steps that will lead toward or achieve a program change, a schedule for completing the strategy, major projected milestones (key products, deliverables, activities, and decisions), and budget estimates.

Year 1: Research and Data Collection
Strategy Goal: Identify needs and challenges faced by coastal communities preventing enrollment in the FEMA Community Rating System.
Total Years: One (1)
Total Budget: $95,000.00

Year One (1) Needs Assessment
Description of activities: ADCNR will contract with a qualified agency (for example: South Alabama Regional Planning Commission, Mississippi Alabama Sea Grant, or other) to design, develop and conduct a needs assessment survey identifying the resource needs of coastal communities to facilitate the completion of the enrollment process in the FEMA Community Rating System.

An advisory committee of coastal partners will be established by ADCNR. The partners may include Alabama Department of Environmental Management, ADECA, NOAA Office for Coastal Management Gulf Coast Region, Alabama Association of Floodplain Managers, Mississippi/Alabama Sea Grant, Auburn University Marine Extension & Research Center, Weeks Bay National Estuarine Research Reserve, Dauphin Island Sea Lab, Mobile Bay National Estuary Program, local governments and others. The advisory committee will assist the contractor in all aspects of this task including the design and development of the needs assessment survey and evaluation of results.

The needs assessment survey will explore the current conditions of flooding for each participating community, data needs, personnel needs, training needs, existing resolutions and/or ordinances, roles and responsibilities of current municipal staff and other pertinent attributes related to flooding and flood insurance. The survey will be conducted by the contractor online, by U.S. mail, and/or in-person depending on the preferences of participating community staff. The contractor will attempt to survey 100 percent of the coastal communities to determine the needs not only of individual communities, but also of the Alabama Gulf Coast as a whole.

A detailed report based on results of needs assessment will be produced and necessary follow-up surveys will be conducted, as determined by the results of the initial assessment.

Major Milestone:
Needs assessment report identifying the needs to meet and challenges to overcome to assist coastal communities enroll in the FEMA Community Rating System.
Budget: $50,000.00

Year One (1) FEMA "Community Rating System Quick Check" Tool
Description of activities: ADCNR will work with the contractor and advisory committee to conduct the FEMA "Community Rating System Quick Check" tool with at least eight (8) coastal communities that completed the needs assessment survey. The "Community Rating System Quick Check" tool (https://www.fema.gov/media-library/assets/documents/31255) helps communities document their current activities and calculate their possible credit points.

A report based on the results of the quick check tool will be produced. The advisory committee and each participating community will be provided results. In addition, the compiled results, keeping individual communities anonymous, will be used to elucidate common strengths and weaknesses in flood management in the coastal area. Examination of common attributes will help communities desiring to work together address floodplain management and develop strategies for CRS membership. Agencies responsible for assisting coastal communities with floodplain management can use the information to concentrate assistance based on shared strengths and weaknesses. In addition, government resource agencies and academic institutions will have a database of information they can relate to habitat protection, open space and riparian issues.

Major Milestone:
Conduct the FEMA "Community Rating System Quick Check" tool with at least eight (8) coastal communities. Provide participating communities with tool results. Compile database of shared strengths and weaknesses in flood management for use by agencies or combined communities to educate the Community Rating System application process.
Budget: $30,000.00

Year One (1) Research Needs and Gaps
Description of activities: The ADCNR will contract with a qualified agency (such as a state or federal affiliated agency) to conduct research to obtain data sets relating to flooding, sea level rise and natural barriers and identify gaps in data sets. The ADCNR will engage federal and state partners in the efforts to fill those gaps. The goal is to identify and assess methods that enhance natural protective features and help reduce the use of methods that reduce the protective properties of natural barriers (such as hard armoring of the shoreline and destruction of sea grasses, wetlands, forested areas and dunes.)

Final results will be compiled into a report for the advisory committee. Available data sets will be utilized in this project. A report of data gaps will be made available to the advisory board for discussion on addressing these needs.

Major Milestone:
Determine and utilize available data sets; report and begin to address needs and gaps.
Budget: $15,000.00

Years 2-3: Initiate Pilot Program and Develop and Deliver Training Workshops
Strategy Goals: Initiate a pilot program to work with one community for enrollment in the CRS. Provide other coastal communities with information and training to meet the challenges and needs identified by the flood program needs assessment and the CRS "Community Rating System Quick Check" tool, incorporating lessons learned from pilot program during the year.
Total Years: Two (2)
Total Budget: $95,000

Year Two (2) Pilot Program
Description of activities: The ADCNR, in consultation with the advisory committee, will initiate a pilot program in one community to begin the process of enrollment or the process to increase the rating in the CRS. The community will be identified by the flood program needs assessment and the CRS "Community Rating System Quick Check" tool. The results will be used to improve the training, the request for proposals process, and the methods for working with communities of various experiences.

