Georgia Coastal Management Program
Section 309 Assessment

FINAL Assessment
September 1, 2025

Introduction

Section 309 of the Coastal Zone Management Act identifies nine Program Enhancement Areas, including: wetlands, coastal hazards, public access, marine debris, cumulative and secondary impacts, ocean resources, energy and government facility siting, aquaculture and Special Area Management Plans. Every five years, coastal states are encouraged to conduct a self-assessment of their coastal management programs to assess the effectiveness of current efforts to address known or identified problems. The Georgia Coastal Management Program (GCMP) recently completed an assessment of its Program and identified problems and opportunities for each of the enhancement areas; determined the effectiveness of the Program's existing efforts to address problems for each of the enhancement objectives; and identified priority needs for Program enhancements for the period 2026-2030.

A high-level, Phase I assessment allowed the GCMP to evaluate each of the nine enhancement areas to determine which existing management efforts are satisfactorily addressing enhancement area objectives. For enhancement areas where deficiencies were noted, the GCMP ranked each area in terms of the Program's priority for addressing them. Priority was determined based on the perception of immediate need and whether the identified gaps were being addressed through other means. The GCMP ranked two enhancement areas as high priorities during its Phase I assessment: coastal hazards and wetlands.

A more intense, Phase II assessment was conducted for each of the high priority enhancement areas. Management priorities were identified for coastal hazards and wetlands and potential strategies for addressing those priorities were explored. Upon conclusion of the Phase II assessment, the GCMP identified a single strategy to fulfill the management priorities for these areas. This strategy entitled "Future Floodplain Tools for Inland Coastal Communities" will develop tools to assist local governments to better prepare for flood events in the GCMP inland tier counties. This strategy will take five years and will cost approximately $1,300,000 in funding from NOAA.

As required by NOAA, the Georgia Coastal Management Program's Draft Section 309 Assessment and Strategy will be made available for public comment. A public notice will be sent via Gov delivery email distribution lists and posted on the GCMP website. Written comments will be received through a 30-day comment period. An overview of the Assessment and Strategy will be presented to the Coastal Advisory Council during its spring 2026 meeting.

Summary of Recent Section 309 Achievements

The GCMP's upcoming Section 309 Assessment will be completed in 2026 and will result in a five-year strategy addressing gaps in two program enhancement areas, Coastal Hazards and Wetlands.

The strategy addresses the development of a Resilience Reference Guide for ocean facing coastal counties that includes information for beach management planning, shoreline management in the estuarine environment and hazard vulnerability spatial data for communities. Specifically, the

GCMP has been working with the City of Tybee Island to create a Resiliency Guide that will be transferable to other similar local communities. Additionally, the GCMP has worked with researchers to develop a new Sea Level Affecting Marshes Model (SLAMM) to integrate land cover transition impacts from sea level rise into the hazard vulnerability assessment.

The proposed strategy builds upon valuable insight and transferable deliverables from GCMP's past two strategies. The 2016-2020 Strategy, titled "Enhancing Coastal Resilience with Green Infrastructure," modeled the potential expansion of future floodplains in Liberty County based on future precipitation forecasts. Buildings extend to the regulatory boundary of existing floodplains so with the expected expansion, there would be an increased impact of flooding to these communities. This building pattern is not restricted to Liberty County and the deliverables and recommendations can be transferred and adapted to other communities. The 2021-2025 (current) Strategy titled, "Building Resiliency with Nature Based Infrastructure," focused on the development of a Resiliency Reference Guide and evaluating opportunities for nature-based solutions like dune enhancement and living shorelines. The Guide was created for Tybee Island, but this work was also created in a way where it could be transferable to other coastal areas. The last strategies addressed resiliency in ocean-facing, Tier 1 communities, where the proposed strategy will focus on inland, Tier 2 communities with plans to update flooding projections and resources to both coastal and riverine flooding.

Georgia Coastal Management Program
2026-2030
"Future Floodplain Tools for Inland Coastal Communities"

I. Issue Area(s)

A. The proposed strategy or implementation activities will *primarily* support the following high-priority enhancement area(s) *(check no more than two):*

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

B. The proposed strategy or implementation activities will also support the following enhancement areas *(check all that apply)*:

☐ Aquaculture
☐ Energy and Government Facility Siting
☐ Coastal Hazards
☐ Ocean/Great Lakes Resources
☐ Special Area Management Planning
X 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;

X New or revised local coastal programs and implementing ordinances;

X 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,

☐ 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***

The goal of this strategy is to create more resilient coastal communities through the creation of future floodplain maps, assessment of vulnerabilities, and guidance for strengthening resilience for Georgia's second-tier (inland) coastal counties. The assessments will identify areas of highest priority for land

acquisition, restoration of hydrologic connectivity, living shorelines as the nature-based solution for shoreline stabilization, and green growth practices. Guidance will be developed for how local jurisdictions can accomplish the above actions through the creation of a Resiliency Reference Guide for inland communities as well as knowledge transfer and peer-to-peer sharing through the Resiliency Academy.

C. Description

On August 16, 1999, the State of Georgia entered into a Cooperating Technical Partner (CTP) agreement with the Federal Emergency Management Agency's (FEMA's) Region IV. With FEMA Grant Funds, this agreement provides that the State of Georgia assumes responsibility for the development and updating of the flood hazard maps (known as Flood Insurance Rate Maps, or FIRMs) on a countywide basis for all 159 counties in the State. Priority for updating these resources is usually afforded to communities with a history of flooding, those that have outdated maps, or experienced or anticipate major development activity that may alter the flood risk in populated areas. The maps and products are used by the communities to administer their floodplain management ordinances.

The proposed geographic areas of the Georgia Coastal Management Program's (GCMP) second tier of coastal counties include Effingham, Long, Wayne, Brantley and Charlton counties. Floodplain mapping for some of these counties dates back to 2008 which does not necessarily reflect the most recent flood zone classifications from FEMA. Current floodplain maps are important to these communities, and consideration of future impacts is not captured in Georgia's agreement with FEMA.

The GCMP proposes to model impacts from potential future rainfall conditions and storm activity to better inform local officials of flooding hazards. The GCMP will also utilize the results to develop resources and tools to guide local practitioners towards actions to minimize impacts from flooding. The GCMP will utilize the results of the floodplain expansion modeling work with the inland communities to prioritize areas experiencing current impacts from flooding, shoreline erosion and habitat loss. The GCMP will expand the current living shorelines guidance to address tidal/fresh and riverine systems, and it will be incorporated into a full Resiliency Reference Guide that is tailored to inland communities. In addition, the GCMP will host regular (every 2 years) Resiliency Academy workshops for local government officials. This workshop was initiated in the current 309 and has proven to be extremely successful for local governments to learn about hazards in their specific communities, to consider potential resilience projects, and to be able to share successes and challenges with their coastal community peers. GCMP staff received very positive reviews from the inaugural 2025 Resiliency Academy cohort and sees the benefits to communities in continuing and enhancing their communities.

The GCMP has focused on resiliency efforts through multiple approaches that target different coastal areas, habitats, and populations. This Strategy will enhance and build upon the work ongoing and completed in our current 2021-2025 309 Strategy, "Building Resiliency with Nature Based Infrastructure" and previous 2016-2020 309 Strategy "Enhancing Coastal Resilience with Green Infrastructure". These projects have set the stage for the GCMP to continue its work in providing technical and policy assistance to local governments in the coastal zone as a mechanism to address coastal resiliency.

Throughout the past two 309 Assessment periods the GCMP has recognized the need to assist our local governments in managing progress and growth when facing future environmental conditions. The GCMP has worked to address these needs through the development of environmental and economic incentives

and policy recommendations to encourage coastal local governments to adopt ordinances to enhance resiliency to coastal and riverine flooding, shoreline erosion and coastal habitat impacts.

One of the most well received approaches to this has been through practices utilizing green infrastructure (GI) or Nature Based Solutions (NBS). The 2016-2020 309 Strategy demonstrated how a coastal community could become more resilient to and experience less damage and loss from future flooding events, including inland riverine flooding as well as coastal flooding from storm surge through the implementation of GI practices. This Strategy developed outreach materials demonstrating the economic benefits to this approach as well as guidance and model ordinances. The 2021-2025 309 Strategy is currently building from this work to document and promote the use of NBI in two systems: beaches/dunes and estuarine shorelines. This current work will culminate in more specific guidance on beach management planning, living shoreline planning, design and implementation, and hazard risk and vulnerability assessments for our coastal counties.

This upcoming strategy will continue to expand this work and more specifically address these needs as they relate to our inland coastal communities. One of the primary recommendations that came out of the 2016-2020 309 Strategy "Enhancing Coastal Resilience with Green Infrastructure" was the importance of addressing how our coastal floodplains will expand under future rainfall conditions. Many communities experience growth in areas adjacent to or within existing floodplain boundaries, which will expand as precipitation volumes and intensities continue to increase. This exposes our communities to extreme risk through damage to community infrastructure, personal property and most importantly to human life.

This strategy will fund a more detailed analysis of how riverine floodplains may change in our inland counties to ensure the GCMP is providing the most appropriate guidance for these communities. There are numerous policy options for a community to choose from to assist them in becoming more resilient to future hazards. Examples include enhanced building codes in the floodplain (and predicted future floodplain), smart growth and future land use planning to protect areas more vulnerable to flooding and requiring green and nature-based infrastructure alternatives to traditional practices. Planning now for future conditions will not only protect people and places but also save communities money, as a recent study shows that for every one dollar spent today on preparedness, on average six dollars can be saved on losses from natural hazards.

The GCMP strives to provide future conditions floodplain planning to the five counties and their cities within the GCMP's second-tier program area. Through the development of tools to assist in this planning efforts, the GCMP can guide ordinance development, work with local jurisdictions and partners to identify conservation areas, identify and implement restoration opportunities, and provide green growth site suitability guidance for development as well as flood mitigation/ adaptation activities. The goals are to identify and prioritize efforts in enhancing resilience in coastal communities and develop a suite of opportunities for local communities to implement.

III. Needs and Gaps Addressed

The second-tier coastal counties (Effingham, Long, Wayne, Brantley and Charlton) are included in the GCMP's service area due to their connection with the tides, however, the influence of tidal systems is much more limited for these five counties. Charlton County is representative of Georgia's rural counties with little growth – the population per square mile in 2010 being 15.7 as compared to 16.0 in 2020. On the opposite side of the spectrum, Effingham County, the fastest growing second-tier county, had a

population per square mile in 2010 of 109.4 versus population per square mile in 2020 was 135.3. Effingham County has been affected tremendously by the Georgia Ports Authority (GPA) expansion. In its busiest February on record, the GPA moved 479,850 twenty-foot equivalent container units, a 6 percent increase from February of 2024. This increase in commerce has resulted in expanded operations that include receiving larger ships. As a result, capacity on the receiving end has expanded to include additional warehouse development, increased jobs, and therefore increased residential development.

The GCMP's goal of this strategy is to target these more rural communities to address their priority needs as it relates to flooding, erosion and habitat shifts. This will be addressed through the development of digital resources, planning guidance and stakeholder engagement.

There are currently no updated flooding projections or resources for the second-tier counties in Georgia. Without an understanding of where flooding is likely to occur, habitat shifts, and impacted infrastructure will also be unknown. Future floodplain maps for these inland counties are a need for both the GCMP and the local governments for future land use planning and opportunities to implement resilient practices.

The GCMP will continue its partnership with the Southeast Aquatic Resources Partnership (SARP) to assess hydrologic barriers and rank them by constriction. Those that do not allow maximum flow due to obstructions or poor condition will be ranked as severe and be prioritized as funding comes available. The GCMP's culvert team has assessed 1,516 barriers so far and expects that there are 2,000-4,000 more to survey, including those inland in the second-tier counties. The GCMP plans to continue surveying in the second-tier counties and provide future projections as well as a prioritized list of projects to make communities more resilient.

