Florida
Coastal Management Program Assessment and Strategy

2026 to 2030

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Introduction

The National Coastal Zone Management Program is a voluntary partnership between the federal government and U.S. coastal and Great Lakes states and territories authorized by the Coastal Zone Management Act (CZMA) of 1972. Section 309 of the CZMA established the Coastal Zone Enhancement Program to encourage states and territories to conduct self-assessments of their coastal management programs every five years.

Florida's Coastal Management Program (FCMP) was approved by the National Oceanic and Atmospheric Administration (NOAA) in 1981. The following Assessment and Strategy report was structured to conform to the Section 309 Program Enhancement Guidance provided by NOAA's National Ocean Service Office for Coastal Management.

The assessment and strategies herein were developed by the Florida's Department of Environmental Protection (DEP) Office of Resiliency and Coastal Protection (RCP), through consultation with FCMP partner agencies. The assessment considers the effectiveness of existing management efforts in addressing Florida's coastal issues since the last assessment in 2020. Based on management needs identified by the assessment, strategies were developed to improve the FCMP. The resulting strategies cover the planning period from FY 2026 – FY 2030.

Summary of Recent Section 309 Achievements

Multiple major accomplishments have been achieved since the last assessment. The following provides these categorized under the 309 strategy topic.

Narrative Enforceable Policies

The document titled Florida Coastal Management Program's Compilation of NOAA Approved Enforceable Policies: Organized in Tables by Florida Statute and Containing Key Words was created by the FCMP (dated May 2024). This document meets the goal of the strategy by increasing understanding and uniform application of the federal consistency review process by FCMP network agencies. This document also satisfies a request from NOAA for a legacy review of current enforceable policies. The document provides a tabular listing of the approved enforceable polices organized by Florida Statute. In addition to the approved enforceable policies under each statute, information provided within the tables includes: 1) a "quick glance" summary for each statute with key words; 2) the statute section title; 3) the applicability of the statute to the Outer Continental Shelf; and 4) the state agency or agencies charged with implementing the statute. Summaries within the document are not to be construed as an interpretation or a rewrite of the enforceable policy.

Scaling-Up Sponge Restoration in Florida Bay

Through this strategy, the Florida Fish and Wildlife Commission (FWC) planned to test different sponge propagation methods in three established *in-situ* nurseries located in the Florida Keys, within the Florida Keys National Marine Sanctuary, and develop a comprehensive stakeholder-led sponge restoration strategy document through a series of facilitated meetings. Due to a series of unforeseen delays, including Covid preventing initial stakeholder meetings, then both pathogen and high temperature events that affected sponge mortality, the strategy timeline changed to focus first on developing best practices for restoration in the nursery, developing the guidance documentation along the way, and then convening the committee to review and ultimately approve the restoration guidance document.

SEACAR Expansion: Improved Data Collection and Analysis for Integrated Management, Monitoring, and Permitting

Due to successes with this strategy, process improvements and increased data availability for regulatory decision making were implemented through collaborative efforts. Since the last assessment, the following specific achievements are noted.

With the DEP Division of Environmental Assessment and Restoration, The Statewide Ecosystem Assessment of Coastal and Aquatic Resources (SEACAR) integrated over 580 historical water quality sampling events, from 20 monitoring locations, spanning thirteen years into the Florida Watershed Information Network. This valuable data, collected within the three Florida National Estuarine Research Reserves (NERR), is now available to support the Impaired Waters Rule, Strategic Monitoring Plans, Total Maximum Daily Load (TMDL) data sufficiency, and restoration efforts through the implementation of Basin Management Action Plans (BMAPs). Training and program audits resulted in process improvements including quarterly loading procedures for new data.

SEACAR contributed business level metadata, for more than a quarter of the Department's key data assets, to the Florida Digital Service's Informatica Statewide Catalog, as required by Florida Statute 282.0051(3)(a). Exports from the SEACAR Data Discovery Interface (DDI) minimizes the time needed for program area staff to submit the data.

A common taxonomy list with over 3,700 names was developed from cross-walking the thousands of unique taxonomic names, categories, and codes from programs' raw data files using the World Register of Marine Species, the Florida Plant Atlas, and the Integrated Taxonomic Information System. This process was expanded to include over 280,000 benthic macroinvertebrate abundance records to enable calculation of benthic indices.

Program improvements were facilitated by scripting a crosswalk of frequently updated oyster maps to track monitoring and ID fidelity across time and programs, create reports for project audits, and detect redundancies to optimize placement of monitoring stations.

SEACAR also developed a comprehensive stakeholder engagement and science communication initiative, to bridge the gap between the scientific community and the public, which was awarded as a Project of Special Merit. Through this initiative, scientists will receive formal science communication training and present at a public symposium to share accurate, evidence-based information directly to the public and decision makers. Environmental education materials highlighting SEACAR will be developed and distributed to Florida school districts.

Submerged Cultural Resources - Interagency Management and Research

The Bureau of Archeological Resources (BAR), within the Florida Department of State's Division of Historical Resources, identified needs to both further research the potential effects of certain types of maritime salvage permits to determine the need for revised rules, and to provide educational opportunities for law enforcement to better identify and prevent illegal salvage operations and historical artifact disruption/removal. BAR staff first developed a pilot educational program that included both classroom and field training for law enforcement with an on-water and coastal presence, then offered the pilot program to an initial group of attendees for feedback and course refinement. The course is now finalized. BAR staff also researched certain methods of maritime salvage to determine if there are effects on submerged cultural resource sites. Currently, the state permits the use of propwash deflection for historic shipwreck exploration and salvage, but there is documentation of disturbance of both cultural and natural resources when this method is employed.

Marine Debris Research and Planning

Through this strategy the Florida Department of Environmental Protection (DEP) created the document Florida Marine Debris Removal Guidance: Methods and Techniques for the Removal of Non-Storm Debris from Marine Habitats (dated June 2024). The purpose of this Marine Debris Removal Guidance document is to provide best management practices (BMPs) for the removal of marine debris to minimize adverse environmental impacts during removal operations and to improve preparedness for contractors conducting debris recovery operations within the coastal and marine habitats of Florida. The guide is organized to provide best management practices (BMPs) based on both sensitive environmental habitats and specific debris removal techniques. This guide provides information on the policy authority of Federal and State agencies and identifies considerations based on the inherent environmental constraints associated with different habitats and debris removal techniques. Specifically, the guide

provides resources, as attachments, to facilitate documentation procedures for activities, as well as regulatory and environmental considerations. Links are provided to consolidated Geographic Information System (GIS) layers containing relevant data and information. A Regulatory Considerations Matrix and Job Aids, which function as decision prompts for debris removal operations in various coastal habitats, are also provided.

Shoreline Stabilization Techniques Impacts on Adjacent Shoreline and Ecosystem Response Guidebook - Critical Factors Determination

The primary goal of this strategy was to measure the success of living shorelines and determine any effects—positive or negative—to adjacent shorelines, then utilize the compiled information to develop guidance for permitters. Staff researched other states' similar initiatives, including the recent Section 309 work in North Carolina and Virginia, and determined that the monitoring plans should be informed by the needs of permitters and questions they have when reviewing living shoreline permit requests. An initial meeting with practitioners and permitters was held in February 2023, and it included both state (DEP) and federal (USACE and NOAA NMFS) permitters. Information shared during this discussion reshaped the data monitoring needs and planning originally envisioned for this strategy.

Phase I Assessment

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.

At the time of this assessment, NOAA's Land Cover Atlas data was unavailable for 2024 and the requested analysis for this item could not be completed. Due to the unavailability of the data, the associated NOAA Land Cover Atlas Wetland tables were removed. Alternatively, data from DEP on wetlands losses and gains is presented. These data sets are collected in part due to reporting requirements established by the Florida Legislature to create an inventory of wetlands in the state and establish a monitoring system to track impacts on losses of wetlands from permitted activities, as well as wetlands created, enhanced, or preserved as part of permitted projects. Each year the monitoring results are reported to the Legislature.

The following table is derived from data from Environmental Resource Permitting (ERP) activities permitted by the Water Management Districts (WMD) and DEP. These data indicate that the acres of wetlands created, enhanced, or preserved are much greater than the area of wetlands permanently lost or temporarily disturbed. It should be noted that since these records are from ERP permits, these data present wetlands lost or created due to a permitted activity, i.e., construction. The data does not account for losses due to natural processes, such as shoreline erosion or coastal storms, or differentiate between freshwater and saltwater wetland changes.

[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).

DEP ERP Wetlands Gain-Loss Data (October 2019 to September 2024)

Date (Month/Year)	Acreage Permanently Lost°	Acreage Temporarily Disturbed	Acreage Preserved	Acreage Created	Acreage Improved
Northwest Florida WMD (NWFWMD)					
10/19 to 9/20	141.13	0.00	161.03	0.00	45.68
10/20 to 9/21	111.66	0.00	145.96	0.00	4.98
10/21 to 9/22	80.51	0.00	188.41	0.00	1.80
10/22 to 9/23	191.67	0.00	677.44	0.08	0.00
10/23 to 9/24	106.56	7.79	707.98	0.00	34.72
Total NWFWMD	**632**	**7.79**	**1881**	**0.08**	**87**
Southwest Florida WMD (SWFWMD)					
10/19 to 9/20	1,162.48	129.44	1,949.57	129.13	796.66
10/20 to 9/21	695.13	31.44	1,464.75	155.48	222.88
10/21 to 9/22	1,169.48	43.23	448.86	133.71	395.42
10/22 to 9/23	1,042.80	70.56	1,957.55	93.27	132.67
10/23 to 9/24	1,259.32	26.18	3,575.13	213.91	203.31
Total SWFWMD	**5,329**	**301**	**9,396**	**726**	**1,751**
St. Johns River WMD (SJRWMD)					
10/19 to 9/20	1,256.85	12.86	2,238.91	25.99	706.83
10/20 to 9/21	1,334.32	13.26	2,504.02	29.70	456.30
10/21 to 9/22	1,478.12	3.78	1,682.38	26.59	392.98
10/22 to 9/23	2,236.76	12.67	4,498.92	5.31	10,262.51
10/23 to 9/24	1,793.18	202.27	1,843.03	11.00	812.40
Total SJRWMD	**8,099**	**245**	**12,767**	**99**	**12,631**
South Florida WMD (SFWMD)					
10/19 to 9/20	2,049.21	*	2,058.36	1.07	3,257.75
10/20 to 9/21	1,221.51	9.35	1,447.57	1.79	3,406.33
10/21 to 9/22	1,792.92	*	1,302.77	46.48	333.74
10/22 to 9/23	1,279.39	*	1,929.82	10,025.01	1,027.90
10/23 to 9/24	1,642.38	*	1,680.03	75.94	220.39
Total SFWMD	**7,985**	**9.35**	**8,4189**	**10150**	**8,246**
Suwanee River WMD (SRWMD)					
10/19 to 9/20	30.68	0.71	110.95	5.06	10.11
10/20 to 9/21	3.85	0.58	0.00	0.00	0.10
10/21 to 9/22	52.71	0.30	2,858.00	23.37	3.83
10/22 to 9/23	13.21	1.33	15.11	0.00	0.16
10/23 to 9/24	33.91	0.09	59.42	0.84	5.61
Total SRWMD	**134**	**3.01**	**3,043**	**29.27**	**19.81**
WMD Subtotal	**22,180**	**566**	**35,506**	**11,004**	**22,735**
DEP					
10/19 to 9/24	#	#	#	#	#
DEP Total	**#**	**#**	**#**	**#**	**#**
Grand Total (WMD+DEP)	**22,180**	**566**	**35,506**	**11,004**	**22,735**

°Acreage permanently lost includes other surface waters which could include ditches, surface water management ponds, or other artificially created water bodies.
*Did not track this information.
#Data not available currently.