Major Milestone:
Initiate a pilot program to enroll a community or increase a community's rating in the CRS.
Budget: $60,000

Year Two (2) Develop Training Workshops
Description of activities: The ADCNR, working through the WBNERR CTP, will provide the advisory committee the CRS materials and engage the committee in the development of a training program to be conducted in years two and three. Once developed, the program will be assessed by the advisory committee. Upon approval of the committee and the WBNERR CTP staff, the first year of training will begin with selected communities identified by the flood program needs assessment and the CRS "Community Rating System Quick Check" tool.

Major Milestone:
Develop a training program based on the CRS tools and materials.
Budget: $15,000

Year Two (2) Training Workshops
Description of activities: ADCNR will continue to work with the contractor and the advisory committee to organize and conduct at least two (2) workshops. The workshops will be conducted for communities that participated in the needs assessment survey and the CRS "Community Rating System Quick Check" tool in year one of this program. The purpose of the workshops are to train local government staff in meeting the challenges and needs identified by the survey and check tool.

Major Milestone:
At least two (2) workshops will be conducted to assist communities in meeting the challenges and needs identified by the flood program needs assessment and the CRS "Community Rating System Quick Check."
Budget: $15,000

Year Three (3) Training Workshops
Description of activities: ADCNR will continue to work with the contractor and the advisory committee to organize and conduct at least two (2) workshops. The workshops will be conducted for communities that participated in the needs assessment survey and the CRS "Community Rating System Quick Check" tool in year one of this program. The purpose of the workshops are to train local government staff in meeting the challenges and needs identified by the survey and check tool. Training events in year three will include topics identified on year two post-workshop evaluations and communication between participants and workshop organizers.

Major Milestone:
At least two (2) workshops will be conducted to assist communities in meeting the challenges and needs identified by the flood program needs assessment and the CRS "Community Rating System Quick Check."
Budget: $15,000

Year 3: Outreach
Strategy Goal: Provide support to communities to complete the CRS application and process and demonstrate the benefits of participation in the CRS program to all segments of a coastal community.
Total Years: One (1)
Total Budget: $15,000

Year Three (3) Guide Book "Primer," Presentations, Outreach, Technical Bulletins (updates)
ADCNR will increase the number of and distribution of printed copies of the Mississippi/Alabama Sea Grant "Step by Step: A Primer for Getting Started in the CRS Community Rating System Program" and develop and deliver an outreach presentation as a companion piece to the primer. The primer guides local government staff through a self-evaluation process for initiation and completion of the CRS formal application process. In addition, the primer and training on use of the primer will be delivered to citizens, businesses and civic groups who will fall under the CRS program. An understanding of the CRS process will be valuable to garnering support of community residents and business leaders.

Important to this step in the strategy will be the development of Technical Bulletins (updates) as addendums to the "primer." The basics of the primer will remain the same. The bulletins will incorporate advanced information gained from the implementation of the strategy and, with the primer, will be a primary tool used in the implementation of the program beyond the five-year strategy.

Major Milestone:
Increase the number of and distribution of printed copies of the Mississippi/Alabama Sea Grant "Step by Step: A Primer for Getting Started in the CRS Community Rating System Program" to guide local government staff through CRS formal application process and develop and deliver outreach materials for citizen support.

Begin the development of technical bulletins as an addendum to the primer and one of the primary tools for implementing the program. Development of technical bulletins, based on new knowledge gained, will continue through the fifth year of the strategy.

Budget: $15,000

Years 2-5: Community Completion of CRS Process
Strategy Goal: Enroll communities in the CRS Program by providing them with technical assistance to meet the requirements of the application process and address the challenges and needs identified by the flood program needs assessment and the CRS "Community Rating System Quick Check" tool.
Total Years: Four (4)
Total Budget: $260,000

Year: Two (2) Develop Request for Proposals
Description of activities: ADCNR, with the consultant and advisory committee, will develop requests for proposals (RFPs) in order to enroll, simultaneously, two (or more) communities, with at least one each in Mobile and Baldwin counties in the CRS. The advisory committee

will review and make recommendations for the language of the Request For Proposals (RFP) and the qualification criteria for those communities submitting proposals.