The GCMP developed living shoreline site suitability criteria, standards, and best management practices for Georgia. All the living shoreline projects that the GCMP has facilitated or partnered on have been within the six ocean-facing counties, and the guidance is focused on factors in this area. The GCMP has been involved in conversations regarding living shorelines as stabilization structures to reduce erosion in tidal freshwater and brackish environments, but no guidance exists for the second-tier inland counties. As flooding in these areas becomes more frequent, it is important to look for resilient ways to stabilize banks coastwide. The GCMP plans to adapt the guidance for tidal freshwater and brackish environments, including what makes living shorelines suitable (since some factors like fetch would not apply) and what would be consistent among projects. For example, we would determine if additional materials or steeper slopes could be implemented on living shorelines in these inland areas. The GCMP can use site suitability criteria, standards, and best management projects for this area to provide technical assistance on living shorelines as a resilience method to implement, designing them with the future floodplain projections in mind.

IV. Benefits to Coastal Management

This strategy will build upon the last two strategies of the GCMP. Specifically, the 2021-2025 strategy entitled "Building Resiliency with Nature Based Infrastructure" and the 2015-2020 strategy "Enhancing Coastal Resilience with Green Infrastructure". These past strategies have helped the GCMP to develop tools for future forecasting as well as best practices to remain resilient to those future conditions. The 2021-2025 strategy of developing risk assessments will directly benefit local communities by increasing their knowledge of high-risk areas and having an action plan by which to reduce those risks. The 2015-2020 strategy demonstrates that floodplains will expand and influence potential loss as building

patterns follow the regulatory boundary of existing floodplains. This strategy's outcomes led to policy recommendations for managing population and development growth in future floodplains. The proposed strategy (2026-2030) will focus on riverine floodplains, how they are predicted to change and impact communities while connecting them with GCMP staff that can be a technical assistance resource moving forward. Policy recommendations that are adapted to these local communities in the Tier-2, inland communities will be a major outcome of the 309 and may include enhanced building codes, enforced green or nature-based practices, and land-use planning. Additionally, developing planning tools and hosting resiliency academies can help local government personnel identify restoration opportunities.

V. Likelihood of Success

As referenced prior, the second-tier counties are experiencing a range of growth from very rural communities that have not grown much since the last census to communities that have grown significantly. Due to this dichotomy, the GCMP has prioritized inland community resilience. The program has intentionally reached out to communities over the last year to encourage resiliency grant proposals through our Coastal Incentive Grant process, an annual competitive process. Staff have also intentionally included representatives from inland communities to participate in the inaugural Resiliency Academy. There has been great success in both the above efforts and the GCMP has continued to build relationships with these local governments. We feel that we currently have the momentum, capacity and experience to specifically address inland community needs. Specifically, our last 309 strategies have assisted in creating resources that can be modified or updated to include inland community needs (Resiliency Reference Guide, living shoreline management guidance, etc.) and we currently have the relationships by which to create new tools and ordinances to support these counties and municipalities.

VI. Strategy Work Plan

Strategy Goal:

The goal of this strategy is to develop a suite of resources for inland coastal counties to prepare for current and future flooding. The GCMP will undergo a mapping effort to develop future floodplain maps for 5 of our 11 coastal counties within the GCMP service area – Effingham, Long, Wayne, Brantley, and Charlton. Once the mapping exercise is complete, these counties and their respective municipalities will be engaged in stakeholder sessions to identify priority areas for resilience. The GCMP staff will engage elected officials and citizens to provide input in prioritizing areas for risk assessments.

Total Years: 5

Year: 1
Description of activities:

- Project kickoff meetings
    - Organize a stakeholder group to oversee the implementation of the project

- Future Floodplain Mapping
    - Organize project team for GIS analysis
    - Work with contractor to engage Georgia Environmental Protection Division (GA EPD) to discuss existing data and resources

    - Work with project team to discuss steps forward for mapping future floodplains
    - Initiate future floodplain mapping

- Host Resiliency Academy for local governments to facilitate community engagement and resiliency literacy
    - Prioritize agenda to focus on flooding impacts to communities
    - Select speakers to provide lessons learned in their communities

Major Milestone(s):

- Methodology for Future Floodplain mapping process
- Interim products from Future Floodplain mapping
- List of project team and designated tasks
- Host Resiliency Academy for local government elected officials

Year: 2

Description of activities:

- Complete Future Floodplain Mapping with qualified contractors
- Meet with local communities to review results and ground truth flood risks
- Create an infographic that visually translates the project findings for local government audiences

Major Milestone(s):

- Full five county future floodplain mapping GIS products
- Community meetings
- Infographic

Year: 3

Description of activities:

- Future Condition Assessment
    - Using relevant data sources, GCMP staff will overlay GIS data layers with future floodplain maps. Additional data layers will include hydrologic connection restrictions, habitat maps/SWAP, future land-use, etc.
    - GCMP staff will coordinate internally to develop a list of sites with hazard risks
    - Engage the five county communities to identify priority areas within their jurisdictions
        - Gather local knowledge on erosional shorelines
        - Gather local knowledge on hydrologic connectivity threats and severely constricted culverts
- Create Risk Assessments for the three southern inland counties to determine areas of high priority for land acquisition, hydrologic connectivity, living shorelines, flood mitigation, and green growth using SLOSH, DFIRMS, and other mapping support
- Host Resiliency Academy for local governments to facilitate community engagement and resiliency literacy
    - Prioritize agenda to focus on flooding impacts to communities
    - Select speakers to provide lessons learned in their communities

Major Milestone(s):

- Creation of Risk Assessments for three counties
- Identify priority areas of risk for above counties
- Host Resiliency Academy for local government elected officials

Year: 4
Description of activities:

- Host the third Georgia Resiliency Conference and showcase results for this strategy, and highlight inland community projects and resources
- Create Risk Assessments for the two northern inland counties to determine areas of high priority for land acquisition, hydrologic connectivity, living shorelines, flood mitigation, and green growth
- Complete development of a freshwater Living Shoreline guidance document with site suitability criteria, standards, and best management practices for tier-2 communities

Major Milestone(s):

- Creation of Risk Assessments for two counties
- Identify priority areas of risk for above counties
- Community Resiliency Reference Guides
- Resiliency Conference

Year: 5
Description of activities:

- Host countywide meetings to present Regional Resiliency Guide with prioritized risk assessments
- Present findings at local, state, and national conferences
- Host Resiliency Academy for local governments to facilitate community engagement and resiliency literacy

Major Milestone(s):

- Finalize a Resiliency Reference Guide and Risk Assessment for inland communities in the five tier-2 coastal counties
- Present overall strategy results at local and regional conferences
- Resiliency Academy for local government elected officials

Total Years: 5
Total Budget: $1,300,000

VII. Fiscal and Technical Needs

A. Fiscal Needs:

We anticipate that all fiscal needs for the above scope of work can be met with 309 funding. Any outstanding needs will be identified and prioritized for Projects of Special Merit.

C. Technical Needs:

The GCMP does not have the technical expertise to carry out future floodplain modeling and will contract with project partners to carry out those identified activities. Specifically, we will contract with the University of Wisconsin and Indiana University's Polis Center to create the future floodplain maps and conduct the risk assessments. Also, the GCMP does not have the resources to address some of the gaps in shoreline management tools. Where needed, the GCMP will contract necessary tasks related to the development of living shoreline management to a qualified contractor/university. Those deliverables are expected to be used in policy development and outreach and education to property owners. Workshops for engineers and contractors will be a part of the outreach component, using the previous 309 template as a guide.

VIII. Projects of Special Merit (Optional)

The GCMP has identified additional projects that may be successful Projects of Special Merit. These would provide additional benefits by creating living shoreline resources for freshwater tidal habitats as well as other NBI related information related to shoreline resiliency.

5-Year Budget Summary by Strategy

Strategy Title	Anticipated Funding Source (309 or Other)	Year 1 Funding	Year 2 Funding	Year 3 Funding	Year 4 Funding	Year 5 Funding	Total Funding
Future Floodplain Tools for Inland Coastal Communities		$260,000	$260,000	$260,000	$260,000	$260,000	$1,3000,000
Total Funding		$260,000	$260,000	$260,000	$260,000	$260,000	$1,3000,000

Summary of Stakeholder and Public Comment

In accordance with NOAA's Section 309 Program Guidance, the Georgia Coastal Management Program recently solicited the input and advice of stakeholders to carefully consider GCMP priorities during its 2026-2030 assessment and strategy development process. The GCMP identified its Coastal Advisory Council (CAC) as the primary stakeholder group to engage in the 309 process due to their existing familiarity with the GCMP and past and current 309 activities. At the CAC's quarterly meeting in November 2024, the GCMP introduced the 2026-2030 309 Cycle, noted the process for evaluating Phase I and Phase II assessments, and highlighted the role of stakeholder input in ranking the nine 309 Enhancement Areas and identifying emerging threats and opportunities.

Following the meeting, GCMP opened an online survey (Survey 123) for CAC members to respond to various considerations under each of the nine 309 Enhancement Areas. The survey was directly issued to the 18 Council members (https://arcg.is/0HOv1P) for feedback. Twelve responses were received. The survey assessed stakeholder opinions on the following topics: adequacy of public access in the coastal zone; challenges in siting government and energy facilities; greatest threats to coastal resources from coastal development and greatest needs to protect resources; vulnerability of coastal Georgia to natural hazards; significant challenges facing aquaculture development on the coast; opportunities to develop special areas management plans; greatest threats to coastal wetlands and needs for protecting them; greatest threats to and conflicts with ocean resources and activities; and management of marine debris.

Respondents were asked to rank the priority (1-9) of each 309 Enhancement Area, with the following results in order of stakeholder priority:

1 – Coastal Hazards
2 – Wetlands
3 – Cumulative and Secondary Impacts
4 – Special Area Management Planning
5 – Ocean Resources
6 – Public Access
7 – Aquaculture
8 – Energy and Government Facility Siting
9 – Marine Debris

Coastal Hazards, Wetlands, and Cumulative and Secondary Impacts were the top priorities identified by the CAC. Six of the twelve participants selected Coastal Hazards as the highest priority; this enhancement area scored the highest. Wetlands received the same score as Cumulative and Secondary Impacts. However, all participants ranked Wetlands as one of their top four choices, whereas survey results showed a wide range of Cumulative and Secondary Impacts being a priority with rankings falling between 1 and 9. Generally, Coastal Hazards and Wetlands are enhancement areas that are necessary components of the next 309 Enhancement Strategy.

Georgia Coastal Management Program
Section 309 Assessment: 2026-2030

Phase I Assessments

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 1 (High-level) Assessment: *(Must be completed by all states and territories.)*
Purpose: To quickly determine whether the enhancement area is a high-priority enhancement objective for the CMP that warrants a more in-depth assessment. The more in-depth assessments of Phase II will help the CMP understand key problems and opportunities that exist for program enhancement and determine the effectiveness of existing management efforts to address those problems.

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. Your state Sea Grant Program may have information to help with this assessment.[1]

Status and Trends of Aquaculture Facilities and Activities

Type of Facility/Activity	Number of Facilities[2]	Approximate Economic Value	Change Since Last Assessment (↑, ↓, –, unknown)
Public harvest	7	N/A	-
State Intertidal Leases	10	*$3,316,894	↑
State Subtidal Leases	6	-	↑
Private Intertidal Leases	5	-	↓

*2024 total value of shellfish industry

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.

   N/A. The 2018 USDA Census of Aquaculture does not take into account Georgia's burgeoning oyster aquaculture industry which saw it's first harvest in December 2022. We anticipate this industry to populate quickly with new farmers and market values to increase exponentially.

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.

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[1] While focused on statewide aquaculture data rather than just within the coastal zone, the *Census of Aquaculture* (*agcensus.usda.gov/Publications/Census_of_Aquaculture/)* may help in developing your aquaculture assessment. The census is conducted every 10 years and the last report was released in 2018. The report provides a variety of state-specific aquaculture data to understand current status and recent trends.