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.

Several bills and statutes have been enacted by the Florida Legislature in recent years which may affect coastal wetlands and water resources, at least on a situational basis. It may be impractical to make generalized assumptions about the future outcomes of these changes.

Several new BMAPs have been created to achieve water quality restoration goals set forth in adopted TMDLs. Implementation of these BMAPs may include watershed restoration projects that could affect some coastal wetlands and systems by improving water quality (DEP, 2024). A discussion of specific BMAPs adopted may be found under the management characterization of Cumulative and Secondary Impacts.

These are not 309 or CZM-driven changes but are carried out by FCMP networked programs.

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.

Wetlands in Florida's coastal zone provide crucial habitat, promote water quality, and provide a buffer to lessen the impacts of coastal storms. Development and sea level rise continue to threaten increased wetland loss in the coastal zone.

References:

Florida Department of Environmental Protection [DEP]. (2024). Basin Management Action Plans. Retrieved from website: https://floridadep.gov/dear/water-quality-restoration/content/basin-management-action-plans-bmaps

Coastal Hazards

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

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

Phase 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, 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[3] (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	M
Saltwater intrusion	H
Other (Wildfires)	H

Data from the 2023 Florida Division of Emergency Management (DEM, 2023a) – Natural Hazards.

2. 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

[3] 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*

multi-hazard mitigation plan risk assessment or plan may be a good resource to help respond to this question.

DEP – Resilient Florida Grant Funded Vulnerability Assessments: Through funding received via the Resilient Florida Grant Program, the following local governments have been award grant funding for vulnerability assessments.

- City of Anna Maria Vulnerability Assessment Stormwater Plan
- City of Apalachicola Comprehensive Vulnerability Assessment
- City of Lynn Haven Vulnerability Assessment
- City of Orlando Comprehensive Vulnerability Assessment
- City of Sarasota Vulnerability Assessment and Adaptation Plan
- City of Tampa Vulnerability Assessment
- Clay County Flooding Vulnerability Assessment
- Indian River County Comprehensive Vulnerability Assessment
- Martin County Vulnerability Assessment Update and Compliance
- North Port Vulnerability Assessment and Adaptation Plan
- Okaloosa County Vulnerability Assessment and Adaptation Plan including Municipalities
- Osceola County Comprehensive Vulnerability Assessment and Adaptation Plan
- Palm Beach Shores Vulnerability Assessment
- Polk County Comprehensive Vulnerability Assessment
- Seminole County Comprehensive Vulnerability Assessment
- Sumter County Vulnerability Assessment including Municipalities
- Town of Indialantic Hydrological and Hydraulic Vulnerability Assessment
- Village of Bal Harbour Vulnerability Assessment and Adaptation Plan
- Volusia County Vulnerability Assessment with Community Engagement
- Walton County Vulnerability Assessment including Municipalities

DEP - Florida Statewide Resilience Dataset Statewide Critical Assets, Final Report on Dataset: This report describes the final GIS spatial data included in the database of critical assets in Florida (as defined by 380.093, F.S.). The report provides separate data classes for each of the four critical Asset Groups: (1) Critical Community Emergency Facilities; (2) Critical Infrastructure; (3) Natural, Cultural, and Historical Resources; and (4) Transportation and Evacuation Routes. A separate data class is provided for the locally provided assets. Regionally significant assets were identified by asset type based on the definitions of F.S. 380.093. The data set will be used to complete a Statewide Flood Vulnerability and Sea Level Rise Assessment that identifies inland and coastal infrastructure, geographic areas, and communities in Florida most vulnerable to flooding and sea level rise and the associated risks. (The Balmoral Group, 2023)

2023 Local Mitigation Strategy Hazard Ranking Matrix: As a part of the Local Mitigation Strategy coordination process conducted by the Florida Division of Emergency Management (DEM), the individual hazard rankings for the coastal counties are summarized below. The matrix indicates the likelihood of occurrence for each hazard in each county on a scale of H to L, where H indicates a high (one or more per year), MH indicates a medium-high (once every three years), M indicates medium (once every 5-7 years), and L indicates a low likelihood (one every 10 years). If a specific hazard is blank, that indicates no data is available or no hazard is likely. The most common high-occurrence events were flooding, tropical cyclones, tornadoes, severe thunderstorms, and wildfires across all counties. (DEM, 2023b)

County	Flood	Dam Failure	Tropical Cyclone	Tornado	Severe Thunderstorm	Wildfire	Drought	Extreme Heat	Winter Storms	Freeze	Erosion	Sinkholes	Algal Bloom	Tsunami	Hazardous Materials	Radiological
Bay	H		H	H	H	H					L			L	L	
Brevard	H	L	H	H	H	L	L	L	L	L	H			L	M	L
Broward	H		H	H	H	H	L	H			H					
Charlotte	M	L	M	M	H	H	M	H		M	M	L		L	M	
Citrus	H		MH		H	H	MH	MH	H	H	L	H		L	M	L
Collier	H		MH	H	H	MH	MH	H	MH	MH	MH	L	MH	L	MH	L
Dixie	H		H	H	H	H	M	M	M	M	L	M			L	
Duval	H		H	H	H	L	L	H	L	L	H				MH	
Escambia	H	L	H	MH	H	H	MH	MH	M	M	M	L		L	L	
Flagler	H	L	M	MH	H	H	H	H	L	L	H	L			L	
Franklin	H		H	H	H	H	H	H	L	MH	H					
Gulf	H		H	M	M	MH	M	M	M	M	M		L		L	
Hernando	MH		MH	H	H	H	MH	MH	MH	MH		H		L	L	
Hillsborough	H	L	MH	MH	H	MH	MH	MH	M	M	MH			L	M	
Indian River	H	L	MH	M	H	H	H	M	L	L	H	L		L	L	L
Jefferson	H	L	H	H	H	MH	MH	H				H		L	M	
Lee	H		MH	MH	M	L	H	L		L	H					
Levy	H	L	M	H		H	H	H		H	M	H				
Manatee	H	L	H	H	H	H	M	L	L	L	H	H	H		H	
Martin	H	L	M	M	H	M	M	L			H			L	M	L
Miami-Dade	H		H	H	H	M	H		M		H					
Monroe	H		H	H	H	M	M	M			M					L
Nassau	H		MH	MH	H	H	MH	L			H					
Okaloosa	MH	MH	MH	H	H	H	H	MH	L							
Palm Beach	H	L	H	M	H	H	H	M	M	M	M	L		L	M	L
Pasco	H		H	H	H	H	H	L	H	H	M	H				
Pinellas	H		MH	H	H	M	MH	M	M	M	M	MH	MH	L	M	L
Santa Rosa	H		H	H	H	H		H	L	L	H			L		
Sarasota	H	L	H	H	H	H	H				H	M		L		
St. Johns	H		H	M	H	H	L	L	M						L	
St. Lucie	H	L	M	L	H	M	H	M			H	L		L	M	L
Taylor	MH		H	MH	H	H	M	M	L	L	M	M				
Volusia	H		H	H	H	H	H		L	L	H	H		L		
Wakulla	H	L	H	M		H					L	M				
Walton	H	L	H	M	H	M	M	M	L	L	H	M			H	L

Data from State of Florida 2023 State Hazard Mitigation Plan (SHMP) (DEM, 2023b) – Hazard Ranking Matrix

Center for Emergency Management and Homeland Security (CEMHS) – Spatial Hazards Events and Losses Database for the U.S. (SHELDUS): SHELDUS is a compiled set of data developed by the CEMHS for state and county use to analyze and determine hazard losses numerically. It provides information about hazardous events from 1960 to 2020. Among the costliest hazards are hurricanes, flooding, and severe weather. As of 2020, Florida reported damage losses totaling $132.3 billion, making it the third highest in the US, following Texas and California. In addition, Palm Beach and Miami-Dade counties are among the top 10 in the nation with the highest losses. (CEMHS, 2020)

Florida Department of Health (DOH) – climate hazards: The DOH's Building Resilience Against Climate Effects (BRACE) program in Florida works to improve the ability of the public health sector to respond to health effects related to climate variability and change. BRACE is actively analyzing climate's current and projected future impacts on health. It works to identify climate hazards and develop mitigation plans for their potential effects on human health. The priority hazards of the BRACE program include hurricanes, other storms, sea level rise, flooding, drought, extreme heat, and wildland fires. DOH has partnered with Florida State University to manage and implement the BRACE program in Florida. Topics for recent publications produced by BRACE include public health strategies for climate adaptation and the assessment of special needs evacuation and sheltering in Monroe County. (DOH, 2024)

National Centers for Environmental Information (NCEI) – Billion-Dollar Weather and Climate Disasters: The NCEI program within the NOAA tracks damages from weather and climate disasters. Since 1980 (as of September 10, 2024), Florida has had 90 confirmed weather/climate disaster events with losses exceeding $1 billion each: seven drought events, four flooding events, five freeze events, 33 severe storm events, 32 tropical cyclone events, four wildfire events, and five winter storm events. Between 2019 and 2023, the total estimated costs were $100 Billion to $200 Billion. The largest percentage of damages have been caused by wind and flooding due to Tropical Cyclones. (NCEI, 2024)

DEP – Critically Eroded Beaches in Florida: DEP's RCP published an updated report on the status of designated critically eroded beaches in August 2024. A critically eroded beach is a segment of shoreline where natural processes or human activities have caused or contributed to erosion and recession of the beach and dune system to such a degree that upland development, recreational interests, wildlife habitat, or important cultural resources are threatened or lost.