Major Milestone:
Develop a request for proposals (RFP).
Budget: $5,000

Year: Three (3) and Year Four (4) Solicit Proposals
Description of activities: In Year Three (3) and Year Four (4), ADCNR will solicit proposals from qualified communities with a target of enrolling simultaneously two communities (or more), with at least one each in Mobile and Baldwin counties in the CRS. Review and award contract to successful proposal.

Major Milestone:
Proposals solicited and contracts awarded.
Budget:
Year 3: $2,500
Year 4: $2,500
Total: $5,000

Years: Three (3) through Year 5 (5) Enroll Communities in CRS
Description of activities: In remainder of Year Three (3) through Year Five (5), ADCNR will contract with two communities (or more in years 4 & 5), one each in Mobile and Baldwin Counties for the purpose of enrolling in the CRS.

Major Milestone:
Contracts awarded to communities for the purpose of completing the enrollment process for CRS approval.
Budget:
Year 3: $62,500
Year 4: $92,500
Year 5: $95,000
Total $250,000

FINAL PRODUCTS
ONE: Updating ACAMP's Coastal Resource Improvement Program
At the end of year five, ACAMP staff will incorporate a coastal resiliency grant program for local governments for the purpose of assessing needs for enrolling in the CRS program and/or completing the enrollment process for CRS approval. The program will include public education and outreach to informed citizens of the benefits of CRS enrollment for their community. Depending on funding, the ACAMP will award one to two grants per year.

TWO: Updating relevant floodplain management guidance for local governments
Produce Technical Bulletins (updates) as addendums to the Mississippi/Alabama Sea Grant "Step by Step: A Primer for Getting Started in the CRS Community Rating System Program" book for the purpose of guiding local government staff through CRS formal application process and developing and delivering outreach materials for citizen support, thus improving overall floodplain management efforts.

VII. Fiscal and Technical Needs

A. Fiscal Needs: 309 funding should be sufficient to carry out the proposed strategy.

B. Technical Needs: Technical expertise will be obtained from state agencies and regional organizations engaged in this process, which could include the Alabama Department of Environmental Management, Alabama Department of Economics and Community Affairs, Alabama Emergency Management Agency, Alabama Geological Survey, Mississippi/Alabama Sea Grant, Dauphin Island Sea Lab, Mobile Bay National Estuary Program, South Alabama Regional Planning Commission, Weeks Bay NERR, Alabama Association of Floodplain Managers and local governments. The ACAMP and/or the Weeks Bay NERR have a long history of working with these groups in resolving coastal issues. Special equipment will not be required.

VIII. Projects of Special Merit (Optional)

A Project Special Merit may be developed in future years to assist with local program and ordinance changes related to floodplain management.

5-Year Budget Summary by Strategy

At the end of the strategy section, please include the following budget table summarizing your anticipated Section 309 expenses by strategy for each year.

Strategy Title	**Year 1 Funding**	**Year 2 Funding**	**Year 3 Funding**	**Year 4 Funding**	**Year 5 Funding**	**Total Funding**
Research & Data Collection	$95.000					$95,000
Pilot Program; Develop & Deliver Training Workshops		$90,000	$15,000			$105,000
Outreach			$15,000			$15,000
Community Completion of CRS Process		$5,000	$65,000	$95,000	$95,000	$260,000
Total Funding	$95,000	$95,000	$95,000	$95,000	$95,000	$475,000

Summary of Stakeholder and Public Comment

This section provides a summary of stakeholder responses received during the self-assessment process and a summary of the public comments received during the public comment period and ACAMP staff responses.

Stakeholder Response

During the self-assessment process, the ACAMP staff solicited input from coastal stakeholders through an electronic survey instrument that was distributed via email to 175 stakeholders representing state and federal agencies, local governments, state universities, public and private non-profit groups, advisory committees, and private sector businesses. A list of the groups represented follow this summary, see page 55.

The survey was opened for nine days, November 13 – 21, 2014.

Stakeholders were asked to

1) prioritize the nine enhancement areas according to importance;
2) provide their opinions of the needs and information gaps associated with their top three priorities; and
3) list the type of information or management efforts needed for the ACAMP staff to improve its ability to more effectively respond to and manage these enhancement areas.

The ACAMP staff received 27 valid responses from eight different groups.

(Note: One respondent did not list a name or group affiliation, and one survey was opened but contained no information. These two surveys are not included in this report.)

The three enhancement areas chosen by the respondents as the top three priorities are wetlands, coastal hazards, and cumulative and secondary impacts. A summary of the rankings and preferred information or management efforts are listed below.