[2] Be as specific as possible. For example, if you have specific information of the number of each type of facility or activity, note that. If you only have approximate figures, note "more than" or "approximately" before the number. If information is unknown, note that and use the narrative section below to provide a brief qualitative description based on the best information available.

Significant Changes in Aquaculture Management

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	Y	Y	y
Other aquaculture statutes, regulations, policies, or case law interpreting these	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.

Aquaculture comprehensive siting plans or procedures
The previous assessment detailed a significant change to state laws enabling subtidal oyster farming in Georgia, in addition to wild oyster and clam harvest, clam farming and intertidal oyster farming which has been occurring since the 1980s. Rules subsequent to the law change were passed in 2020 which established siting criteria for subtidal oyster farming. Since the last assessment, the GCMP has established two "mariculture zones" where oysters may be farmed. The zones follow all of the siting criteria established in rule and currently provide opportunities for three individual oyster farming operations, with room for expansion. At the time of writing this report, a third mariculture zone has been proposed and is open for public comment. Another enhancement since the previous report is the creation of the CRD Shellfish Leasing Dashboard which is at once an online ARCGIS demonstration of existing occupied and vacant shellfish leases (intertidal and subtidal) and also a survey to determine where (by waterway) interest/demand by new/existing oyster and clam farmers is for future lease expansion areas.

Georgia's interest in updating its oyster farming laws was the subject of a 2006-2010 309 Strategy, and subsequent efforts were funded through the Coastal Incentive Grant Program. Currently, the GCMP is in the process of implementing its new aquaculture program with an eye toward future expansion. As the industry matures, policy updates are likely, particularly related to year-round harvest, including the currently closed summer season. The GCMP has and will continue to seek the input of its Shellfish and Mariculture Advisory Panel to develop these updates.

Enhancement Area Prioritization

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

High _____
Medium __X__
Low _____

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

   Aquaculture ranks as a medium priority for the GCMP due to the current level of staff and funding directed towards expanding the shellfish aquaculture industry in Georgia. At present, there is no interest in other types of aquaculture being discussed for our coastal zone based on the characteristics of our aquatic environment. Aquaculture ranks 7th of 9 enhancement prioritized themes on a survey taken by our Coastal 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 (SLR) 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 1 (High-level) Assessment: *(Must be completed by all states.)*

Purpose: To quickly determine whether the enhancement area is a high-priority enhancement objective for the CMP that warrants a more in-depth assessment. The more in-depth assessments of Phase II will help the CMP understand key problems and opportunities that exist for program enhancement and determine the effectiveness of existing management efforts to address those problems.

Resource Characterization:

- In the table below, indicate the general level of risk in the coastal zone for each of the coastal hazards. The following resources may help assess the level of risk for each hazard. Your state may also have other state-specific resources and tools to consult. Additional information and links to these resources can be found in the "Resources" section at the end of the Coastal Hazards Phase I Assessment Template:

    - The state's multi-hazard mitigation plan
    - Coastal County Snapshots: Flood Exposure
    - Coastal Flood Exposure Mapper
    - Sea Level Rise Viewer/Great Lakes Lake Level Change Viewer

General Level of Hazard Risk in the Coastal Zone

Type of Hazard	General Level of Risk[1] (H, M, L)
Flooding (riverine, stormwater)	H
Coastal storms (including storm surge)	H
Geological hazards (e.g., tsunamis, earthquakes)	L
Shoreline erosion	H
Sea level rise	H
Great Lakes level change	N/A
Land subsidence	L
Saltwater intrusion	H
Other (please specify)	High tide Flooding and Combined Flooding

- 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 risk assessment or plan may be a good resource to help respond to

[1] Risk is defined as "the estimated impact that a hazard would have on people, services, facilities and structures in a community; the likelihood of a hazard event resulting in an adverse condition that causes injury or damage." *Understanding Your Risks: Identifying Hazards and Estimating Losses. FEMA 386-2. August 2001*

this question.

- Georgia Statewide Hazard Mitigation Plan 2024
- 2023 and 2024 Hurricane Events
- 2021-2024 Sea Level Affecting Marsh Model results for coastal Georgia
- 2022 NOAA Sea Level Rise Technical Report

Management Characterization

1. In the tables below, 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.

Significant Changes in Hazards Statutes, Regulations, Policies, or Case Law

Topic Addressed	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)
Elimination of development/redevelopment in high-hazard areas[2]	N	Y	N
Management of development/redevelopment in other hazard areas	N	Y	Y
Sea level rise or Great Lakes level change	N	Y	Y

Significant Changes in Hazards Planning Programs or Initiatives

Topic Addressed	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)
Hazard mitigation	Y	Y	Y
Sea level rise or Great Lakes level change	Y	Y	Y

Significant Changes in Hazards Mapping or Modeling Programs or Initiatives

Topic Addressed	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)
Sea level rise or Great Lakes level change	Y	Y	Y
Other hazards	N	Y	Y

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

   Technical Assistance on Coastal Hazards is prioritized for communities with many areas prone to flooding (SLR, High-tide Flooding events, Stormwater Flooding Hotspots, Combined Flooding and Storm Surge). A high-hazard area is defined by being vulnerable to more than one hazard and not having sufficient and resilient infrastructure in place.

[2] Use the state's definition of high-hazard areas.

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;
    b. Specify if they were 309 or other CZM-driven changes; and
    c. Characterize the outcomes or likely future outcomes of the changes.

- Through the 2015-2020 309 Strategy, a suite of hazards model ordinances were created and distributed to coastal local governments. The Jekyll Island Authority was the first Georgia community to adopt a **Sea Level Rise** ordinance on June 21, 2022.
- A FY22 Project of Special Merit allowed the GCMP to offer technical support and funding to the City of Tybee Island to develop a Comprehensive Community Resilience Plan that includes **Resiliency** in all planning efforts for the City. This Plan will be included as an addendum to the 309 deliverable "Coastal Community Resiliency Reference Guide".
- GCMP staff is a member of the State **Hazard Mitigation** Planning Team and provided language regarding sea level rise and high-tide flooding to be included into the new plan. Staff also provided resiliency language to be included which was a new requirement from FEMA. The Governor signed the updated plan March 2024.
- The GCMP has been awarded a NOAA Coastal Management Fellowship and began the project August 2024. The project fills a significant gap by identifying needs and developing a Resilient Outreach Strategy for the program that will consider equity and inclusion through a multi-generational lens with a focus on **Resiliency**. This is the first Coastal Management Fellow for Georgia and the first project to emphasize equity and inclusion.
- Through Section 309 2021-2025, A **Sea Level Effecting Marsh Model** update was completed for the Ocean-Facing Counties of Georgia. This update used a 10-meter pixel resolution, an upgrade from the past 30- meter resolution. The SLAMM run also included a Vegetation reclassification.

Enhancement Area Prioritization

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

    High __X__
    Medium _____
    Low _____

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

With a national focus around resiliency and the millions of dollars allocated by federal funding, it is apparent that not only is resiliency to coastal hazards a priority to Georgia, but also to the country. When the GCMP offered the 2nd Annual "Minimizing Georgia's Risk, Maximizing Georgia's Future" Conference in 2021, we saw great attendance and a request for another conference. With the request from the Georgia House of Representatives and the Senate for a presentation on Hazard Mitigation and Disaster Recovery, it is also a priority for state elected officials. The GCMP hosted a Flood survey for the general public which indicated a need for education and outreach specifically for high-tide flooding and storm surge. The GCMP's Coastal Advisory Council was asked through a survey to identify their needs. Coastal Hazards had the second highest score focusing on the need for more information and it ranked highest (first) when asked to rank the themes according to priority for the GCMP.

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 1 (High-level) Assessment: *(Must be completed by all states.)*
Purpose: To quickly determine whether the enhancement area is a high-priority enhancement objective for the CMP that warrants a more in-depth assessment. The more in-depth assessments of Phase II will help the CMP understand key problems and opportunities that exist for program enhancement and determine the effectiveness of existing management efforts to address those problems.

Resource Characterization

1. Using National Ocean Economics Program Data on population and housing,[1] please indicate the change in population and housing units in the state's coastal counties between 2017 and 2021. You may wish to add additional trend comparisons to look at longer time horizons as well (data available back to 1970), but at a minimum, please show change over the most recent five-year period data is available (2017-2021) to approximate current assessment period.

Trends in Coastal Population and Housing Units

	2017	2021	Percent Change (2017-2021)
Number of people	679,992	705,644	3.77
Number of housing units	296,554	310,096	4.57

2. Using the tables below as a guide, provide information on land cover changes and development trends. Be as quantitative as possible using state or national land cover data.[2] The tables are a suggestion of how you could present the information. Feel free to adjust column and row headings to align with data and time frames available in your state or territory. If quantitative data on land cover changes and development trends are not available, provide a brief qualitative narrative describing changes in land cover, especially development trends, including significant changes since the last assessment.

   Coastal Counties continued to see an increase in percent land developed and percent impervious cover. The majority of increase was due to the conversion of Forested to Low Intensity Developed and Open Space Developed. The data supports observations of large timber tracts continuing to be sold through coastal counties to continue with development patterns. Majority of development focused around residential and supporting infrastructure, but with this data only going through 2016 more recent data will show an increase in commercial or High Intensity Developed as warehouse infrastructure continues to grow in coastal counties in support of the Hyundai plant along I-16 in

[1] *www.oceaneconomics.org/*. Enter "Population and Housing" section and select "Data Search" (near the top of the left sidebar). From the drop-down boxes, select your state. Select the year (2021) then select "coastal zone counties." The default comparison year will be 2017 so no need to select a comparison year.

[2] National data on wetlands status and trends include NOAA's Land Cover Atlas (*coast.noaa.gov/digitalcoast/tools/lca.html*) and the U.S. Geological Survey's National Land Cover Database (*usgs.gov/centers/eros/science/national-land-cover-database)*.

Bryan County. The other land use categories that are seeing conversion include some grasslands, scrub shrub and woody wetlands as well as some agriculture.

Distribution of Land Cover Types in Coastal Counties

Land Cover Type	Land Area Coverage in 2024 (Acres)	Gain/Loss Since 1996 (Acres)
Developed, High Intensity	40,729.6	12,723.2
Developed, Low Intensity	128,358.4	25,132.8
Developed, Open Space	54,784	12,659.2
Grassland	184,812.8	36,217.6
Scrub/Shrub	128,697.6	18,880
Barren Land	1,079,930	-192,813
Open Water	289,337.6	87,859.2
Agriculture	1,177,152	-36,800
Forested	491,616	28,473.6
Woody Wetland	30,278.4	5,171.2
Emergent Wetland	484,089.6	2,483.2

Development Status and Trends for Coastal Counties

	1996	2024	Percent Net Change
Percent land area developed	4.182727273	5.427272727	31.40454545
Percent impervious surface area	1.278181818	1.69	32.44454545

How Land Use Is Changing in Coastal Counties

Land Cover Type	Areas Lost to Development Between 1996-2024 (Acres)
Barren Land	352
Emergent Wetland	537.6
Woody Wetland	6,924.8
Open Water	121.6
Agriculture	1,984
Scrub/Shrub	6,937.6
Grassland	5,408
Forested	28,198.4

3. Briefly characterize how the coastal shoreline has changed in the past five years due to development, including potential changes to shoreline structures such as groins, bulkheads and other shoreline stabilization structures, and docks and piers. If available, include quantitative data that may be available from permitting databases or other resources about changes in shoreline structures.

   Coastal Georgia continues to see development along coastal waterbodies and ocean facing shorelines which includes requests from permitting agencies to build infrastructure such as private recreational docks, bulkheads and revetments, living shorelines, structures in jurisdictional areas along the ocean facing shoreline. Georgia is very fortunate to have the Coastal Marshlands

Protection Act and the Shore Protection Act to minimize impacts within these jurisdictions. There are several mechanisms under these Acts that CRD can use to guide this use. Jurisdictional Determination requests have continued to increase over the past five years which indicates the intent of continued shoreline development and impacts. The number of permits issued per year under the Coastal Marshlands Protection Act have stayed within a relatively stable range over the past five years. Shoreline Protection Act annual permits issued returned to the same number in 2023 from 2017 with a slight increase in years impacted by Hurricanes Matthew and Irma.