The 2024 report indicates 432.8 miles of critically eroded beach, 9.1 miles of critically eroded inlet shoreline, 96.5 miles of non-critically eroded beach, and 3.2 miles of non-critically eroded inlet shoreline statewide (DEP, 2024a). All have increased since the previous assessment, but not by significant margins. Further discussion is presented in the Ocean and Great Lakes Resources enhancement area review.

NOAA – High Tide Flooding: In 2023, NOAA's Center for Operational Oceanographic Products and Services (CO-OPS) produced a Southeast Region report for high tide flooding to assist coastal communities plan for and mitigate flooding impacts by predicting when, where, and how often high tide flooding may occur. The results of such flooding are linked to rising sea levels and are expected to increase in frequency and duration. The most recent 2023 outlook predicted the southeast to experience between 4 and 8 high tide flood days yearly, a 300% increase since 2000. (CO-OPS, 2023)

NOAA – Sea Level Rise Viewer: NOAA's Office for Coastal Management maintains an online GIS database 'Digital Coast' program that provides a continuously updated Sea Level Rise Viewer interactive data set via a web mapping tool. The tool allows for community-level impacts to be visualized for coastal flooding or sea level rise up to 10 feet above average high tides. Photo simulations and related data are provided for the user. (NOAA's Office for Coastal Management, 2024)

Florida Department of Business and Professional Regulation (DBPR) – Flood Resistant Construction, 8th edition Florida Building Code 2023: Participation in the National Flood Insurance Program (NFIP) requires communities to regulate all development in flood hazard zone via the 8th edition of the Florida

Building Code, published in 2023, provides updates to Elevation Requirements for Flood-Resistant Construction. (DBPR, 2023)

Saltwater Intrusion: The U.S. Geological Survey's (USGS) Water Level and Salinity Analysis Mapper is an online interactive mapping that indicates saltwater's inland extent and shows a visual line along the southeast coast of Florida. The most recent data is the inland extent of saltwater mapped in 2022 in Miami-Dade County. (USGS, 2024)

The Southwest Florida WMD (SWFWMD) has an updated 2024 Geohydrologic Data Section Work Plan that highlights the data collection efforts and projects planned through 2028. The Geohydrologic Data Section oversees the coastal groundwater quality monitoring network, and in areas of the district that are susceptible to saltwater intrusion more inland well sites may be required due to saltwater intrusion in coastal and low-lying areas. (SWFWMD, 2024)

DEP - Florida Geological Survey (FGS): FGS provides resources to identify, research, and report potential geohazards within the state. Sinkholes, flooding and erosion, and problem soils are mentioned as the primary hazards for residents. The resource provides emergency hotlines, insurance references, information publications, and more for each hazard mentioned. Incidence reports are also available within the DEP survey publication. (DEP, 2024b)

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[4]	Y	Y	N
Management of development/redevelopment in other hazard areas	Y	Y	Y
Sea level rise or Great Lakes level change	Y	Y	Y

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

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	Y	Y	Y

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

The "coastal high-hazard area" is defined in 163.3178(2)(h)9, F.S. as "the area below the elevation of the category 1 storm surge line as established by a Sea, Lake, and Overland Surges from Hurricanes (SLOSH) computerized storm surge model." Local governments are required to designate Coastal High Hazard Areas on their future land use map series.

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.

Statutes, Regulations, Policies, or Case Law:

Starting on December 1, 2021, Section 380.093(5)(a), F.S., established the requirement for a Statewide Flooding and Sea Level Rise Resilience Plan on a 3-year planning horizon to consist of ranked projects that address risks of flooding and sea level rise to coastal and inland communities in the state. All eligible projects submitted to the department under this section must be ranked and included. (DEP, 2023a)

Section 161.551, F.S., requires state agencies, municipalities, counties, special districts, authorities, or other corporate bodies of the state, which commission or manage a construction project within the coastal building zone using funds appropriated from the state to conduct a Sea Level Impact Projection (SLIP) study. The SLIP study must be conducted, submitted to the department, and published on the department's website before construction can commence. Section 380.0937, F.S., directs that a state financed constructor must conduct a SLIP study and directs DEP to define the thresholds for potentially at-risk structure or infrastructure for which replacement cost is not an appropriate metric. DEP provides a user-friendly SLIP tool on a website. (DEP, 2024c)

These are not 309 or CZM-driven changes but are carried out by FCMP networked programs.

Hazards Planning Programs or Initiatives:

Resilience Planning Grants (RPG): Beginning in 2018 through the Florida Resilient Coastlines Program, and since 2021 through the Resilient Florida Program, DEP has awarded state funds through RPGs to provide financial assistance aimed at preparing coastal Florida communities for current and future effects of rising sea levels, including coastal flooding, erosion, and ecosystem changes. Since 2018 (as of October 2024), RPGs have been awarded for 669 separate projects, totaling $1.5 Billion . There are awards for three main categories: Implementation projects, Planning, and Regional Resilience Entities. (FDEP, 2024d)

Strategic Beach Management Plan (SBMP) 2023: The Florida Legislature has declared DEP as the beach and shore preservation authority for the state and has directed the Department to develop and maintain a comprehensive long-term management plan for the restoration and maintenance of the state's critically eroded beaches fronting the Atlantic Ocean, Gulf of America, and the Straits of Florida, pursuant to Section 161.161, F.S. DEP initially adopted the SBMP in October 2000 and has periodically updated it through May 2023 (DEP, 2023b). The strategies identified in the SBMP shall be eligible for state financial participation subject to DEP approval and appropriation from the Florida Legislature, pursuant to Section 161.091, F.S.

Mitigate FL: Section 252.3655, F.S., established the natural hazards interagency workgroup, known as Mitigate FL, to share information, coordinate ongoing efforts, and collaborate on statewide initiatives to address the impacts of natural hazards. The statute defines natural hazards as including sea-level change, high tides, storm surge, saltwater intrusion, stormwater runoff, flash floods, inland flooding, and coastal flooding. Each agency within the executive branch of state government, as well as each WMD and the Florida Public Service Commission (PSC), is required to designate a liaison to this workgroup. The Division of Emergency Management coordinates the group and meets quarterly to share information, leverage agency resources, coordinate ongoing efforts, and provide information for inclusion in the annual report. The workgroup coordinator prepares an annual report that assesses the relevance, level, and significance of agency efforts to address the impacts of natural hazards. The report also strategizes and prioritizes ongoing efforts to address the impacts of natural hazards. The annual report is due to the Governor, President of the Senate, and Speaker of the House of Representatives by January 1st of each year. (Florida Disaster, 2023)

Florida Coastal Resilience Forum: The DEP's Resilient Florida Program facilitates the coordination of Florida's resilience professionals by hosting a quarterly webinar forum. Participants provide project updates, introduce new resources, and, most importantly, attendees can engage with each other by asking for advice and recommendations. City, county, state, and federal government representatives, along with universities, non-governmental organizations, and consultants routinely attend these forums. This was initially hosted by the Florida Resilient Coastlines Program, now dissolved and incorporated into the overall Resilient Florida Program, and was a 309 or CZM-driven change. (DEP, 2024e)

Hazards Mapping or Modelling Programs or Initiatives:

Florida Living Shorelines: This online tool is a database available as a resource for public and private coastal property owners to implement living shorelines within the bounds of their lands. State, federal, and non-governmental organizations worked together to create the website. It maintains definitions,

permitting guidance, current projects, suitable plant species with an interactive Florida region mapping tool, contacts, and more to help stakeholders and their implementation of such solutions. (Florida Living Shorelines, 2024)

Florida Seafloor Mapping Initiative: This is a resource provided by the Florida Geographic Information Office (GIO). The general goal of the program is to capture statewide bathymetric lidar with provided funding. The data will be accessible in a public portal with digital elevation models and bathymetric maps. The funds are under contract by June 30, 2024, and the data collection is underway with significant progress expected in 2025. DEP and GIO provide timelines for these goals with full deliverable approval and delivery by August 30, 2026. By 2027, the access portal will be open, with data sharing available to USGS and NOAA repositories. (DEP, 2024f)

Southeast Florida Regional Climate Change Compact: The Southeast Florida Regional Climate Change Compact was executed by Broward, Miami-Dade, Monroe, and Palm Beach Counties in January of 2010 to coordinate climate mitigation and adaptation activities across county lines. In March 2024, a Southeast Florida Priority Climate Action Plan was developed for use by the compact and funded by the U.S. Environmental Protection Agency (EPA). The purpose of the plan is to develop a regional greenhouse gas reduction plan, for Broward, Miami-Dade, Monroe and Palm Beach counties, as well as the Miccosukee and Seminole Tribal Governments. The plan will be final in the Summer of 2025. (SFRCCC, 2024)

East Central Florida Regional Planning Council (ECFRPC): The planning council is an area-wide association of governments represented by 35 Council Members and a team that provides project, policy, and planning assistance to governments and organizations within Brevard, Lake, Marion, Orange, Osceola, Seminole, Sumter, and Volusia Counties. They have active programs for economic development, emergency preparedness, resilience, and community development In 2023, the East Central Florida Regional Resilience Collaborative was awarded funds from the EPA's Climate Pollution Reduction Grant program to complete the 2022 regional greenhouse gas inventory in order to update the science-based reduction target, emissions projections, and tracking of the existing pace of efforts toward accomplishing actions and goals. In addition, the ECFRPC has developed a community resilience Dashboard as an interactive resource for understanding metrics and drivers of their goals of increasing economic opportunity, community well-being, inclusion, and resilience. (ECFRPC, 2023)

Tampa Bay Regional Planning Council (TBRPC): The TBRPC is an organization of various appointees from local government and gubernatorial employees. To serve Citrus, Hernando, Hillsborough, Manatee, Pasco, and Pinellas County, the council provides a forum for identifying problems, solving them, and sharing those solutions with regard to community planning. Among the available services are local mitigation strategy updates, hazard vulnerability assessments, greenhouse gas analysis, scenario planning, and 3D modeling. (TBRPC, 2024)

University of Florida GeoPlan Center/Florida Department of Transportation Sea Level Scenario Sketch Planning Tool (2023 Update): There has been a phase 5 (2021-2023) implementation of the tool, which is an online screening interactive map summarizing the flood exposure for current and future scenarios for the state of Florida. The Sea Level Rise Map View tool provides mapping of U.S. Army Corps of Engineers and NOAA projection curves from Low to Extreme scenarios from 2040 to 2100. (UF GeoPlan Center, 2023)

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.