Wetlands: 25 of 27 respondents (8 of 8 groups) ranked wetlands as one of their top three priorities.

The following is a summary of stakeholder comments regarding wetlands.

- concern regarding rate of wetland loss
- concern regarding number of stressors on wetlands and the effects
- the lack of community understanding of the role of wetlands
- the need and more funding for and encourage of restoration and management and not permitting the purchase of credits off-site
- the need for wetlands protection for wildlife conservation and coastal economy
- the need for improved regulation and/or improved enforcement
- the need for better identification and modeling

Comment from the regulatory agency for the ACAMP:
Permitted wetlands impacts due to filling and dredging have reduced with time; however, new development continues to exert pressure on this resource. Submersed grassbeds have the highest level of regulatory protection under the ACAMP; nevertheless, requests to dredge for recreational

navigation very near known existing grassbeds and even to move them to other, more convenient areas are more frequent. Updated mapping of existing grassbed resources would be beneficial to the regulatory process.

Preferred information or management efforts ranked as follows: (Respondents were asked to choose all that apply)
21: Improved Coastal Management Efforts/Regulations/Policies/Planning
15: Improved Technical Assistance/Education/Outreach
12: Research/Assessment/Monitoring
11: Mapping/GIS Modeling
6: Data/Information Management

Coastal Hazards: 15 of 27 respondents (8 of 8 groups) ranked coastal hazards as one of their top three priorities.

The following is a summary of stakeholder comments regarding coastal hazards.

- cost of hazards, insurance issues, and lack of funds to mitigate hazards
- concern about continued risk of known hazards (flooding, erosion) and potential future hazards (sea level rise, climate change, increased storm intensity and frequency)
- an uninformed citizenry
- existing regulations/policies either not enforced, ineffective, or need update
- lack of ability to measurably reduce cumulative impacts that impose threats to life and property in high-hazard areas
- lack of public agency to foster resiliency
- continued development in risky areas and FEMA, local governments not aggressive enough in creating “no-build” zone or enforcing flood zone regulations
- focus on restoring past rather than planning for the future
- general education on alternative development is poor
- disconnect between coastal hazards and community’s understanding of hazards and what should/should not be done

Preferred information or management efforts ranked as follows: (Respondents were asked to choose all that apply)
9: Improved Technical Assistance/Education/Outreach
9: Improved Coastal Management Efforts/Regulations/Policies/Planning
4: Research/Assessment/Monitoring
3: Mapping/GIS Modeling
3: Data/Information Management

Cumulative & Secondary Impacts: 11 of 27 respondents (5 of 8 groups) ranked cumulative and secondary impacts as one of their top three priorities.

The following is a summary of stakeholder comments regarding cumulative and secondary impacts.

- little or nothing being done to reduce or eliminate impacts; little or no acknowledgement brought up in permit comments, etc.
- lack of adequate or effective rules and regulations to mitigate impacts
- lack of funding for experimental design and enhancement
- need to conduct assessment of the domino effects
- disjointed planning and failure to see big picture
- municipal activities can either seek to improve current state or continue degradation of resources
- lack of an understanding of human impact on ecosystems, how pervasive and widespread it is, and what can be done to enhance ecosystem service resiliency
- lack of knowledge of cumulative impacts
- coastal population increases creating additional environmental problems
- seawalls and development eliminate SAVs and decrease estuarine productivity
- tertiary sewage treatment plants needed
- 1000 cuts and activities upstream and in the watershed add to impacts
- installation of new bulkheads and repairs along freshwater and estuarine shorelines has been demonstrated to have a negative cumulative effect on aquatic habitats

Preferred information or management efforts ranked as follows: (Respondents were asked to choose all that apply)
9: Improved Coastal Management Efforts/Regulations/Policies/Planning
6: Improved Technical Assistance/Education/Outreach
5: Research/Assessment/Monitoring
4: Mapping/GIS Modeling
2: Data/Information Management

Groups receiving the survey

Alabama Department of Conservation & Natural Resources
    State Lands, Parks (Gulf State Park), Marine Resources & Wildlife & Freshwater Fisheries, and Weeks Bay National Estuarine Research Reserve
Alabama Department of Environment Management
    Coastal Facility Unit, Field Operations Division (Montgomery & Mobile)
Alabama Department of Public Health
    Baldwin, Mobile, and Escambia counties
Alabama Department of Transportation
Alabama Forestry Commission
Alabama State Port Authority
Blakeley Historic State Park
Geological Survey of Alabama