Annual requests for Letters of Permission have decreased (for temporary activities). Revocable licenses issued for bank stabilization, revetments and docks increased from 2017-2022 but decreased again in 2023. This is most likely due to the update in state policy interpretation in 2022 which now requires bank stabilization projects to go through the CMPA for a permit rather than a revocable license. The major advantage to this change is applicants interested in building a bulkhead or other revetment now have to go through the same permitting authorization as those interested in building a living shoreline. This has brought living shoreline projects to a more even playing field with revetment project applications. A new Private Dock Stakeholder Committee has also been formed to revisit private recreational dock rules so there may be policy change out of that process that impacts how private recreational docks continue to change the coastal landscape

4. Briefly 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, shoreline hardening, and habitat fragmentation, since the last assessment.

   The Living Shorelines Site Suitability, Standards, and Best Management Practices document, developed by GCMP in partnership with an engineer and contractor with living shoreline experience, was created to provide guidance to a variety of audiences including engineers, contractors, property owners, and regulators. The document is intended to be used as a starting point in permitting and planning decisions. Regulators will be able to use the standards as a checklist for what is consistent among all living shoreline projects in Georgia to advance the review process. With the distribution of this guidance document, property owners and practitioners will have a greater understanding of living shorelines and where they are suitable, what is consistent among projects, and how to implement best management practices. Understanding the advantages of living shorelines as compared to hardened structures through the guidance document and practitioner workshops could reduce shoreline hardening on the coast and result in implementing more living shorelines.

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.

Significant Changes in Management of Cumulative and Secondary Impacts of Development

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	Y
Guidance documents	Y	Y	N
Management plans (including SAMPs)	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.

Statutes, regulations, policies, or case law interpreting these:

In 2022 the state issued in update in policy stating that all bank stabilization projects now require a Coastal Marshlands Protection Act (CMPA) permit for fill or alteration of marshlands pursuant to O.C.G.A. §12-5-280.

This was state driven, but changes will be implemented by CZM permitting staff. This may shift the applications for bulkheads and revetments from Revocable License requests to CMPA permit applications.

Enhancement Area Prioritization

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

    High _____
    Medium __X__
    Low _____

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

The GCMP ranked this enhancement area as a Medium priority. The Coastal Advisory Council (CAC) ranked this enhancement area high (tied for second place) but GCMP staff feel as though recent policy changes regarding bank stabilization and guidance documents developed under the current 309 strategy as setting us up for advancement to address Cumulative and Secondary Impacts along the Georgia coast. It tied with Wetlands but had less common support as high priority since some people on the CAC still ranked it low.

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)[1]

Phase 1 (High-level) Assessment: *(Must be completed by all states and territories.)*
Purpose: To quickly determine whether the enhancement area is a high-priority enhancement objective for the CMP that warrants a more in-depth assessment. The more in-depth assessments of Phase II will help the CMP understand key problems and opportunities that exist for program enhancement and determine the effectiveness of existing management efforts to address those problems.

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. For ocean-facing states and territories (not Great Lakes states), Ocean Reports[2] includes existing data for many energy facilities and activities.

There have been no changes to the state's energy facilities and activities since the last assessment.

[1] CZMA § 309(a)(8) is derived from program approval requirements in CZMA § 306(d)(8), which states:

> "The management program provides for adequate consideration of the national interest involved in planning for, and managing the coastal zone, including the siting of facilities such as energy facilities which are of greater than local significance. In the case of energy facilities, the Secretary shall find that the State has given consideration to any applicable national or interstate energy plan or program."

NOAA regulations at 15 C.F.R. § 923.52 further describes what states need to do regarding national interest and consideration of interests that are greater than local interests.

[2] *coast.noaa.gov/digitalcoast/tools/ort.html.* Select the "view quick reports" button and enter the name of your state or territory in the search bar. Some larger states may have the "quick reports" for their state waters broken into several different reports. Click on the "state waters" reports to view. Note the Ocean Reports tool also generates "quick reports" for national estuarine research reserve boundaries in your state but this is just a subset of the "state waters" report(s) so you can ignore the reserve "quick reports." Click on the wind turbine icon on the left ("energy and minerals") for information on energy production. While outside your coastal zone, you may also want to consider facilities/activities in "federal waters" that may have effects on your coastal zone.

Status and Trends in Energy Facilities and Activities in the Coastal Zone

Type of Energy Facility/Activity	Exists in Coastal Zone (# or Y/N)	Change in Existing Facilities/Activities Since Last Assessment (↑, ↓, –, unknown)	Proposed in Coastal Zone (# or Y/N)	Change in Proposed Facilities/Activities Since Last Assessment (↑, ↓, –, unknown)
Pipelines	Y=2	-	N	-
Electrical grid (transmission cables)	Y	-	Y	-
Ports	Y=2	-	N	-
Liquid natural gas (LNG)	Y=1	-	N	-
Electric Power Facilities (Oil)				
Electric Power Facilities (Gas)	N	-	Y	-
Electric Power Facilities (Coal)	N	-	N	-
Electric Power Facilities (Nuclear)	Y (Kings Bay)	-	N	-
Electric Power Facilities (Wave)	N	-	N	-
Electric Power Facilities (Tidal)	N	-	N	-
Electric Power Facilities (Current.ocean, lake, river)	N	-	N	-
Electric Power Facilities (Hydropower)	N	-	N	-
Electric Power Facilities (Ocean thermal energy conversion)	N	-	N	-
Electric Power Facilities (Solar)	N	-	N	-
Electric Power Facilities (Biomass)	N	-	N	-
Other (please specify)	N	-	N	-

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.

The Georgia Environmental Finance Authority, or GEFA, contains the State's Energy Office and provides routine reports to capture changes in status and trends related to Georgia's energy consumption and activities. The most recent "Georgia Energy Report" (2022) and other annual reports can be found at https://gefa.georgia.gov/media-center/reports. No significant new facilities or energy activities were highlighted since the last assessment.

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

There have been no activities greater than local significance since the last assessment.

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.

Significant Changes in Energy and Government Facility Management

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 interpretations	N	N	N
State comprehensive siting plans or procedures	N	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.

There have been no significant changes since the last assessment.

Enhancement Area Prioritization

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

High _____
Medium _____
Low __X__

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

The GCMP ranked Energy and Government Facility Siting as Low priority due to 1) no significant changes since the last assessment, and 2) a ranking of 8th out of 9 enhancement area priorities by the Coastal Advisory Council stakeholder survey.

[3] The CMP should make its own assessment of what government facilities may be considered "greater than local significance" in its coastal zone, but these facilities could include military installations or a significant federal government complex. An individual federal building may not rise to a level worthy of discussion here beyond a very cursory (if any at all) mention).

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 1 (High-level) Assessment: *(Must be completed by all states.)*
Purpose: To quickly determine whether the enhancement area is a high-priority enhancement objective for the CMP that warrants a more in-depth assessment. The more in-depth assessments of Phase II will help the CMP understand key problems and opportunities that exist for program enhancement and determine the effectiveness of existing management efforts to address those problems.

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.

Existing Status and Trends of Marine Debris in Coastal Zone

Source of Marine Debris	**Significance of Source** (H, M, L, unknown)	**Type of Impact**[1] (aesthetic, resource damage, user conflicts, other)	**Change Since Last Assessment** (↑, ↓, –, unknown)
Beach/shore litter	Seasonally Significant	Various, including aesthetic, personal injury, ecological impacts (ingestion by or entanglement of fish and wildlife)	-
Land-based dumping	Low to Moderate	Impacts have been associated with unauthorized bank stabilizations projects, sunken and derelict vessels, illegal dumping of materials in coastal marshlands, and dumping of materials that are in violation of ACOE Nationwide Permit 13.	-
Storm drains and runoff	Low	Impacts are limited to specific locations. Impacts are limited to sedimentation, trash/garbage, and salinity reduction during storm events.	-
Land-based fishing (e.g., fishing line, gear)	Low to Moderate	Impacts limited to specific locations, boat ramps and public dock sites.	-
Ocean/Great Lakes-based fishing (e.g., derelict fishing gear)	Low to Moderate	Impacts are localized to traditional commercial fishing communities along the coast of Georgia, destruction of salt marsh, degradation of habitat, navigational hazards, threatening human safety, and ruining aesthetics.	-

[1] You can select more than one, if applicable.

Derelict vessels	High	Types of impact can vary from leaking pollutants such as oil and other toxins, navigation hazards, degrading habitat; destruction of salt marsh; entrapping animals and nesting birds; financial burden to local government; threatening human safety; ruining aesthetics, and potential homeland security problems used for illegal activities.	↑ Increase due to increased work and focus on Marine Debris by CRD. We have created an ADV inventory and are working on cataloging all marine debris, including abandoned and derelict vessels.
Vessel-based (e.g., cruise ship, cargo ship, general vessel)	Moderate	Impacts are limited to specific areas such as Savannah and Brunswick; these impacts include prop agitation, impacts on fisheries, sewage spills, contaminated bilge discharge, oil release, and litter.	-
Hurricane/Storm	Moderate to High	Impacts are dependent upon storm strength and storm surge. Potential damage could cripple economic, environmental, human, and wildlife.	-
Tsunami	Low	Potential damage could cripple economic, environmental, human, and wildlife.	-

Other (please specify)	High	Potential damage to marsh and benthic resources, impacts access to public resource, can impact navigability, and decrease aesthetic	↑ Docks and other structures in marsh or over open-water are damaged by storms, rising sea levels, and neglect. While cataloging marine debris, CRD discovered a large number of "unserviceable" docks and structures that are not of federal interest because they are not in navigation channel but still impacts GA's coastal resources.

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.

   Since the last assessment, CRD has applied for multiple Marine Debris Removal grants (through both governmental and private organizations). While gathering data for these applications CRD created a Marine Debris Inventory which catalogs ADVs (abandoned and derelict vessels) and other large marine debris such as docks and floats that are un-serviceable.

   CRD has inventoried 61 ADVs and 10 other large marine debris (this value underrepresents debris present because this type of debris was not the focus of grant applications). Through communication with partners, we are aware that more marine debris is present in GA's six ocean-facing counties varying from ghost traps, underwater obstructions, and not yet identified ADVs.

   HB 833 was passed in the 2020 Legislative session and is the most recent amendment to GA Code Section 52-7-8.4 relating to waters of the state, ports and watercraft. It defined "anchorage restriction areas" as areas within the estuarine areas of this state in any location that lies within 300 feet of a marina, 150 feet from a marine structure other than a marina, or within 500 feet of approved commercial shellfish growing areas and designated public harvest areas as determined by the department. NO overnight anchorage is allowed in the anchorage restriction areas. It also defined long term anchoring and short-term anchoring as anchoring a vessel within a 5,280-foot radius of a documented anchoring point where a vessel is anchored for over 14 cumulative days in a calendar year, and up to 14 cumulative days in a calendar year respectively. The following is written regarding use in these designated time windows:

   - It shall be unlawful for any person to engage in long-term anchoring of a vessel in the estuarine areas of this state without having first obtained a long-term anchoring permit from the commissioner or his or her designee under such terms and conditions as the commissioner or his or her designee may prescribe.

- Nothing in this Code section shall prohibit a person from engaging in short-term anchoring of a vessel in the estuarine areas of this state so long as such vessel is not anchored overnight within the anchorage restriction areas.
- No part of this Code section shall restrict the ability of vessels to seek safe harbor in the event of dangerous weather or mechanical failure. A reasonable period of time whereby a vessel owner may seek safe harbor shall not exceed seven days.

Downloadable KMZ files of shellfish growing areas and public harvest areas are available on our website to boaters can know if they are too close: https://coastalgadnr.org/Liveaboards

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.

Significant Changes in Marine Debris Management

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	Y	N
Marine debris removal programs	N	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 changes have been made since the last assessment.