Coastal hazards are a high priority for the state, due to its geographic location in the southern U.S. with shorelines fronting both the Gulf of America and Atlantic Ocean, its low-lying elevation, and extensive coastline. Since the last assessment, the state and local communities have made significant progress on hazard planning and resiliency initiatives with stakeholder engagement with citizens, FCMP partner agencies, and local, state, and federal agencies inclusion.

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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[5]	Changes or Trends Since Last Assessment[6]* (↑, ↓, –, unknown)	Cite data source
Beach access sites	1,822 saltwater beach areas	(1,796 in 2019 SCORP) ↑ 182 areas (1,640 in DEP (FORI 2019))	DEP (FORI 2024)
Beach access sites	476 miles of saltwater beach areas	(475.3 miles in 2019 SCORP) ↑ 56.8 miles (419.2 miles in DEP (FORI 2019))	DEP (FORI 2024)
Beach access sites	2,189 Florida public beach access sites	↓ 11 sites (2,200 in Outdoor Florida DEP 2019)	DEP (2024)
Shoreline (other than beach) access sites	Unknown	Unknown	Unknown
Recreational boat (power or non-motorized) access sites	950 saltwater boat ramps	(937 in 2019 SCORP) ↑ 87 ramps (863 in DEP (FORI 2019))	DEP (FORI 2024)
Recreational boat (power or non-motorized) access sites	1,274 total saltwater boat ramp lanes	(1,268 in 2019 SCORP) ↑ 98 lanes (1,176 in DEP (FORI 2019))	DEP (FORI 2024)
Recreational boat (power or non-motorized) access sites	915 saltwater marinas	(914 in 2019 SCORP) ↑ 55 marinas (860 in DEP (FORI 2019))	DEP (FORI 2024)

[5] 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.

[6] 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[5]	Changes or Trends Since Last Assessment[6]* (↑, ↓, –, unknown)	Cite data source
Recreational boat (power or non-motorized) access sites	44,003 saltwater marina slips/moorings	(43,269 in 2019 SCORP) ↑ 3,285 slips/moorings (40,718 in DEP (FORI 2019))	DEP (FORI 2024)
Recreational boat (power or non-motorized) access sites	33,205 saltwater marina dry storage spaces	unknown	DEP (FORI 2024)
Designated scenic vistas or overlook points	N/A	N/A	N/A
Fishing access points (i.e. piers, jetties)	491 saltwater fishing piers	(486 in 2019 SCORP) ↑ 60 piers (431 in DEP (FORI 2019))	DEP (FORI 2024)
Fishing access points (i.e. piers, jetties)	133,619 feet of saltwater fishing piers	(132,958 in 2019 SCORP) ↑ 8,774 piers (124,845 in DEP (FORI 2019))	DEP (FORI 2024)
Fishing access points (i.e. piers, jetties)	70,690 feet of saltwater jetties	(69,300 in 2019 SCORP) ↑ 1571 jetties (69,119 in DEP (FORI 2019))	DEP (FORI 2024)
Coastal trails/ boardwalks	2,350 miles of single use hiking trails	↑ 1,006.31 miles (1,343.69 MILES in DEP (FORI 2019))	DEP (FORI 2024)
Coastal trails/ boardwalks	1,165 miles of FL National Scenic Trails	↑ 821 miles (344 MILES in DEP (FORI 2019))	DEP (FORI 2024)
Coastal trails/ boardwalks	4,494 miles of canoe/kayak trails	↑ 1,574 miles (2,919.9 MILES in DEP (FORI 2019))	DEP (FORI 2024)
Coastal trails/ boardwalks	805 miles of single use nature study trails	↑ 259.5 miles (545.5 MILES in DEP (FORI 2019))	DEP (FORI 2024)
Coastal trails/ boardwalks	126 miles of Florida trail system	↑ 48.5 miles (77.5 MILES in DEP (FORI 2019))	DEP (FORI 2024)
Coastal trails/ boardwalks	6,370 miles of multiuse hiking trails	↑ 3,092 miles (3,278 MILES in DEP (FORI 2019))	DEP (FORI 2024)
Coastal trails/ boardwalks	1,325 miles of multiuse nature study trails	↑ 566.75 miles (758.25 MILES in DEP (FORI 2019))	DEP (FORI 2024)
Coastal trails/ boardwalks	1,342 saltwater catwalks	(800 in 2019 SCORP) ↑ 200 catwalks (1,142 in DEP (FORI 2019))	DEP (FORI 2024)
Coastal trails/ boardwalks	222,710 feet of saltwater catwalks	(209,909 in 2019 SCORP) ↑ 8,395 feet (214,315 in DEP (FORI 2019))	DEP (FORI 2024)

Type of Access	Current number[5]	Changes or Trends Since Last Assessment[6]* (↑, ↓, –, unknown)	Cite data source
Acres of parkland/open space	11,568,177 acres of land	↑ 4,372,159 acres (7,196,017.7 in DEP (FORI 2019))	DEP (FORI 2024)
Acres of parkland/open space	3,613,446 acres of water	↑ 333,901 acres (3,279,545 in DEP (FORI 2019))	DEP (FORI 2024)
Acres of parkland/open space	76,760 acres of Guana Tolomato Matanzas NERR	↑ 3,408 acres (73,352 acres in NOAA (2018a))	NOAA (2024a)
Acres of parkland/open space	234,715 acres of Apalachicola NERR	- (234,715 acres in NOAA (2018b))	NOAA (2024b)
Acres of parkland/open space	110,000 acres of Rookery Bay NERR	- (110,000 acres in NOAA (2018c))	NOAA (2024c)
Access sites that are Americans with Disabilities Act (ADA) compliant[7]	43 ADA compliant Beaches and Coast Florida State National Parks	↑ 13 acres (30 in Florida State Parks – Find a Park 2019)	Florida State Parks (2024)
Access sites that are Americans with Disabilities Act (ADA) compliant[8]	12 beaches with access ramps, beach wheelchairs, and ADA parking	↑ 5 beaches (7 in List of Florida Beaches That Offer Beach Wheelchairs in 2017 (Waldron-Gross, 2017)	Visit Florida (2024)

*Changes in trends since last assessment calculated based on the difference from the 2023 and 2019 FORI values. Of note, several of the 2023 FORI data values, when compared to the 2019 SCORP values, are in closer range than when compared to the 2023 FORI data.

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,[9] the National Survey on Fishing, Hunting, and Wildlife Associated Recreation,[10] and your state's tourism office.

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

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

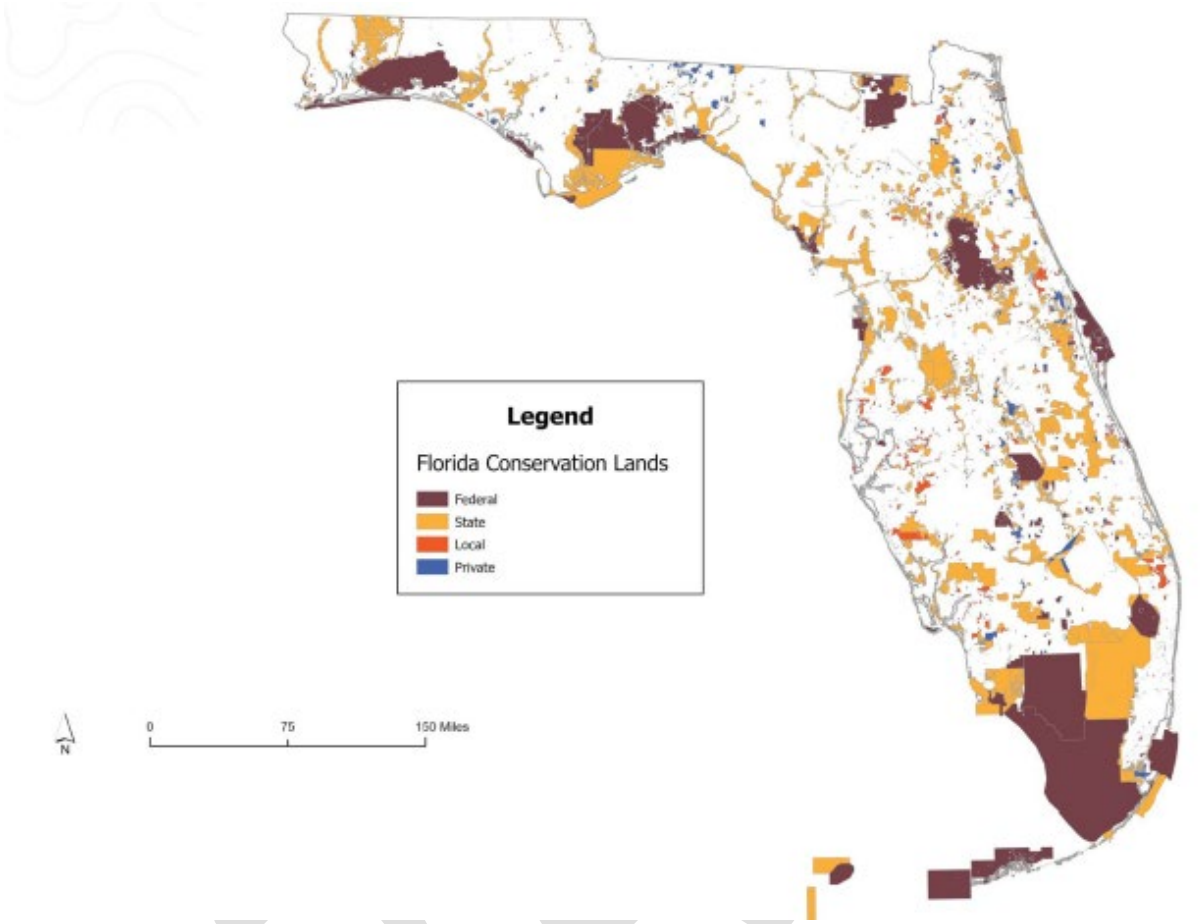
[9] Most states routinely develop "Statewide Comprehensive Outdoor Recreation Plans", or SCORPs, that include an assessment of demand for public recreational opportunities. Although not focused on coastal public access, SCORPs could be useful to get some sense of public outdoor recreation preferences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

[10] 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.*

Florida Tourism: According to the Visit Florida Research department studies, Florida has experienced increasing visitor numbers from domestic and overseas, as well as Canada. This year-over-year growth can be traced back to 2020 with the foray of the COVID-19 pandemic with a total number of 79 million visitors to the state. In 2021 this increased by 53% to 121 million and increased by another 12% to 137 million visitors in the following year. 2023 saw the most visitors to the state ever with, 140 million people. (Visit Florida, 2024)