Baldwin County Commission
Mobile County Commission
including departments of environment & public works, parks & recreation

Baldwin County Environmental Council Advisory Board
Coastal Resources Advisory Committee (ACAMP advisory board)
Mobile County Soil & Water Conservation District
Mobile County Wildlife & Conservation District
Mobile Area Water & Sewer System
Dauphin Island Park & Beach Board

South Alabama Regional Planning Commission

Baldwin County cities & towns
- Bay Minette
- Daphne
- Elberta
- Fairhope
- Foley
- Gulf Shores
- Loxley
- Magnolia Springs
- Orange Beach
- Robertsdale
- Silverhill
- Spanish Fort
- Summerdale
- Perdido Beach

Mobile County cities & towns
- Bayou LaBatre
- Chickasaw
- Citronelle
- Creola
- Dauphin Island
- Mobile
  including departments of tourism and urban development
- Mt. Vernon
- Pritchard
- Saraland
- Satuma
- Semmes

Alabama Gulf Coastal Convention & Visitors Bureau
Gulf Shores & Orange Beach Tourism
Mobile Area Chamber of Commerce

Auburn University, Department of Fisheries
Auburn University Marine Extension & Research Center
Mississippi/Alabama Sea Grant Consortium
Dauphin Island Sea Lab
University of South Alabama, Department of Civil Engineering

Mobile Bay National Estuary Program

Alabama House of Representatives
Alabama House of Representatives elected from District 94 & 96
Baldwin County Legislative Delegation
U.S. Congressman Bradley Byrne's Office

National Oceanic & Atmospheric Administration
including Gulf Coastal Services Center, Marine Debris Program/Genwest, and National Coastal Data Development Center
U.S. EPA Gulf of Mexico Program
U.S. Army Corps of Engineers
U.S. Fish & Wildlife Service
including USF&WS Coastal Programs

Alabama Audubon Society
Alabama Coastal Foundation
Boat People SOS
Coastal Alabama Partnership
Fort Morgan Civic Associate
Fowl River Area Civic Association
Friends of Perdido Bay
Little Lagoon Preservation Society
Mobile Bay Canoe & Kayak Club
Mobile Baykeeper
Organized Alabama Seafood Associate
Partners for Environmental Progress
Pelican Coast Conservancy
Peninsula of Mobile
The Nature Conservency
The Ocean Conservancy

Goodwyn, Mills, Canwood
Thompson Engineering, Inc.

Summary of Public Comment & ACAMP Response

As required by NOAA/OCM, the ACAMP staff published a public notice in the Mobile Press Register on two occasions during a 30-period beginning June 7, 2015 and provided the required 30-day period for the public to review and comment on Alabama 309 Assessment and Strategy, 2016-2020. Copies were made available for pickup at ADCNR, Lands Division, Coastal Section in Spanish Fort, Ala., and ADEM, Field Office Operations, Coastal Section in Mobile, Ala. Copies were also made available via website at http://www.outdooralabama.com/alabama-coastal-area-management-program and by email and U.S. Mail.

The public comment period closed on July 7, 2015. Two comments were received, both from the South Alabama Regional Planning Commission.

Comment 1 questioned the absence of recent studies or documents relating to Dauphin Island, Ala., under Coastal Hazards, Phase I Assessment, Resource Characterization, Q. #5.

Response from ACAMP staff:
The following information was added to Coastal Hazards, Phase I Assessment, Resource Characterization, Q. #5.

> Mississippi/Alabama Sea Grant Legal Program published "Climate Impacts for the Southeastern U.S. and Dauphin Island, AL" in May 2013, discussing the erosion issues on Dauphin Island, Ala., and citing a three-phase study of Dauphin Island regarding erosion and its economic impacts. No website was found to access this study. However, the Sea Grant document can be accessed at http://masglp.olemiss.edu/Advisory/dauphin_island_scoping_document.pdf
>
> The SeaGrant Law and Policy Journal, Vol. 6, No. 2, 2014 published "Climate Resiliency on Dauphin Island, Alabama."
> http://nsglc.olemiss.edu/sglpj/vol6no2/4-Janasie.pdf

Comment 2 stated "Can there be language that includes funding for the Regional Planning Commissions?" under Strategy I.C., paragraph 1.

Response from ACAMP staff:
Staff made no changes to the language in Strategy I.C., paragraph 1. Staff has the option of providing funding to state, local and regional governments and state academic institutions, and, therefore, it is not necessary to specifically name a grantee in this strategy description.