Enhancement Area Prioritization

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

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

Medium priority was selected for “Marine Debris”. Georgia does not currently have the policies in place to effectively manage marine debris removal, however, through the creation of the Marine Debris Inventory we have quantified and catalogued a large amount of marine debris to be prepared for

opportunities for funding. There has been an increase in federal interest as evidenced by the increased availability of federal monies for marine debris interception and removal projects.

Ocean and Great Lakes Resources

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

Phase 1 (High-level) Assessment: *(Must be completed by all states and territories.)*
Purpose: To quickly determine whether the enhancement area is a high-priority enhancement objective for the CMP that warrants a more in-depth assessment. The more in-depth assessments of Phase II will help the CMP understand key problems and opportunities that exist for program enhancement and determine the effectiveness of existing management efforts to address those problems.

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),[1] indicate the status of the ocean and Great Lakes economy as of 2021 (the most recent data) in the tables below. Include graphs and figures, as appropriate, to help illustrate the information. Note ENOW data are not available for the territories. The territories can provide alternative data, if available, or a general narrative, to capture the value of their ocean economy.

Status of Ocean and Great Lakes Economy for Coastal Counties (2021)

	All Ocean Sectors	Living Resources	Marine Construction	Ship & Boat Building	Marine Transportation	Offshore Mineral Extraction	Tourism & Recreation
Employment (# of Jobs)	*31,219*	*2,002*	*211*	*1,654*	*11,177*	*58*	*16,114*
Establishments (# of Establishments)	*1,417*	*137*	*28*	*38*	*200*	*9*	*1,005*
Wages (Millions of Dollars)	*1.1 B*	*88.8 M*	*10.3 M*	*73.5 M*	*551.6 M*	*3.0 M*	*371.6 M*
GDP (Millions of Dollars)	*2.1 B*	*262.4 M*	*23.3 M*	*196.2 M*	*791.2 M*	*10.6 M*	*862.5 M*

[1] *coast.noaa.gov/digitalcoast/tools/enow.html*. If you select any coastal county for your state, you are directed to various data displays for that county. In the upper left of the screen, click the "State" box, to the left of the county box so that the state name will be highlighted. Now the data will reflect statewide data for all of the state's coastal counties. Make sure "2021" is selected for the year (top right corner). You can then click through the sector types by selecting the icons along the top and the type of economic data (employment, wages, GDP, etc.), by clicking through the icons on the left.

Change in Ocean and Great Lakes Economy for Coastal Counties (2005-2021)[2]

	All Ocean Sectors	Living Resources	Marine Construction	Ship & Boat Building	Marine Transportation	Offshore Mineral Extraction	Tourism & Recreation
Employment (# of Jobs)	+8,350	+757	-27	-587	+7,099	-18	+1,126
Establishments (# of Establishments)	+391	+45	+4	+12	+76	-4	+258
Wages (Millions of Dollars)	+606.984 M	+59.263 M	+2.315 M	+6.310 M	+397.299 M	+0.834 M	+140.963 M
GDP (Millions of Dollars)	+1.088 B	+148.060 M	+3.078 M	+50.204 M	+537.045 M	+6.302 M	+343.464 M

2. Understanding existing uses within ocean and Great Lakes waters can help reduce use conflicts and minimize threats when planning for ocean and Great Lakes resources. Using Ocean Reports,[3] indicate the number of uses within the ocean or Great Lakes waters off of your state. To avoid duplication, energy uses (including pipelines and cables) are reported under "Energy and Government Facility Siting" in the following template. However, feel free to include energy uses in this table as well if listing all uses within ocean and Great Lakes waters in one place is preferred. Add additional lines, as needed, to include additional uses that are important to your state. Note: The Ocean Reports tool does not include data for the Great Lakes states. Great Lakes states should fill in the table as best they can using other data sources.

Uses within Ocean or Great Lakes Waters

Type of Use	Number of Sites
Federal sand and gravel leases *(Completed)*	N/A
Federal sand and gravel leases *(Active)*	N/A
Federal sand and gravel leases *(Expired)*	N/A
Federal sand and gravel leases *(Proposed)*	N/A
Beach Nourishment Projects	2
Ocean Disposal Sites	21 within 10nm/21 outside 10nm (we previously reported 3)
Principle Ports *(Number and Total Tonnage)*	2 ports/38,312,708
Coastal Maintained Channels	6
Designated Anchorage Areas	N/A
Danger Zones and Restricted Areas	N/A
Other (please specify)	

3. 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.

[2] Trend data is available at the bottom of the page for each sector and type of economic data. Mouse over the data points for 2005 and 2021 to obtain the actual values and determine the change by subtracting 2005 data from 2021.

[3] *coast.noaa.gov/digitalcoast/tools/ort.html*. Select the "view quick reports" button and enter the name of your state or territory in the search bar. Some larger states may have the "quick reports" for their state waters broken into several different reports. Click on the "state waters" reports to view. Note the Ocean Reports tool also generates "quick reports" for national estuarine research reserve boundaries in your state. These reports are just a subset of the "state waters" report(s) so you can ignore the reserve "quick reports." Use the icons on the left hand side to select different categories: general information, energy and minerals, natural resources and conservation, oceanographic and biophysical, transportation and infrastructure, and economics and commerce. Scroll through each category to find the data needed to complete the table. The top six categories in the table above are in the "energy and minerals" section while the other information to complete the table can be found under the "transportation and infrastructure" section.

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 (↑, ↓, –, unknown)
Benthic habitat (including coral reefs)	-
Living marine resources (fish, shellfish, marine mammals, birds, etc.)	-
Sand/gravel	-
Cultural/historic	-
Other (please specify)	
Transportation/navigation	↑
Offshore development[4]	-
Energy production	-
Fishing (commercial and recreational)	-
Recreation/tourism	↑
Sand/gravel extraction	-
Dredge disposal	↑
Aquaculture	↑
Other (please specify)	

4. For those ocean and Great Lakes resources and uses in the table 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. Place an "X" in the column if the use or phenomenon is a major contributor to the increase.

Major Contributors to an Increase in Threat or Use Conflict to Ocean and Great Lakes Resources

	Land-based development	Offshore development	Polluted runoff	Invasive species	Fishing (Commercial and Recreational)	Aquaculture	Recreation	Marine Transportation	Dredging	Sand/Mineral Extraction	Ocean Acidification	Other (Specify)
Transportation/navigation	X					X			X			X
Recreation/tourism	X							X				
Dredge disposal	X											X
Aquaculture			X		X	X	X		X		X	

5. 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.

The following categories were documented as an increase due to discussions among staff and best professional judgement. The changes were attributed to the following:

[4] Offshore development includes underwater cables and pipelines, although any infrastructure specifically associated with the energy industry should be captured under the "energy production" category.

- Aquaculture: Recreational boating/wakes, use conflict with recreational fishers, dredging/turbidity, ocean acidification, etc.
- Transportation/navigation: Other (protected species), use conflict, dredging, etc.
- Recreation/tourism: increased number of recreational boaters and beach goers
- Dredge disposal: development of former dredge disposal areas, Other (fish spawning habitats)

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?

Significant Changes to Management of Ocean and Great Lakes Resources

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
Regional comprehensive ocean/Great Lakes management plans	N	Y	N
State comprehensive ocean/Great Lakes management plans	N	N	N
Single-sector management plans	N	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.

There have been no significant changes since the last assessment.

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)	N	N
Under development (Y/N)	N	N
Web address (if available)	N	N
Area covered by plan	N	N

Enhancement Area Prioritization

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

High	_____
Medium	_____
Low	__X__

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

The Ocean Resources Enhancement Area remains a low priority for the Georgia Coastal Management Program due to current and past projects and coordination that have positioned us to be prepared for beach nourishment activities, anchorage area management, coordination with our 2 ports, etc. Additionally, in the 2011-2016 309 strategy, the GCMP developed the GA Coastal and Marine Planner and a preliminary Geographic Location Description document for potential offshore activities. This positions the program to address new applications for uses of ocean resources where needed.

According to a 2024 survey to the Coastal Advisory Council, the stakeholder group that advises the Georgia Coastal Management Program, Ocean Resources ranked 5th in priority for Georgia. Navigation, dredging activity and aquaculture ranked as the greatest conflict.

As a result of the current coordination with have with the USACE regarding dredging and navigation, and aquaculture legislation, we rank this enhancement area as low.

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 1 (High-level) Assessment: *(Must be completed by all states.)*

Purpose: To quickly determine whether the enhancement area is a high-priority enhancement objective for the CMP that warrants a more in-depth assessment. The more in-depth assessments of Phase II will help the CMP understand key problems and opportunities that exist for program enhancement and determine the effectiveness of existing management efforts to address those problems.

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[1]	Changes or Trends Since Last Assessment[2] (↑, ↓, –, unknown)	Cite data source
Beach access sites	85	↓ (loss in beach access sites is a product of updated database)	CRD Beach Map Points of Interest GIS Layer
Shoreline (other than beach) access sites	Not currently tracked	Unknown	Has not been surveyed
Recreational boat (power or non-motorized) access sites	118 (99 boat ramps; 19 canoe access)	↑ (An increase in database sources were used to quantify recreational boat access sites which may be the cause of the increase)	Ramps and Piers database (CRD/HERU); WRD Water Access Point GIS Layer
Designated scenic vistas or overlook points	Not currently tracked	Unknown	Has not been surveyed
Fishing access points (i.e. piers, jetties)	73	↑ (An increase in database sources were used to quantify fishing access sites which may be the cause of the increase)	CRD Water Access GIS Layer; WRD Water Access GIS Layer; Ramps and Piers Database (CRD/HERU)

[1] Be as specific as possible. For example, if you have data on many access sites but know it is not an exhaustive list, note "more than" before the number. If information is unknown, note that and use the narrative section below to provide a brief qualitative description based on the best information available.

[2] If you know specific numbers, please provide. However, if specific numbers are unknown but you know that the general trend was increasing or decreasing or relatively stable or unchanged since the last assessment, note that with a ↑ (increased), ↓ (decreased), – (unchanged). If the trend is completely unknown, simply put "unknown."

Type of Access	Current number[1]	Changes or Trends Since Last Assessment[2] (↑, ↓, –, unknown)	Cite data source
Coastal trails/ boardwalks *(Please indicate number of trails/boardwalks and mileage)*	Not currently tracked	Unknown	Has not been surveyed
Acres of parkland/open space	5,206.66 Acres	↓ (Previous assessment used total acres of conservation lands/open space in the entire state of Georgia whereas our numbers included here are only counting those in the 11-county coastal service area)	WRD Georgia Conservation Lands (2023) GIS Layer
Access sites that are Americans with Disabilities Act (ADA) compliant[3]	43 Access Sites (Boat Ramp: 5 (2 of which have ADA Docks); Wheelchair Accessible Beaches: 6; 32 ADA Fishing Access Sites)	↑ (updated databases)	WRD Water Access Database; Explore Georgia; CRD ADA Fishing Locations
Other (please specify)			

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,[4] the National Survey on Fishing, Hunting, and Wildlife Associated Recreation,[5] and your state's tourism office.

Residents of the state of Georgia rated the importance of outdoor recreation high, especially during the time of the most restrictive COVID-19 safety regulations (GA SCORP 2022-2026). The population in coastal Georgia increased by approximately 6.3% between 2020 and 2024 (U.S. Census Bureau, Population Division, 2025) and the total population in coastal Georgia is projected to increase 7.5% by 2030 and 29.9% by 2060 (Georgia Governor's Office of Planning and Budget, Population Projections). Of surveyed Georgia residents, 25% listed overcrowding, and 24% listed distance as obstacles limiting their use of public outdoor recreation areas. Some sources suggest the limitation of distance has more to do with residents' lack of awareness of local opportunities than actual lack of local opportunities (GA

[3] For more information on ADA see *ada.gov.*

[4] Most states routinely develop "Statewide Comprehensive Outdoor Recreation Plans", or SCROPs, that include an assessment of demand for public recreational opportunities. Although not focused on coastal public access, SCORPs could be useful to get some sense of public outdoor recreation preferences and demand. Download state SCROPs at*.recpro.org/resources--reports/scorp-resources.*

[5] The National Survey on Fishing, Hunting, and Wildlife Associated Recreation produces state-specific reports on fishing, hunting, and wildlife associated recreational use for each state. While not focused on coastal areas, the reports do include information on saltwater and Great Lakes fishing, and some coastal wildlife viewing that may be informative and compares 2016 data to 2011, 2006, and 2001 information to understand how usage has changed. The most recent survey was conducted for 2022 but due to a change in methodology, results cannot be compared to previous reports. See *fws.gov/program/national-survey-fishing-hunting-and-wildlife-associated-recreation-fhwar.*

SCORP 2022-2026). The addition of public access opportunities or increases to the capacity of existing public access infrastructure could enable more Georgians and visitors to enjoy the state's waterways with reduced concern for overcrowding.