Projections of Florida Population by County, 2025–2050, with Estimates for 2023 – Bureau of Economic and Business Research (BEBR): The BEBR at the University of Florida has produced population projections for Florida and its counties since the 1970s. Each county receives a low, medium, and high projection. The total population for the state in 2023 was estimated at 22.6 million people. Coastal counties with large populations in Florida are Palm Beach, Broward, Miami-Dade, Pinellas, Duval, and Lee. Palm Beach County's current population is 1.5 million, with a medium potential increase to 1.8 million and a high potential increase to 2.1 million by 2050. The current population of Broward County is 1.9 million. The medium estimate is 2.2 million, and the high estimate is 2.6 million by 2050. Pinellas County's current population is 0.97 million, with a medium estimate of 1 million and a high estimate of 1.2 million. Duval County's population is currently 1 million, with a medium estimate of 1.2 million and a high estimate of 1.6 million. Finally, Lee County currently has 0.8 million, with a medium estimate of 1.1 million and a high estimate of 1.3 million. (BEBR, 2024)

Florida's Statewide Comprehensive Outdoor Recreation Plan (SCORP) 2023-2027: SCORP 2023-2027 is the state's 12th SCORP. The SCORP guides the development of diverse and balanced statewide outdoor recreational opportunities, is a framework for recreation planning, and helps orchestrate the implementation of each state's goals and recommendations. The SCORP 'Priority Area 2' is Public Access, Accessibility, and Connectivity. The map below is from the SCORP 2023-2027 and outlines the 14 million acres of Florida public lands (more than a third of the land area) that are managed by local, state, and federal agencies. (DEP, 2024b).



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.

Programs of the Florida Fish and Wildlife Conservation Commission (FWC) (2023-2024): Floridians and visitors of Florida spend nearly $15 billion on hunting, fishing, and wildlife viewing. The state maintains approximately 12,000 square miles of water and 34 million acres of public land accessible to the residents. The economic impact of hunting on the state is approximately $1.6 billion with 14,673 jobs created. The impact of recreational saltwater fishing is $1.7 billion, with 96,801 jobs created. The boating industry accounts for $3.31 billion, with 109,912 jobs. The total impact of the seafood industry is $17.7 billion, with 79,714 jobs. The total impact of wildlife watching are more than 10 million viewers spending $6.6 billion. Many of such activities are done in coastal regions, and these are key drivers in the health of the state economy. (FWC, 2024)

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

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

No significant changes were made since the last assessment.

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?[11]

Publicly Available Access Guide

Public Access Guide	Printed	Online	Mobile App
State or territory has? (Y or N)	1. Florida State Parks Maps and Trails 2. FWC Public Hunting Area Brochures	1. Outdoor Florida 2. FWC Paddling Trails 3. Florida Online Trail Guide 4. Florida State Parks 5. FWC Florida Public Boat Ramp Finder 6. SWFWMD Recreation Maps 7. Florida Coastal Access Guide (FCMP) 8. Florida Fishing Pier Finder	1. Go Outdoors Florida 2. Official Florida State Parks 3. All Trails 4. FWC Wildlife Management Area Fish/Hunt FL app (brochure and map access) 5. Avenza Maps

[11] 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.

Public Access Guide	Printed	Online	Mobile App
Web address (if applicable)	1.https://www.floridastateparks.org/parks-and-trails 2.https://myfwc.com/hunting/wma-brochures/	1.https://gooutdoorsflorida.com/ 2.https://myfwc.com/viewing/paddling-trails/ 3.https://floridadep.gov/parks/ogt/content/online-trail-guide 4.https://www.floridastateparks.org/ 5.https://myfwc.com/boating/boat-ramps-access/ 6.https://www.swfwmd.state.fl.us/recreation/recreation-maps 7.https://floridadep.gov/rcp/coastal-access-guide 8.https://myfwc.maps.arcgis.com/apps/webappviewer/index.html?id=bd38784e43d74550b682e448ef1f7a71	1.https://license.gooutdoorsflorida.com/Licensing/CustomerLookup.aspx 2.https://floridanatureguide.com/florida-state-park-mobile-app/ 3.https://www.alltrails.com/ 4.https://myfwc.com/hunting/wma-brochures/ 5.https://myfwc.com/hunting/wma-brochures/
Date of last update	1.Ongoing 2. Ongoing	1-7. Ongoing	1-5. Ongoing
Frequency of update	As Needed	As Needed	As Needed

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.

Public Access to Florida's public lands and waters is important for residents and visitors to access and enjoy all the natural beauty that Florida offers. Increasing and improving public access and understanding the types of visitors to public lands is important and has been a high priority enhancement area in previous assessments. Initiatives toward this are undertaken by various groups throughout the State, with stakeholders providing public comments to managers of State managed lands, local governments, and other organizations that provides for and enhances public access. Due to the substantial and well established efforts that have taken place and continue, public access has been given a medium priority for this assessment.

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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[12] (aesthetic, resource damage, user conflicts, other)	Change Since Last Assessment (↑, ↓, –, unknown)
Beach/shore litter	H	Aesthetic, resource damage, user conflict	unknown
Land-based dumping	M	Aesthetic, resource damage	unknown
Storm drains and runoff	M	Aesthetic, resource damage, user conflict	unknown
Land-based fishing (e.g., fishing line, gear)	M	Aesthetic, resource damage	unknown
Ocean/Great Lakes-based fishing (e.g., derelict fishing gear)	M	Aesthetic, resource damage, user conflict	unknown
Derelict vessels	M	Aesthetic, resource damage	↑
Vessel-based (e.g., cruise ship, cargo ship, general vessel)	M	Aesthetic, resource damage	unknown
Hurricane/Storm	M	Aesthetic, resource damage	↑
Tsunami	Not Applicable	Not Applicable	Not Applicable
Other (Aquaculture)	M	Aesthetic, resource damage, user conflict	unknown

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

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

2024 Florida Marine Debris Emergency Response Guide: Comprehensive Guidance Document: This report was created by the NOAA Marine Debris Program and updated in 2024. This guide serves as a definitive source of information for preparedness, response, and recovery activities where marine debris is present along the coast. The document outlines response actions and outlines at the local, state, and federal levels to facilitate cleanup efforts. The guide has natural and human-caused sources of debris and maintains a list of the current prominent debris types. (NOAA, 2024)

2024 Florida Marine Debris Removal Guidance - Methods and Techniques for the Removal of Non-Storm Debris from Marine Habitats: The FCMP recently published the Florida Marine Debris Removal Guidance document to aid contractors, local citizens, and governments in the removal of marine debris and minimizing their impacts to the surrounding environment. Best management practices (BMPs) are provided for various habitat types and removal methods. (DEP, 2024)

Derelict Vessels (DVs): A DV is one that is a wrecked, junked, sunken, or grounded such that it cannot be removed without the use of mechanical assistance. FWC is provided with the authority to address and remove such vessels with collaboration from local government. Local governments also may remove DVs without financial assistance from FWC. The data below speaks to those vessels removed through FWC grant funding or assistance. From 2016 to 2022, FWC's grant fund averaged $1.2 million per year but increased to $6.2 million in Fiscal Year 2022/2023. In recent years, FWC's DV Program also received $25 million in federal funds through the American Rescue Plan Act (ARPA), allowing the State to remove DVs directly through their own contracts. FWC has a database with vessel removal photos and details available online to the public. (FWC, 2024a)

Annual Derelict Vessels Removed

Fiscal Year	Vessels Removed
2019/2020	104
2020/2021	154
2022/2023*	226
2023/2024*	
2024/2025*^	

* includes removals using both FWC grant funds and ARPA funds.
^data for FY24/25. FWC anticipates more removals through the end of the FY.

At-Risk Vessels and Florida's Vessel Turn-In Program (VTIP): FWC officers or law enforcement personnel may now assess vessels to determine if they are at-risk of becoming DVs. Specific at-risk conditions include: the vessel is taking on or has taken on water without effective devices to dewater, enclosed spaces on the vessel that have been open to the elements for extended periods of time, the vessel is unanchored or is close to breaking from its mooring, the vessel is listing from water incursion, the vessel is tied to an unpermitted structure, or the vessel does not have reliable propulsion to escape given scenarios. If these determinations are made on a vessel, a written citation is provided to the owner of the vessel. (FWC, 2024a)

Florida now maintains VTIP as an option for vessel owners who have received a written citation or warning for their at-risk vessels. VTIP allows the vessel to be removed from Florida waters at no cost to the owners. At-risk vessels often become DVs and cost more money for the state to remove in the long run. This program incentivizes early action on vessels before becoming DVs and aims to be a

preventative solution. As of June 2024, 100 vessels had been removed through the VTIP program. (FWC, 2024b)

Land-Based/Shore Litter: The Ocean Conservancy's International Coastal Cleanup (ICC) releases yearly reports with a summary of statistics on volunteers and pounds of trash collected during their cleanup events. The 2019 report was not available, but all other data is reported below.

Annual Pounds of Trash Collected by the ICC in Florida

Year	People Participating	Pounds of Trash Collected
2019	N/A	N/A
2020	39,798	250,308
2021	10,103	91,721
2022	19,116	88,904
2023	25,541	136,205
2024	26,775	136,218

Data from: (Ocean Conservancy, 2019-2024)

The Southeast Florida Action Network (SEAFAN): This is a network designed for citizens to report and respond to unusual sightings on coral reefs within Biscayne National Park in Miami-Dade County to the St. Lucie Inlet in Martin County. The region is named the Kristin Jacobs Coral Reef Ecosystem Conservation Area, which was designated an Aquatic Preserve in 2024. Unusual sightings are vessel groundings and anchor damage, invasive species, algal blooms, fish kills and diseases, discolored water, coral bleaching, and marine debris. No specific training is required for participants to add their data to the network database. The SEAFAN database is an "umbrella" program that contains three smaller initiatives: the Marine Debris Reporting and Removal Program, the BleachWatch Program, and the Reef Injury Prevention and Response Program. The Marine Debris Reporting and Removal Program constitutes a large percentage of the 249 reports made since 2020. This is 42% of the incident types reported. The marine debris reports are used to facilitate cleanup efforts for the future, with large items managed by individuals with the necessary experience. This tool, while helpful, does not include all debris removed and seen in the area. (DEP, 2024a)

Marine Debris Reporting and Removal Program (Annual Southeast Florida Reef Program): The Annual Southeast Florida Reef Cleanup began in 2011 as a way for DEP's Marine Debris Reporting and Removal Program as well as the Southeast Florida Coral Reef Initiative (SEFCRI) to raise public awareness of the growing problem of marine debris and reduce its impacts in the region. Every summer, DEP and SEFCRI organize shore-based and underwater cleanups in partnership with local dive charters in Miami-Dade, Broward, Palm Beach, and Martin Counties to remove marine debris from the local reefs and waterways. The cleanup efforts were only possible with the help of volunteers in the community. The totals for Palm Beach County, Broward County, and Miami-Dade County are seen in the table below. The highest amounts of trash by category were found to be common trash debris, fishing debris, and common household debris.

Yearly amount of debris removed by weight from Palm Beach, Broward, and Miami-Dade Counties

Year	Palm Beach (lbs.)	Broward (lbs.)	Miami-Dade (lbs.)
2021	1,090	184	395
2022	8,168	213	775
2023	N/A	N/A	484
Total	9,258	397	1,654

Data from sources: (DEP, 2021) (DEP, 2022) (DEP, 2023)

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	Y
Marine debris removal 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 and likely future outcomes of the changes.

Statutes, Regulations, Policies, or Case Law:
Section 327.4107 (7)(b), F.S. allowed for the creation of VTIP, established in late 2022 as part of a DV prevention program, to address vessels at risk of becoming derelict. Note that the statute did not require the creation of a VTIP program. FWC Rule 68D-15.003, F.A.C. was approved in July 2022, and the Florida VTIP began accepting applications in November 2022.

As of September 18, 2024, FWC Commissioners approved an amendment making DV removals easier for local governments. This was accomplished by an approved rule allowing block grant funding to be awarded to eligible governments based on the removal data from prior years. (FWC, 2024c)

Marine Debris Removal Programs:

Monofilament Recovery and Recycling Program (MRRP): The MRRP in Florida aims to reduce marine debris, particularly from fishing lines, which poses risks to marine life and habitats. Launched by the FWC, the initiative encourages anglers and the public to recycle used monofilament fishing lines by depositing them in designated bins at fishing locations throughout the state. The website maintains an

accurate bin locations map tool for residents and state visitors to utilize as a resource. There are currently over 1,600 bins present in the state. (FWC, 2024d)

Spiny Lobster, Stone Crab, and Blue Crab Trap Retrieval Program / Derelict Trap and Trap Debris Removal Program: The Spiny Lobster, Stone Crab, and Blue Crap Trap Retrieval Program is operated by FWC and targets trap removals for the crustaceans listed. The Spiny Lobster, Stone Crab, and Blue Crab Trap Retrieval Program contracts commercial fishermen to remove traps during closed fishing seasons.

The Derelict Trap and Trap Debris Removal Program in Florida aims to remove abandoned or lost crab traps and associated debris from waterways. Overseen by FWC, the program seeks to minimize risks to marine life and fishing activities, as these traps can entangle wildlife and harm habitats. This initiative includes regular clean-up events where volunteers and agency staff work to collect derelict traps, along with educational outreach to promote responsible trap use and encourage reporting of lost traps. (FWC, 2024e)

DEP Clean Boating Programs:

Clean Vessel Act Grant Program: The Clean Vessel Act was passed in 1992 to reduce environmental pollution. This act prohibits boaters from discharging raw sewage into fresh or coastal waters. In 1994, DEP approved the Clean Vessel Act grant program to provide marinas with pumpout facilities and pumpout vessels. This program is ongoing. There is a digital app for mobile devices called 'Pumpout Nav' that can locate pumpout stations, keep logs, and find other information. (DEP, 2024b)

Clean Marina Program: The Clean Marina Program in Florida encourages the use of DEP's BMPs at marinas, boatyards, and recreational boating facilities and incentivizes participation by offering a 10% discount to marina proprietors on their state submerged land lease fees. It offers resources and guidelines to help reduce pollution, protect water quality, and conserve marine resources. Facilities can achieve Clean Marina status by adopting BMPs, including proper waste disposal, spill prevention, and habitat preservation. Facilities can also achieve the Clean and Resilient status with additional ability to withstand natural and manmade disasters. The program is ongoing and seeks to promote sustainability in the boating industry while supporting the health of coastal ecosystems. (DEP, 2024c)

Clean Boater Program: This ongoing program is an extension of the Clean Vessel Act Grant Program and the Clean Marina Program, as it is an initiative delivered to the users of the waterways and not just the marina operators. It encourages boaters to adopt environmentally friendly practices such as proper trash management, using bilge socks and fueling collars, taking the clean boater pledge, and other resources. The U.S. Coast Guard (USCG) also provides vessel safety checks at no cost to the watercraft that follow state and federal laws. (DEP, 2024d)

Clean Boating Partnership: This unique ongoing program was developed for marina and boatyard operators in collaboration with the Marine Industries Association of Florida, Florida Sea Grant Program, USCG, USCG Auxiliary, USCG Sea Partners Program, FWC, and DEP. The Clean Boating Partnership in Florida is a collaborative effort designed to promote environmentally responsible boating practices. The partnership emphasizes education, outreach, and the adoption of best practices to safeguard water quality and marine habitats. By encouraging a sustainable boating culture, the program aims to improve the health of Florida's waterways and ecosystems. (DEP, 2024e)

Florida Department of Agriculture and Consumer Sciences (DACS), Division of Aquaculture: DACS maintains a Division of Aquaculture for the state of Florida that oversees the farming of fish, shellfish, and aquatic plants. Its key responsibilities include establishing guidelines for aquaculture operations and issuing permits and licenses to ensure compliance with environmental and health standards. In 2023, they developed a BMP Manual with updated guidance on solid waste management and disposal, including guidance for solid waste management plans. This manual provides BMPs that are required to be followed by all certified commercial aquaculturists, are enforceable by law, and do not supersede other applicable local, state, or federal regulations unless explicitly authorized in statute. The BMP manual provides specific guidance for preventing aquaculture related marine debris. (FDACS, 2023)

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.

Marine debris continues to be a high priority issue in Florida, as evidenced by the many existing and developing statewide initiatives that attempt to mitigate marine debris and its negative impacts. For example, the FCMP published the *Florida Marine Debris Removal Guidance: Methods and Techniques for the Removal of Non-Storm Debris from Marine Habitats* in 2024 (DEP, 2024), funded by a Section 309 grant provided by the NOAA Office of Ocean and Coastal Resource Management. This document actively included stakeholder participation from FCMP partner agencies. FWC's VTIP and DV and trap removal programs actively engage stakeholders, including local governments, private owners of the vessels and traps, residents, environmental organizations, and, at times, law enforcement. Additionally, local authorities throughout the state continue their participation in the Ocean Conservancy's ICC. Also in 2024, Section 379.233, F.S., was amended to prohibit the outdoor release of balloons, except for scientific purposes, reflecting the state's concern for marine debris and its impact on wildlife.

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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,[13] 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	20,963,613	21,781,128	3.90% Increase
Number of housing units	9,438,687	10,054,457	6.52% Increase

Data From: (NOEP, 2021).

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.[14] 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.

[13] *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.

[14] 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)*.

Distribution of Land Cover Types in Coastal Counties

Land Cover Type	Land Area Coverage in 2016 (Acres)	Gain/Loss Since 2011 (Acres)
Developed, High Intensity	2,532,585	1,544,320
Developed, Low Intensity	1,468,525	-7,469
Developed, Open Space	794,230	7,706
Grassland	533,771	-2,759,023
Scrub/Shrub	2,357,981	-69,037
Barren Land	3,398,086	-42,073
Open Water	937,603	9,760
Agriculture	5,407,863	-29,306
Forested	3,183,738	18,797
Woody Wetland	166,239	-6,899
Emergent Wetland	6,230,401	25,018

The data was collected with NOAA's Land C-Cap Land Cover Atlas for the state of Florida. The previous 309 Assessment was updated to 2011 and since then new data up to 2016 is provided and tabulated above. The largest change in land from 2011 to 2016 was seen in the grassland land cover type with more than a 2.7-million-acre loss in the state. Conversely, the amount of high intensity developed land increased by more than 1.5 million acres in coastal counties in the state. This can be shown in the percent net change table below. (NOAA, 2016)

Development Status and Trends for Coastal Counties

	2011	2016	Percent Net Change
Percent land area developed	11.48	17.75	54.7
Percent non developed land	88.52	82.25	-7.1

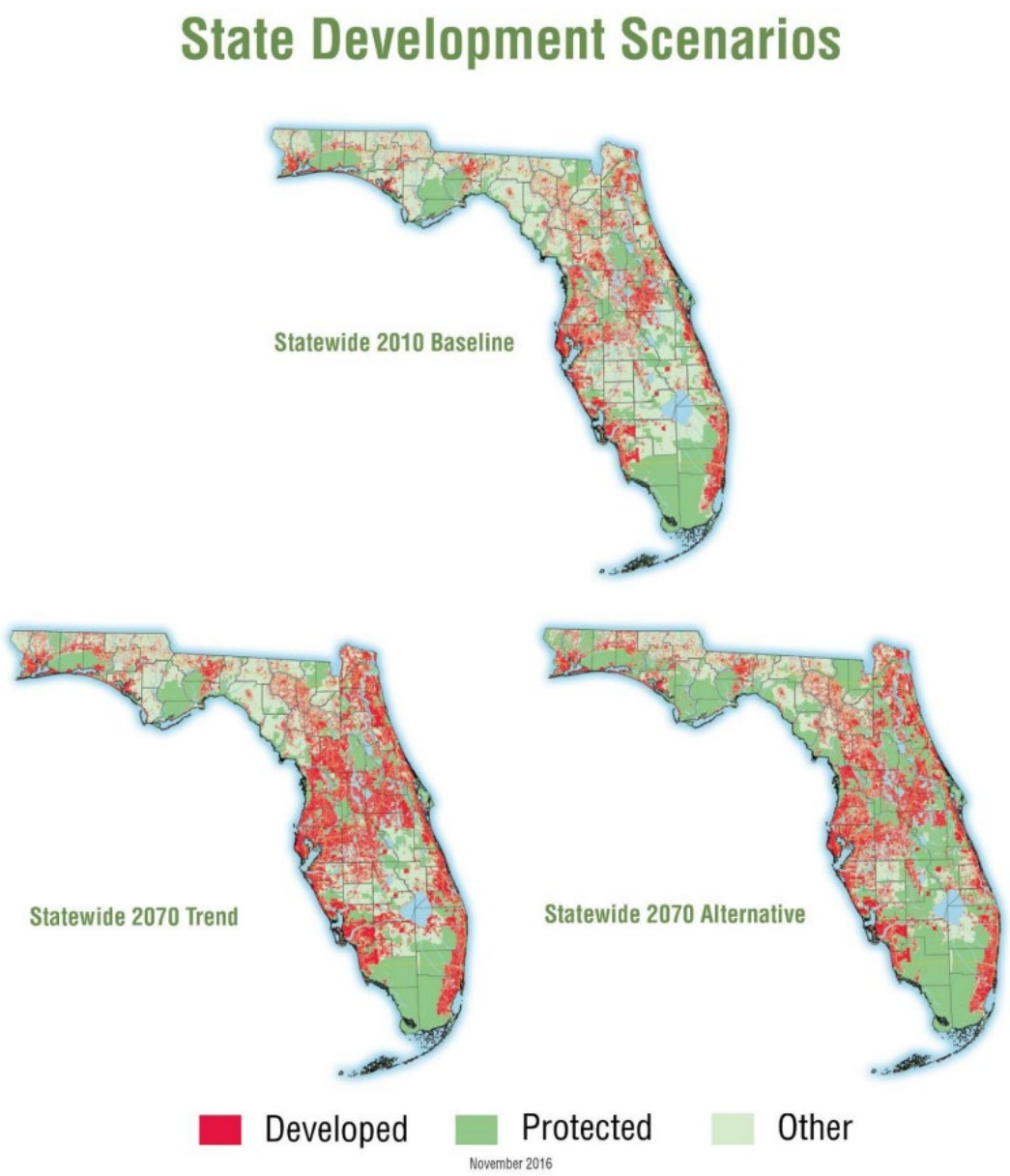
Data from: (NOAA, 2016)