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.

For this upcoming cycle's Public Access Phase I Assessment, the following data sources were newly adopted to quantify public access sites in coastal Georgia: Georgia Wildlife Resources Division (WRD) Water Access Database; a new ramps and piers tracking database created by the Coastal Resources Division's Marine Fisheries section; and the updated 2023 Georgia WRD Conservation Lands GIS layer. The inclusion of these datasets resulted in an increase in recreational boat access sites, fishing access sites, and ADA compliant sites. Decreases in beach access sites were likely the result of using an updated database. The decrease in acres of conservation lands / open space was the result of an overestimation of total acres of conservation lands in coastal Georgia in the previous assessment.

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.

Significant Changes in Public Access Management

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	Y
Operation/maintenance of existing facilities	Y	Y	Y
Acquisition/enhancement programs	Y	Y	Y

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.

Statues, Regulations, Policies, or Case Law:

There is an ongoing legal discussion in Georgia on the definition of "navigable" waters and what this definition means for public access to streams and rivers. Previous definitions of "navigable" included only commercial shipping. Georgia rivers are no longer used primarily for commercial shipping, so there is some desire to protect recreational access to rivers. Georgia HB 1172 is a bill passed July 1, 2024 that amends Georgia Code Section 44-8-5 which defines the rights of Georgians to use rivers and streams and the rights of riparian property owners. HB 1172 eliminated references to the public

trust doctrine and limited public use to only passage, hunting, and fishing "in some cases." Another proposed bill HB 1397 included a controversial list of rivers within the state that should be considered navigable. It did not pass.

Operations / Maintenance of Existing Facilities:

The Coastal Resources Division's Marine Fisheries section had been awarded a grant from the Georgia Outdoor Stewardship Program to rehabilitate a boating access site at James Allen Williamson Champney River Park, colloquially known as the "Champney River Park Boat Ramp," to improve accessibility that has been impeded due to flooding. Construction for this improvement is currently underway. This is a significant change because this will be the first project undertaken by CRD that has been funded by the Georgia Outdoor Stewardship Program. It is important to note that additional support for the project has also come from DNR's Wildlife Resources Division, Ducks Unlimited, local businesses, and individual contributors.

Acquisition / Enhancement Programs:

GCMP staff partnered with the City of Brunswick to acquire 4.3 acres of land that was vulnerable to high rise development in an area that consistently floods from high tides and storms. This tract will be used for passive recreation (such as outdoor classroom activities), flood mitigation, and green space as determined by a stewardship planning process. This project was funded by CELCP/BIL in 2023 in partnership with the City of Brunswick. Additionally, Sport Fish Restoration funds from U.S. Fish and Wildlife, which CRD has received in the past, are currently being used to establish an entirely new boating site along Honey Creek in Waverly, GA (Camden County).

3. Indicate if your state or territory has a publicly available public access guide. How current is the publication and how frequently it is updated?[6]

Publicly Available Access Guide

Public Access Guide	Printed	Online	Mobile App
State or territory has? (Y or N)	Y	Y	N
Web address (if applicable)	N/A	https://coastalgadnr.org/FishingMaps https://georgiawildlife.com/locations/wrd	N/A
Date of last update	9/28/2020	2024	N/A
Frequency of update	Not scheduled	As needed	N/A

Enhancement Area Prioritization

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

High _____
Medium __X__
Low _____

[6] Note some states may have regional or local guides in addition to state public access guides. Unless you want to list all local guides as well, there is no need to list additional guides beyond the state access guide. You may choose to note that the local guides do exist and may provide additional information that expands upon the state guides.

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

Access to natural resources remains a priority for the Coastal Management Program. The results of a 2024 stakeholder survey of Coastal Advisory Council members (n=12) reflected that respondents thought that Public Access should be a lower priority compared to other enhancement areas (ranking 6 out of 9, with 1 being the highest priority). However, a wider and more targeted audience was engaged in the most recent Georgia Saltwater Anglers' and Captains Attitudes Toward Saltwater Fishing study (2022), summarizing survey results from 2,026 saltwater anglers, which reflected that among the top-named constraints or dissatisfactions with saltwater fishing in coastal Georgia were "distance / travel time" to fishing sites and "lack of access". These responses demonstrate a need for support of programs in place to acquire new conservation lands to establish new access points while also maintaining existing public fishing access and recreational boat access. These are programmatic areas in which the Coastal Management Program will continue to engage and support. Thus, we consider public access to be a medium level of priority.

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 1 (High-level) Assessment: *(Must be completed by all states and territories.)*
Purpose: To quickly determine whether the enhancement area is a high-priority enhancement objective for the CMP that warrants a more in-depth assessment. The more in-depth assessments of Phase II will help the CMP understand key problems and opportunities that exist for program enhancement and determine the effectiveness of existing management efforts to address those problems.

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 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
Offshore	Conflicting uses (military, energy), sand sources for beach nourishment species protection (NARW), unclear state authorities
Tidal marshlands	Ownership through Crown Grant, mitigation, blue carbon credit generation, private docks, marsh migration due to sea level changes, mangrove range expansion
Shellfish harvest areas	Water quality, fishing interests, exclusion of transient boaters
River corridors/coastal floodplains	Upland development, water quality (buffers), protection of marsh migration areas
Beaches	Coastal storms, erosion and nourishment, sea level rise, habitat protection (turtles, birds), sand management (tide pools), armoring
Ports	Beach impacts (erosion due to ship wakes, repeated dredging w/o beneficial use, invasive species, port expansion on upland, bridge replacements
Freshwater wetlands	Limited state authorities for protection, changing federal jurisdiction, habitat protection, stormwater management, aquifer recharge

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.

No SAMPs have been completed for Georgia

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.

Significant Changes in Special Area Management Planning

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	N	N	N
SAMP plans	N	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.

There have been no significant changes since the last assessment.

Enhancement Area Prioritization

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

    High _____
    Medium _____
    Low __X__

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

    The GCMP ranked this priority area as low as we do not intend to develop a strategy related to special area management planning at this time. The geographic areas described above, and the use conflicts are being addressed through ongoing GCMP programs including technical assistance, regulatory and Federal Consistency functions, as well as current and prior 309 strategies related to ocean and energy management, coastal hazards and wetlands.

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." [33 CFR 328.3(b)]. See also pg. 14 of the CZMA Performance Measurement Guidance[1] for a more in-depth discussion of what should be considered a wetland.*

Phase I (High-Level) Assessment: (Must be completed by all states.)
Purpose: To quickly determine whether the enhancement area is a high-priority enhancement objective for the CMP that warrants a more in-depth assessment. The more in-depth assessments of Phase II will help the CMP understand key problems and opportunities that exist for program enhancement and determine the effectiveness of existing management efforts to address those problems.

Resource Characterization

1. Using the tables below as a guide, provide information on the status and trends of coastal wetlands. Be as quantitative as possible using state or national wetland trend data.[2] The tables are information presentation suggestions. Feel free to adjust column and row headings to align with data and time frames available in your state or territory. If quantitative data is not available for your state or territory, provide a brief qualitative narrative describing wetlands status and trends and any significant changes since the last assessment.

   Current state of wetlands in 2024 (acres): __1,832,149_____
   *Used USGS's National Land Cover Database. Most recent data is for 2023.

Coastal Wetlands Status and Trends

Change in Wetlands	from 1996-2024
Percent net change in total wetlands (% gained or lost)*	-2.04%
Percent net change in freshwater (palustrine wetlands) (% gained or lost)*	-4.99%
Percent net change in saltwater (estuarine) wetlands (% gained or lost)*	-2.29%

*Used NOAA's Land Cover Atlas. Data only available for 1996-2016.

[1] coast.noaa.gov/data/czm/media/czmapmsguide.pdf

[2] National data on wetlands status and trends include NOAA's Land Cover Atlas (coast.noaa.gov/digitalcoast/tools/lca.html), the U.S. Geological Survey's National Land Cover Database (usgs.gov/centers/eros/science/national-land-cover-database), and the U.S. Fish and Wildlife Service's National Wetland Inventory data (fws.gov/program/national-wetlands-inventory).

How Wetlands Are Changing

Land Cover Type	Area of Wetlands Transformed to Another Type of Land Cover between 1996-2024 (Sq. Miles)
Development	10.82
Agriculture	0.63
Barren Land	2.53
Water	5.27

Management Characterization

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

Significant Changes in Wetland Management

Management Category	Significant Changes Since Last Assessment (Y or N)
Statutes, regulations, policies, or case law interpreting these	Y
Wetlands programs (e.g., regulatory, mitigation, restoration, acquisition)	Y

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.

- In 2007, the DNR Board adopted the Upland Component Rule (Upland Rule) to incur a 50-foot marshland buffer on upland components of Coastal Marshlands Protection Act (CMPA) permitted projects. In 2023, CRD proposed changes to the way the upland component was defined in Regulation of the Upland Component 391-2-3-.02 pursuant to a CMPA permit. The definition of the upland component was clarified to only include six types of structures that would require a permit for impacts to coastal marshlands. This was an effort to streamline the permitting process for applicants that are applying for permits for any other type of project (besides the six types previously mentioned) that could have previously been subject to upland component regulations including a 50-foot marshlands buffer. The Upland Component Rule was put into effect on March 20, 2024.
- Through the 2021-2025 309 Strategy, the Shoreline Policy and Resilience Review Team (SPRRT) was established. The internal group is comprised of non-regulatory and regulatory members, and has focused on existing regulatory processes, improving understanding that living shoreline authorizations are not harder to attain than hardened structures (all bank stabilizations undergo the same regulatory process), and how to get more living shoreline projects on the ground. SPRRT continues to meet bimonthly.

- Through the 2021-2025 309 Strategy, a comprehensive living shoreline guidance document with site suitability criteria, standards, and best management practices was developed. This document is intended to be used by homeowners, regulators, engineers, contractors, and landscape architects who are interested in considering the use of living shorelines on the Georgia coast.
- Regulatory and non-regulatory members of GCMP are in the final stages of developing a marsh restoration protocol that will be used by agencies exempt from O.C.G.A § 12-5-286 (applicability is detailed in O.C.G.A § 12-5-295). Georgia Power Company is an example and had agreed to participate in a pilot program that helped in formatting the monitoring protocol to address impacts of their work in protected wetlands.
- In April 2023, GCMP, in partnership with Sapelo Island National Estuarine Research Reserve and The Nature Conservancy, developed living shorelines trainings for engineers, contractors and local governments. Since then, GCMP used feedback from these pilot events, as well as lessons learned from Florida's training program to enhance the format. These trainings will be hosted twice per year and will alternate between the northern and southern counties to increase access to attendees. The new format will be a 5-6-hour event that includes more regulatory information, hands-on activities, and seeing a living shoreline on site. This addition to the GCMP addresses our priority to increase engineer/contractor knowledge and experience with living shorelines to implement more living shoreline projects in coastal Georgia.
- The GCMP has received funding from the Southeast Aquatic Resources Partnership (SARP) to assess aquatic barriers in coastal Georgia. The data will be used to identify high priority removal or improvement projects.
- A new saltwater tidal mitigation bank is moving forward in Camden County with a proposed 87.7 acres of tidal wetlands/ waters to be restored.
- In 2024, red and black mangroves were discovered growing in the salt marshes in southeast Georgia near the state boarder with Florida. These plants were discovered and assessed by experts with the National Park Service who estimate them to be between seven and ten years old. The northern migration of tropical species like mangroves has accelerated in recent years due to milder winters and an increase of extreme storm events on the east coast. The Coastal Marshlands Protection Act prevents the removal of wetland vegetation in Georgia's salt marshes, including migratory species adapting to climate change. Wetlands biologists with the GCMP are collaborating Wildlife Resources Division and NPS staff to monitor the impacts of mangrove establishment on native salt marsh vegetation and overall ecosystem functions.

Enhancement Area Prioritization

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

   High __X__
   Medium _____
   Low _____

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

The enhancement of coastal wetlands is a high priority for the GCMP. There is increasing development in the eleven coastal counties that includes the construction of docks, bridges/walkways, and bank stabilizations, as well as dredging projects. New industries and businesses are moving to the coast, thus encouraging increased development of residences and impacts from a higher population. As the

stewards of coastal wetlands, it is CRD/GCMP's responsibility to continue to protect and restore them to ensure its sustained benefits to coastal communities.

According to the "Sense of the Council Survey" taken by members of the Coastal Advisory Council (CAC), wetlands health and monitoring was ranked as the third top option (total of 12 options) for gaps in knowledge. Living shorelines were ranked as the eighth gap in knowledge. Emerging issues and concerns, as well as history and lessons learned in marsh protection were ranked first and second (total of 12 topics) in a question that gauged the council's interest in various topics. Wetlands ranked 2nd of 9 (tied with Cumulative and Secondary Impacts) according to GCMP priority by the CAC. However, all 12 participants ranked Wetlands in their top 4 choices where responses were more across the board for Cumulative and Secondary Impacts, demonstrating that there was more common support among CAC members for Wetlands as a priority for the GCMP's next strategy.

Georgia Coastal Management Program
Section 309 Assessment: 2026-2030

Phase II Assessments

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 risks by eliminating development and redevelopment in high-hazard areas and managing the effects of potential sea level rise and Great Lakes level change.

1. Based on the characterization of coastal hazard risk, what are the three most significant coastal hazards[1] within your coastal zone? Also indicate the geographic scope of the hazard, i.e., is it prevalent throughout the coastal zone, or are there specific areas most at risk?

	Type of Hazard	**Geographic Scope** (throughout coastal zone or specific areas most threatened)
Hazard 1	Sea Level Rise (SLR)	Tier 1 counties
Hazard 2	Inland flooding	Tier 2 counties
Hazard 3	Climate Change	11 coastal counties

2. 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.

   According to a stakeholder survey of our Coastal Advisory Council, coastal hazards are a top concern; specifically, combined flooding of SLR and upland stormwater impacts. Future SLR planning has been discussed with a few of the ocean-facing counties with one adopting a SLR ordinance. However, the shorter-term impacts of high-tide flooding has proven to be a significant disturbance with little mitigation and adaptation planning in the tier one area. After working with local elected officials, it was noted that while Georgia's ocean-facing counties have SLR maps for planning the inland-coastal counties have no future hazard maps. All five inland counties are adjacent to a major tidal river and will have significant impacts from climate change. With pressures on the communities from residential development as well as new industry and needed infrastructure, it would be extremely beneficial to have future-floodplain maps in these areas. Understanding the impacts of Climate Change in the coastal areas is a continual challenge. The inland counties have very few resources and the ocean-facing counties have rapid turnover that requires staff to think creatively with constant outreach.

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

Emerging Issue	**Information Needed**
Future Floodplain location	Maps of change
Climate Change	Resiliency literacy

In-Depth Management Characterization

Purpose: To determine the effectiveness of management efforts to address identified problems related to the coastal hazards enhancement objective.

[1] See list of coastal hazards on pg. 27 of this assessment template.

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.

Significant Changes in Coastal Hazards Statutes, Regulations, and Policies

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)
Shorefront setbacks/no build areas	Y	Y	N
Rolling easements	N	N	N
Repair/rebuilding restrictions	Y	Y	N
Hard shoreline protection structure restrictions	Y	Y	N
Promotion of alternative shoreline stabilization methodologies (i.e., living shorelines/green infrastructure)	Y	Y	Y
Repair/replacement of shore protection structure restrictions	Y	Y	Y
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	Y
Repetitive flood loss policies (e.g., relocation, buyouts)	Y	N	N
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	Y	N
Other (please specify)			

Significant Changes to Coastal Hazard Management Planning Programs or Initiatives

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)
Hazard mitigation plans	Y	Y	Y
Sea level rise/Great Lake level change or adaptation plans	Y	Y	Y
Statewide requirement for local post-disaster recovery planning	N	Y	Y
Sediment management plans	N	Y	N
Beach nourishment plans	N	Y	N
Special Area Management Plans (that address hazards issues)	N	N	N
Managed retreat plans	N	N	N
Other (please specify)			

Significant Changes to Coastal Hazard Research, Mapping, and Education Programs or Initiatives

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)
General hazards mapping or modeling	Y	Y	Y
Sea level rise mapping or modeling	Y	Y	Y
Hazards monitoring (e.g., erosion rate, shoreline change, high-water marks)	Y		Y
Hazards education and outreach	Y	Y	Y
Other (please specify)			

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 none, is there any information that you are lacking to assess the effectiveness of the state's management efforts?

   The Resiliency Academy inaugural meeting began January 2025 with overwhelming written support from local elected officials.

   The Sea Level Affecting Marsh Model, which was run as a deliverable of the current 309 strategy, is being used in local government planning, the South Atlantic Salt Marsh Initiative, DOD Fort Stewart/ Hunter Army Airfield Focused Regional Resilience Study, State Wildlife Action Plan (Climate Change section).

   The State-wide Hazard Mitigation Plan now includes Climate Change impacts including SLR of which the GCMP has provided the information for. The updated Plan was signed by Governor Kemp in March 2024.

The Georgia Emergency Management Agency secured CDBG-DR funds to assist southwest inland communities impacted by Hurricane Michael to develop Disaster Recovery and Redevelopment Plans using the guide and pilots that the GCMP completed in 2021.

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: Future Floodplain

   Description:
   As climate change impacts the coast of Georgia, we will see the floodplain move and its habitat shift. The GCMP has newly acquired SLAMM data which demonstrates that for the ocean-facing counties. There is insufficient data and maps to demonstrate how the coastal-inland communities will be impacted, and a mapped future floodplain is critical for that planning.

   Management Priority 2: Future Hazard Mitigation Assessment

   Description:
   Through our current 309, a Resiliency Reference Guide and Vulnerability Assessment for the six ocean-facing counties will be completed. The next logical step would be to take that data and determine where resiliency mitigation and adaptation opportunities exist in those counties through a comprehensive assessment.

   Management Priority 3: Community Engagement & Resiliency Literacy

   Description:
   The Coastal Advisory Council stakeholder survey identified outreach as a priority for coastal hazards. Our local elected officials are asking for resiliency education and the need for consistent messaging is critical. Providing these resources at all levels will be a significant priority in the coming years for the GCMP.

2. Identify and briefly explain priority needs and information gaps the CMP has for addressing 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	N	
Mapping/GIS/modeling	Y	Need for Future Floodplain mapping
Data and information management	N	

Priority Needs	Need? (Y or N)	Brief Explanation of Need/Gap
Training/Capacity building	Y	Need for training on planning for future floodplain impacts to local government (staff& elected)
Decision-support tools	N	
Communication and outreach	Y	Communication to elected officials where new elections occur frequently on Resiliency and Climate Change Impacts.
Other (specify)		

Enhancement Area Strategy Development

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

   Yes __X___

   No _____

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

As demonstrated through stakeholder surveys, needs assessments and face to face conversations, Coastal Hazards assessments, planning, resources, and outreach are critical in the GCMP's efforts to make our coast as resilient as possible. It was ranked highest by Coastal Advisory Council members when asked to rank the enhancement areas by priority.

Wetlands

In-Depth Resource Characterization

Purpose: To determine key problems and opportunities to improve the CMP's ability to protect, restore, and enhance wetlands.

1. What are the three most significant existing or emerging physical stressors or threats to wetlands within your coastal zone? Indicate the geographic scope of the stressor, i.e., is it prevalent throughout your coastal zone, or are there specific areas that are most threatened? Stressors can be development/fill; hydrological alteration/channelization; erosion; pollution; invasive species; freshwater input; sea level rise/Great Lakes level change; or other (please specify).

	Stressor/Threat	**Geographic Scope** (throughout coastal zone or specific areas most threatened)
Stressor 1	Flooding	Coastwide
Stressor 2	Development Encroachment on Marsh Corridors and Natural Hydrology	Coastwide
Stressor 3	Sea Level Rise	Tier 1, Ocean-Facing Counties

2. Briefly explain why these are currently the most significant stressors or threats to wetlands within your coastal zone. Cite stakeholder input and/or existing reports or studies to support this assessment.

Flooding:

Flooding can have various sources like stormwater, storm surge, and the tide, but when these events happen at once, they can compound, making it more difficult for coastal communities to bounce back. Named storms are becoming more frequent not only in coastal Georgia but also inland. Hurricanes Debby and Helene occurred in August and September 2024 and caused major destruction coastwide, but inland communities were most impacted. One member of GCMP's Stakeholder group, the Coastal Advisory Council, stated, "As pressure for residential, commercial and industrial development increases on the two-tier coastal counties it is imperative that 'needs and opportunities' are implemented for 'smart growth' which makes both economic and ecological sense. With our increasing awareness of climate change, knowledge of impacts and threats are increasing our ability to respond and plan accordingly."

Frequent flooding from tropical systems, moving water from inland streams or tides, and runoff can damage important infrastructure like roads and exacerbate shoreline erosion. With resources and infrastructure behind these estuarine or freshwater creeks to protect, bank stabilization structures like living shorelines have been implemented to reduce erosion. The twelve projects in Georgia have been constructed in tidal saltwater environments. CRD has received inquiries about living shorelines in brackish and fresh environments, but none have been constructed to date in the GCMP service area. Through discussions with partners, the GCMP has learned of interest in reducing erosion with living shorelines in these inland areas.

Development Encroachment on Marsh Corridors and Natural Hydrology:

As development pressure from coastal communities pushes into the buffer habitats between upland properties and wetland areas, there is less available landscape in which marshes can move. To protect

the natural resiliency of salt marshes, conservation efforts need to extend into these migration corridors. Research has shown that undersized culverts can cause significant flood hazards for coastal communities. There have been numerous extreme storm events that have impacted coastal Georgia in recent years, including Hurricane Matthew (2016), Hurricane Dorian (2019) and Hurricane Helene (2024). Many of these events caused substantial damage to infrastructure including road damage and closures because of undersized culverts that exacerbate flooding by failing to meet hydrologic needs and capacity demands during these events (Vreeland 2019). These events lead to a decrease in resiliency by flooding roads, impacting emergency response time, and damaging critical community infrastructure that requires significantly more time to recover from events (Haigh 2014).

Haigh, R. 2014. Enhancing resilience of critical road infrastructure: bridges, culverts and floodways, Int. J. Disaster Resilience. Built Environment. 5 (2014) IJDRBE-05-2014-0038. https://doi.org/10.1108/IJDRBE-05-2014-0038.

Vreeland, A. 2019. Hazard mitigation strategy application: An evaluation of the town of Princeville's future mitigation strategies (master's dissertation). University of North Carolina at Chapel Hill. https://doi.org/10.17615/663f-v695

Sea Level Rise:

Rising water levels in Georgia, in an environment that already experiences vast movements of water due to the tides, will cause significant flooding to wetlands. This will cause wetlands to migrate landward. Langston et. al 2021 conducted field research in Georgia, and their sediment cores show that sediment accretion is lower than the rate of sea level rise.