How Land Use Is Changing in Coastal Counties

Land Cover Type	**Areas Lost to Development Between 2011-2016** (Acres)
Woody Wetland	6,899
Agriculture	29,306
Scrub/Shrub	69,037
Grassland	2,759,023
Barren Land	42,073

Data from: (NOAA, 2016)

Moderate projections from the University of Florida's BEBR project that the population in Florida will grow by approximated 15 million people by 2070. The maps below are the result of research efforts conducted by the University of Florida GeoPlan Center, DACS, and 1000 Friends of Florida. The map scenarios include representations of developed, protected and other lands as predicted for the year 2070. This is relevant to many coastal regions as suburban development sprawl continues in the state. (1000 Friends of Florida, UF GeoPlan, DACS, 2016)



(1000 Friends of Florida , UF GeoPlan, DACS, 2016).

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.

The number of, and how the shoreline may have changed due to, shoreline structures constructed along the coastal shorelines in Florida is not tracked and documented by a state entity. Groins, bulkheads/seawalls, and breakwaters are among a few hard-structure methods of shoreline stabilization, but currently, there is no state database for them. They may be tracked locally by county

and by private landowners. It can be assumed that the number of these structures, including docks and piers, has increased as the need for maintaining shoreline stability has also increased.

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.

DEP - Statewide Annual Report (STAR): DEP maintains and releases yearly reports on the statewide annual TMDL, BMAPs, minimum flows or minimum water levels, and recovery or prevention strategies. This report, called the DEP STAR, is developed in collaboration with local governments, the governor, legislation, and WMDs. The impacts of growth and human development, specifically in coastal regions, play a large role in TMDLs in river outflows and basin collection areas. This report is only available in an interactive ArcGIS experience format and all data is available for download. Statewide, there have been 460 TMDLs adopted: 275 for nutrients and/or dissolved oxygen, and/or un-ionized ammonia, 179 for bacteria, 4 for metals, and 2 under development. A reduction in nutrients and dissolved oxygen is the most prevalent need in the state as of 2023. (DEP, 2023a)

DEP – Strategic Beach Management Plan (SBMP): The SBMP, last updated in May 2023, provides an inventory of the beach restoration/nourishment project information, history, and strategies to address critically eroded beaches. Some coastal structures, such as groins, breakwaters, and offshore fishing piers that are located within critically eroded beach areas, are discussed in the SBMP. Also included in the SBMP is an inventory of the region's coastal barrier inlets or passes and strategies associated with the inlet. Structures associated with an inlet are included. (DEP, 2023b).

Harmful Algal Bloom/Red Tide Task Force: The Harmful Algal Bloom (HAB) Task Force determines research, monitoring, control, and mitigation strategies for red tide and other HABs. Members of the HAB Task Force are appointed by FWC in consultation with key partners. The HAB Grant Program supports projects that address priority recommendations of the HAB Task Force. In December 2021, the HAB Task Force published an update on the progress of the Task Force with recommendations regarding red tide (*Karenia brevis*) blooms. The recommendations follow the categories of Public Health, Communications, Management and Response, and Research. The report also provides progress on addressing initial recommendations. (FWC, 2021)

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

Statutes, Regulations, and Policies:
Several bills and statutes have been enacted by the Florida Legislature in recent years, which may affect cumulative and secondary impacts of development, at least on a situational basis. It may be impractical to make generalized assumptions about the future outcomes of these changes.

In 2020, the Florida Legislature passed Senate Bill 712, also known as the Clean Waterways Act, now Chapter 2020-150, Laws of Florida. This legislation carries a wide range of water-quality protection provisions to minimize the impact of known sources of nutrient pollution and strengthen regulatory requirements. Stormwater-related pollution represents one of the state's largest potential contributors of nutrients. (The Florida Senate, 2020)

The DEP and WMDs initiated rulemaking as directed by section 5 of Chapter 2020-150, Laws of Florida, to update the stormwater design and operation regulations for ERP permits (see section 373.4131(6), F.S., as modified by section 5 of Chapter 2020-150, Laws of Florida). On June 28, 2024, Governor Ron DeSantis signed Senate Bill 7040 into law, officially updating and implementing Florida's stormwater rules and design criteria to protect the state's waterways. (The Florida Senate, 2024)

In May 2023, Governor DeSantis signed House Bill (HB) 1379, which enhances protections for the Indian River Lagoon, expands the existing wastewater grant program, strengthens BMAPs, improves local government long-term comprehensive planning and creates dedicated funding for the state's land conservation efforts. (The Florida Senate, 2023)

Guidance Documents:

DEP Methods for Calculating Project Reductions: DEP's Department of Environmental Assessment and Restoration provides tools and guidance for users to calculate total nitrogen (TN) and total phosphorus (TP) reductions for watershed restoration when site-specific information is not available. Topics include calculating BMP performance, verifying BMP types, guidance on soil amendments, Indian River Lagoon specificities, and septic system calculations. (DEP, 2024)

Management Plans:

DEP – Basin Management Action Plans (BMAPs): Once TMDLs are adopted, restoration plans detailing further water quality targets can be created, called BMAPS. BMAPs are strategic plans developed in Florida to restore and protect water quality in specific water bodies, such as rivers, lakes, and estuaries. BMAPs are created in response to water bodies that do not meet water quality standards, often due to pollutants like nutrients and sediments. New BMAPs have been developed and ten additional basins added to the state since the previous assessment. (DEP, 2023c)

Surface Water Improvement and Management (SWIM) Plan: SWIM is a program in Florida designed to enhance the quality of surface waters, such as lakes, rivers, and estuaries. Established by the Florida Legislature, SWIM focuses on restoring and protecting these water bodies through a comprehensive approach, including evaluating the health and quality of surface waters to identify problems and prioritize areas for improvement, implementing projects aimed at improving water quality, restoring habitats, and addressing pollution sources, creating strategies for sustainable land use and water management practices that minimize negative impacts on water bodies, including aiding in public involvement. Implemented by Florida's five WMDs, SWIM plans are developed without 309 and CZM funds. The updated 2023 SWIM annual report provides the priority water bodies in coastal estuaries such as Tampa Bay, Charlotte Harbor, and Sarasota Bay. (SWFWMD, 2023)

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.

Multiple state agencies and programs address cumulative and secondary impacts, including land acquisition programs, wetlands permitting, TMDLs and watershed management, local comprehensive plans, minimum flows and levels programs, water supply development and planning, and special area management plans (SAMP). Due to the long-term and well established efforts, cumulative and secondary impacts has been given a low priority for this assessment.

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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
Panhandle barrier islands	Recreation; development; aesthetics; coexisting w/ wildlife; biodiversity; public trust/access; resiliency
Coastal strand/marine and upland ecotone	Human use/disturbance; habitat loss
Critical Wildlife Areas	Recreation; development; aesthetics; coexisting w/ wildlife; biodiversity; public trust/access
Spoil islands and shoals/sandbars	Recreation; public access; coexisting w/ wildlife
Urban/wild land interface	Development; coexisting w/ wildlife
Florida reef tract	Degradation of coral; recreation; coexisting w/ wildlife; biodiversity; public trust/access
Florida's shoreline	Public access; cultural and natural resources; economic viability; development; biodiversity; resiliency
Florida state waters	Public trust/access; commercial use; species and habitat management
Sea level rise inundation areas	Habitat migration; anthropogenic intervention; development; investment prioritization; economic vitality; resiliency

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.

Florida institutes an array of special area management planning statewide and at the local level. Natural resources are protected through a multi-agency effort to manage development, and public and private uses.

The DEP published the 2024 FCMP Guide, which provides designation for geographic areas to prioritize in managing and improving. This list is the Areas of Critical State Concern. The report identified six areas, with five existing from the previous report and one new area added: the Brevard Barrier Island Area in Brevard County. (DEP, 2024a)

- Apalachicola Bay Area in Franklin County
- Big Cypress Swamp in Collier, Monroe, and Dade Counties
- Green Swamp in Polk and Lake Counties
- Florida Keys in Monroe County
- The City of Key West in Monroe County
- Brevard Barrier Island Area in Brevard County

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	Y	Y	Y
SAMP plans	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.