Within the last five years, the GCMP has updated the Sea Level Affecting Marshes Model (SLAMM) for the Georgia coast and will be working on output data for communities. SLAMM data can be used to determine land cover conversions which will indicate habitat changes, and with the loss of Georgia wetlands, coastal communities also lose storm surge/flooding buffers, natural shoreline stabilization, aquatic species and wildlife benefits, and sites of carbon sequestration.

Langston, A.K., Alexander, C.R., Alber, M., Kirwan, M.L., 2021. Beyond 2100: elevation capital disguises salt marsh vulnerability to sea-level rise in Georgia, USA. Estuar. Coast. Shelf Sci. 249, 107093. https://doi.org/10.1016/j.ecss.2020.107093

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

Emerging Issue	Information Needed
Flooding	Future Floodplain maps; Tier 2 impacts; Priority erosional assessment and identification
Increased developmental pressure on migration corridors and hydrology	Priority assessment of hydrologic restrictions and land-use, identification of priority restoration opportunities

In-Depth Management Characterization

Purpose: To determine the effectiveness of management efforts to address identified problems related to the wetlands enhancement objective.

1. For each additional wetland management category below that was not already discussed as part of the Phase I assessment, indicate if the approach is employed by the state or territory and if significant state- or territory-level changes (positive or negative) have occurred since the last assessment.

Significant Changes in Wetland Management

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)
Wetland assessment methodologies	Y	Y	Y
Wetland mapping and GIS	Y	Y	Y
Watershed or special area management plans addressing wetlands	N	N	N
Wetland technical assistance, education, and outreach	Y	Y	Y
Other (please specify)	N	N	N

2. For management categories with significant changes since the last assessment, 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 significant changes since the last assessment;
    b. Specify if they were 309 or other CZM-driven changes; and
    c. Characterize the outcomes or likely future outcomes of the changes.

Aquatic barrier assessments: Since the last assessment, GCMP have developed aquatic barrier assessment methodologies for culverts in tidal wetlands. The assessment protocol is based on the North Atlantic Aquatic Connectivity Collaborative's Stream Crossing Manual for Aquatic Passability Assessments in Streams and Rivers. The purpose of developing this tidal-specific methodology is to conduct a standardized survey of all coastal road-stream crossings in tidal waters and score barriers based on their impact to natural hydrology. After surveying and scoring all barriers within GCMP's service area, staff will prioritize barriers for restoration based on their impact score. The inventory of prioritized barriers will be shared with local governments and partners so that we can collaboratively plan for replacement of high-ranking barriers. In May 2023, GCMP staff formed the Coastal Aquatic Connectivity Team which has used the new developed tidal assessment methodology to survey over 1000 barriers in coastal wetlands. Scores and priority ranking are being shared with local stakeholders as surveys are completed.

Habitat Restoration: The development boom taking place in coastal Georgia has exponentially increased the demand for critical infrastructure like roadways and power transmission structures. Expansion and addition of this infrastructure continues to be a leading cause of deleterious impacts to marshes. Since the last assessment, GCMP staff formed an internal working group focused on tidal wetland restoration. Regulatory and non-regulatory members of the GCMP review projects that impact coastal marshlands and develop standard methodologies and best practices to guide restoration projects within those project footprints. Working group members are in the final stages of developing a marsh restoration protocol that will be used by agencies and organizations exempt from O.C.G.A § 12-5-286 (applicability is detailed in O.C.G.A § 12-5-295). Georgia Power Company is an example and agreed to participate in a pilot program that helped in formatting the monitoring protocol to address impacts of their work in

protected wetlands. The restoration working group will continue to meet quarterly, with additional meetings on special projects as new needs emerge.

Living Shoreline Trainings for Engineers and Contractors: Since the last assessment, GCMP staff, in partnership with the Sapelo National Estuarine Research Reserve and the Nature Conservancy, developed a format for a living shorelines training. Engineers and contractors were the target audience, with local governments being invited too. A lot of the decisions that property owners make depends on the experience of those that design and construct the stabilization projects. Providing guidance to this audience, and bringing groups together was identified as an important step in getting more living shorelines on the ground in Georgia. A pilot training occurred in April 2023, and since then, staff reviewed feedback and met with Florida Sea Grant staff to enhance the format. The premiere of the new training format occurred in December 2024, where 20 participants received a certificate of completion and were the first to join the "Georgia Trained Living Shoreline Practitioner Network." The training covered planning, permitting, implementation, and maintenance on living shoreline techniques through a series of presentations, hands-on activities, and a site visit. This effort was 309 driven, and we plan to host these events twice per year in different parts of the coast to make them accessible and increase participation.

Shoreline Policy and Resilience Review Team: GCMP staff have established this internal group that is made up of regulatory and non-regulatory members as a task deliverable for the last 309 strategy. The purpose of this group is to step through the regulatory process for nature-based shoreline projects, specifically living shoreline projects, to see where we can provide more information about living shorelines as an option to increase demand. In Georgia, all bank stabilizations require a CMPA permit, and therefore hardened structures and shorelines go through the same process to be authorized. Members of the group discuss how to define living shorelines, project examples, existing and future shoreline policies, and the flow of recommendations for the Marsh and Shore Committee through a decision tree.

Living Shoreline Site Suitability, Standards and Best Management Practices: GCMP staff have been working with an engineer and contractor who have living shoreline experience to produce guidance on where living shorelines can be constructed, what is consistent among all living shoreline projects that can be used as a regulatory checklist, and what components can be added to enhance projects. The guidance document is intended for homeowners, regulators, engineers, contractors, landscape architects, and other interested stakeholders considering the use of living shorelines in Georgia. The document also includes design plan examples, construction techniques, case studies, cost comparisons, and resources.

3. Identify and describe the conclusions of any studies that have been done that illustrate the effectiveness of the state's or territory's management efforts in protecting, restoring, and enhancing coastal wetlands since the last assessment. If none, is there any information that you are lacking to assess the effectiveness of the state's or territory's management efforts?

Habitat Mitigation: Since the last assessment period, GCMP initiated and completed a study examining the effectiveness of federal mitigation metrics in detecting differences between impacted and unimpacted tidal marsh wetlands. Since the last assessment period, GCMP initiated and completed a study with the following results: 1) identify suitable restoration sites using the best available data and landowner information; 2) identify ecological lift of restoration sites; and 3) evaluate the application of

the Army Corps of Engineer's Savannah District's 2018 Standard Operating Procedure for tidal wetland mitigation.

Living Shorelines Site Suitability Criteria, Standards, and Best Management Practices: Since the last assessment period, GCMP worked with an engineer and contractor with living shorelines experience to guide where living shorelines are suitable, what is consistent among projects, and how to enhance projects through best practices. This guide has already been used as the foundation of engineer/contractor workshops, and there has been a lot of interest in its release. The document focuses on projects that are in Tier 1 counties, but there is a need and opportunity to adapt this information for inland, brackish environments in Tier 2 counties.

Identification of Priorities

1. Considering changes in wetlands and wetland 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 respond to significant wetlands stressors. *(Approximately 1-3 sentences per management priority.)*

   Management Priority 1: Future Floodplain Maps

   Description:
   Extreme weather and tide events are increasing in both frequency and intensity along the coast of Georgia. For GCMP to help coastal habitats and communities survive the impacts of severe storms, current and future vulnerabilities must be identified. Resiliency plans will only be effective if they incorporate accurate predictions of flood risks, thus floodplain maps built with the most up to date scenario models are needed for truly adaptive management.

   There are no resources available to show combined flooding and future impacts to the inland five (Tier-2) counties. Having this data would allow us to partner with local governments to prioritize resilience planning to preserve wetlands and stabilize with living shorelines.

   Management Priority 2: Assessments of habitat shifts, hydrologic barriers, and eroding sites

   Description:
   Assessments to determine areas of high priority for land acquisition, hydrologic connectivity, living shorelines, and green growth is a critical need of the upcoming strategy. There will be GIS and field components to this work.

   Without proper assessment of existing tidal structures, local stakeholders have little to no information to guide management decisions and prioritize which crossings may pose a greater flood risk hazard for the community. Collecting data on tidal crossings, together with the GCMP's existing network of partners, can provide science-based information to local communities aimed at increasing coastal resiliency. Understanding which barriers should be addressed within a coastal community is critical for improving community resiliency and planning for resource allocation. The information collected is used to map the degree of habitat fragmentation and flood risk across the landscape as well as identify which structures cause flooding, wetland impairment, fish passage issues. Currently, the GCMP and the Southeast Aquatic Resources Partnership (SARP) are working to

score each crossing based on flood risk and aquatic organism passage to produce a list of prioritized restoration projects that can be shared with coastal community partners.

Staff have been working with an engineer and contractor with living shoreline experience to develop a guidance document with living shoreline site suitability, standards, and best management practices. Its title is "Living Shorelines in Coastal Georgia: A Comprehensive Guide to Understanding and Designing Living Shorelines on the Georgia Coast," and it is intended to be used by homeowners, engineers, contractors, landscape architects, and other interested stakeholders considering living shorelines in Georgia. This guidance document and the Georgia Wetlands Restoration Access Portal (G-WRAP) can be used as a tool to assess what sites are suitable for living shorelines in areas along the coast. Additionally, GCMP has partnered with the Skidaway Institute of Oceanography to determine where the upland-water interface is, and the data can also identify areas in need of shoreline stabilization. To date, all living shoreline implementation that GCMP facilitated or partnered on is in ocean-facing (Tier 1) counties. Living shorelines would likely be well suited in brackish, inland areas since the creeks are more protected with a smaller area for wind and waves to travel. There are no resources available to the five, Tier-2 counties for stabilization of eroding banks.

One of the best management practices for living shoreline implementation in Georgia is upland stormwater management. GCMP will identify areas in need of slowing and filtering the water coming from the upland by assessing inland areas in need of green growth practices.

Management Priority 3: Community Engagement

Description:
Recent acquisition projects have been facilitated by GCMP through BIL, GOSA, and local funding. Additionally, the GCMP routinely partners with GA DNR Wildlife Resources Division to acquire land in the coastal zone to use as wildlife management areas reserved for conservation purposes. Future large-scale land acquisition projects require investment from local governments, community stakeholders, NGOs and federal agencies. GCMP seeks to engage these coastal partners bringing awareness of the issues, promoting resilient management strategies, and leveraging resources to address emerging issues. GCMP will host community workshops, meet individually with local government officials and share relevant needs with the scientific community to improve program effectiveness.

The GCMP will continue hosting semiannual living shoreline workshops for engineers and contractors. Public and professional awareness of living shorelines as an option for bank stabilization is a critical need, especially in brackish, inland environments where projects are less common. It will continue to be a priority for the program to improve understanding and get more of these nature-based projects on the ground. Gaining living shoreline experience and understanding in brackish environments could allow more useful and comprehensive information to be added to the current document with site suitability, standards, and best management practices. The document will continue to be distributed and used as a tool coastwide.

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 do not need to 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	N	
Mapping/GIS	Y	Maps of change that show flooding risk to habitats
Data and information management	Y	Habitat shift data collection and management
Training/capacity building	Y	Continued living shoreline training for engineers and contractors; local government training on culvert improvements; distribution of the guidance document with living shoreline site suitability, standards, and best management practices; restoration regulatory protocol
Decision-support tools	N	
Communication and outreach	Y	Engage with communities and local governments on the importance of salt marshes, nature-based solutions to reduce flooding and erosion, hydrologic function in wetlands, and resources for getting projects on the ground.
Other (specify)		

Enhancement Area Strategy Development

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

   Yes __X___

   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 because of its critical presence on the Georgia coast where it acts as a flooding buffer, water quality enhancer, and habitat. Georgia's second tier (inland) coastal counties harbor the greatest percentage of biodiversity compared to all other counties in the state, and there are needs and opportunities as environmental conditions and development pressures change. Assessments of habitat shifts, hydrologic barriers and living shoreline suitability as wetland restoration opportunities are important to complete in these inland communities, where resources and information are limited. The Coastal Advisory Council survey participants ranked Wetlands in their top four enhancement areas to prioritize for the next strategy and it scored second overall.