Section 258.3991, F.S., was enacted, which created the new Nature Coast Aquatic Preserve along the shoreline stretching from Pasco County to Citrus County on the Gulf Coast. This new AP encompasses 800 square miles of coastal water and 625 miles of shoreline in Citrus, Hernando, and Pasco counties. It is now the second largest AP in the state and contains over 400,000 acres of seagrass. (DEP, 2020)

Section 258.39(33), F.S. provides the boundaries for the new Kristen Jacobs Coral AP (also known as the Kristen Jacobs Coral Ecosystem Conservation Area) from the northernmost section of Florida's Coral Reef in Martin County at St. Lucie Inlet to 105 miles south at the northern boundary of Biscayne National

Park. This AP is part of the only barrier reef system in the continental U.S. It is home to more than 6,000 species of marine life, including fish, stony corals, gorgonians, sponges, and other marine invertebrates. (DEP, 2021)

Section 380.0553, F.S., creates a new Areas of Critical State Concern by designating the Brevard Barrier Island Area in Brevard County. The statute outlines the boundaries development standards, which may include, but are not limited to, revisions of the local comprehensive plan, adoption of new land development regulations, updated density requirements, and special permitting requirements. Federal actions in this area must be consistent with these principles. (Brevard County, 2024)

SAMP Plans

Aquatic Preserve (AP) Management Plan updates: The DEP's RCP manages 43 APs within Florida. All but four of these APs are located along the Florida coast. The long-term goals of the AP Program is to protect and enhance the ecological integrity of APs; restore areas to their natural condition; encourage sustainable use and foster active stewardship by engaging local communities in the protection of APs; and improve management effectiveness through a process based on sound science, consistent evaluation, and continual reassessment. AP management plans are integral to fulfilling these long-term goals. They are used to guide aquatic resource protection and restoration, adjacent upland development, public access, and local government planning efforts. 309 funding was used to update AP Management Plans originally developed in the 1980s and 1990s. Plans were updated using a revised format to reduce redundancy while meeting statutory requirements. The updated plans focus energy on addressing major key issues rather than several issues at once. Key issues are identified with input from local and regional stakeholders, including cooperating/partner agencies, adjacent landowners, elected officials, and the public, and are vetted through a public engagement process including review by Florida's Acquisition and Restoration Council (ARC). The AP Management Plans updated since the last assessment are listed below (DEP, 2024b).

- Fort Pickens Aquatic Preserve Management Plan, approved by ARC on September 22, 2020
- Lake Jackson Aquatic Preserve Management Plan, approved by ARC on February 4, 2020
- St. Joseph Bay Aquatic Preserve Management Plan, approved by ARC on March 29, 2022
- Lignumvitae Key Aquatic Preserve Management Plan, approved by ARC on August 23, 2022
- Rookery Bay National Estuarine Research Reserve Management Plan, approved by ARC on January 17, 2023
- Nature Coast Aquatic Preserve Management Plan, approved by ARC on March 8, 2023
- Apalachicola National Estuarine Research Reserve Management Plan, approved by ARC on June 7, 2024
- Coupon Bight Aquatic Preserve Management Plan, approved by ARC on February 9, 2024

State Park Unit Management Plans (UMP): Florida State Parks publishes a UMP which has a 10-year review period for individuals in the community to participate in commenting and suggestions. There have been updates to these UMPs since the previous assessment: (DEP, 2024c)

- Northwest District 1 Unit Management Plan Updates
    - Lake Talquin State Park: June 2020
    - Yellow River Marsh Preserve State Park: August 2022

    - Florida Caverns State Park (June 2022 Post-Hurricane Michael Recovery Park Plan Amendment)
    - T.H. Stone Memorial St. Joseph Peninsula State Park (February 2022 Post-Hurricane Michael Recovery Park Plan Amendment) (October 2022 William J "Billy Joe" Rish Edward Ball Wakulla Springs State Park: December 2022
    - Bald Point State Park (includes St. Teresa Tract): February 2023
    - Ochlockonee River State Park: February 2023 Recreation Area Park plan amendment)
- Northeast District 2 – Districtwide Unit Management Plan (June 2024 ARC Approval)
- Central District 3 Unit Management Plan Updates
    - Fort Mose Historic State Park (August 2022 Interpretive Project Park Plan Amendment)
    - Ravine Gardens State Park: September 2023
    - Hontoon Island State Park: October 2022
- Southwest District 4 Unit Management Plan Updates
    - Hillsborough River State Park: June 2020
    - Caladesi Island State Park: February 2022
    - Honeymoon Island State Park: February 2022
    - Weeki Wachee Springs State Park: April 2022
- Southeast District 5 Unit Management Plan Updates
    - Hugh Taylor Birch State Park: August 2020
    - John D. MacArthur Beach State Park: August 2020
    - Bahia Honda State Park: December 2020
    - Atlantic Ridge Preserve State Park: August 2021
    - Fort Pierce Inlet State Park: December 2021
    - Oleta River State Park: August 2022

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.

Special area management planning is used widely throughout Florida to manage user conflicts and protect natural resources. Florida emphasizes site specific management planning, as seen in the many updated management plans listed above. Each of these management plans relies on multiple levels of stakeholder engagement to prioritize programs and address key issues. For example, Florida's AP Management Plans identify key issues with input from local and regional stakeholders, including cooperating/partner agencies, adjacent landowners, elected officials, and the general public, and the key issues are further vetted through a public engagement process, including review by the ARC. The creation of two new APs and a new Area of Critical State Concern provides more opportunities to engage stakeholders in the management planning process that have not been included prior.

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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),[15] 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)	546,866	7,546	10,311	14,318	116,941	1,619	396,129
Establishments (# of Establishments)	24,588	967	899	530	1,718	318	20,156
Wages (Millions of Dollars)	20,608	375.9	689.7	818.3	6,284	104	12,335
GDP (Millions of Dollars)	39,916	993.3	1,323	1,218	10,043	345.6	25,993

Data from: (NOAA, 2021)

[15] *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)[16]

	All Ocean Sectors	Living Resources	Marine Construction	Ship & Boat Building	Marine Transportation	Offshore Mineral Extraction	Tourism & Recreation
Employment (# of Jobs)	50,611	749	1,948	2,276	59,365	204	-13,933
Establishments (# of Establishments)	1,839	45	67	47	206	21	1,453
Wages (Millions of Dollars)	5,972	96	242	227	2,785	23	2,598
GDP (Millions of Dollars)	8,575	191	374	274	1,480	55	6,200

Data from: (NOAA, 2021). Above delta values determined by subtracting the 2016 data from the 2021 data set.

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,[17] 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)*	18
Federal sand and gravel leases *(Active)*	4
Federal sand and gravel leases *(Expired)*	0
Federal sand and gravel leases *(Proposed)*	7
Beach Nourishment Projects	174
Ocean Disposal Sites	692
Principle Ports *(Number and Total Tonnage)*	9 Ports (96,542,296 tons/year)
Coastal Maintained Channels	93
Designated Anchorage Areas	39 (1.72% coverage)
Danger Zones and Restricted Areas	19 Total Areas (74.13% total coverage; 46.31% danger zone coverage; 26.01% restricted area coverage)

Data from: (NOAA, 2024).

[16] 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.

[17] *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.

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.

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	↑
Transportation/navigation	—
Offshore development[18]	—
Energy production	—
Fishing (commercial and recreational)	↑
Recreation/tourism	—
Sand/gravel extraction	—
Dredge disposal	—
Aquaculture	—

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.

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

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 (Comm and Rec)	Aquaculture	Recreation	Marine Transportation	Dredging	Sand/Mineral Extraction	Ocean Acidification	Other (Specify)
Benthic habitat (including coral reefs)	X		X	X	X		X				X	Disease, algal growth
Living marine resources (fish, shellfish, marine mammals, birds, etc.)	X		X	X	X		X					Algal blooms(red tides)
Sand/gravel	X								X	X		Coastal erosion from storms
Cultural/historic	X						X					Sea level rise
Fishing (commercial and recreational)	X		X		X		X					Algal blooms(red tides)

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.

Coral Disease Response: DEP offers a comprehensive library of published and implemented projects completed in Florida. Since 2015, numerous researchers have completed 103 projects. These are tabulated on the DEP website. This is an actively growing list and will continue to grow as the funding and prevalence of coral health increases in the future. (DEP, 2024a)

Coral Disease and Health Consortium: The Coral Disease and Health Consortium currently has a website with information on coral biology, diseases, outbreaks, and research protocols. In 2020, they reported Stony Coral Tissue Loss Disease starting in 2014 off southeast Florida that has now spread to the Keys and the Caribbean. They promoted a recent 2020 study modeling the effects of hydrodynamics on the spread of the disease which is killing coral across the state's reef systems. (CDHC, 2020)

Environmental Effects on Corals: Corals in Florida's coastal habitats affected by temperature changes and ocean acidification is an ongoing issue. Coral bleaching occurs when elevated sea temperatures cause corals to expel the algae (zooxanthellae) living in their tissues, leading to bleaching. This process can severely weaken corals and make them more susceptible to disease. Ocean Acidification is another process where increased carbon dioxide in the atmosphere leads to higher levels of carbonic acid in oceans, which decreases the pH. This makes it harder for corals to build their calcium carbonate structures, threatening their growth and survival. Scientists are experimenting with techniques such as breeding corals in nurseries and replanting them in damaged areas, as well as using assisted evolution to enhance coral stress tolerance. However, as sea temperatures rise, mass bleaching will continue to

occur, and the death of these keystone ecosystems could cause far-reaching consequences. (NASA, 2023)

Invasive Seagrass Growth: In August 2024, the invasive seagrass *Halophila stipulacea* was found growing in the coastal waters of Key Biscayne for the first time ever recorded in the state. This occurrence has the potential to spread in the waterway system and throughout Florida and the Caribbean. Scientists are unsure if this species will displace and drive down native populations of seagrass that are currently in a state of recovery across Florida coastal ecosystems. (Campbell, Allen, Sattelberger, et. al., 2024)

Invasive Species Potential Threats: A study published in December 2024 details the results of a working group of experts from academic, government, and nonprofit agencies and organizations, who conducted a 'multi-taxa horizon scan' for Florida. This type of study was the first of its kind in North America and evaluated 460 taxa (including marine) for their potential threat to Florida. Based on the study's results, recommendations included: comprehensive risk analysis of the 40 very high- and high-risk taxa, increased surveillance at Florida's ports of entry and state borders, and periodic review (3–5 years) of the scan. (Lieurance, Canavan, Behringer. et. al., 2023)

Living Marine Resources: FWC's Fisheries-Independent Monitoring (FIM) program collects data on fish and invertebrate species that inhabit Florida's riverine, estuarine, and coastal reef habitats. FIM reports the results of research, which includes monitoring the abundance trends of important fish and invertebrate species over time, defining seasonal and spatial trends, and determining the habitat preference of key species. FIM states that its mission is to provide timely and valuable data for use in the management and conservation of Florida's diverse fishery resources. Many research reports are published on an annual basis covering a variety of Florida's habitats and resources. (FWC, 2024)

Threats to Marine Resources: In the FWC's 2019 Florida State Wildlife Action Plan (SWAP), several marine threats and conservation action plans are identified. In 2023 FWC sought public input on a draft addendum to include 596 plant species into the Species of Greatest Conservation Need list. (FWC, 2024a)

Sand/Gravel: According to the 2024 DEP Critically Eroded Beaches report, there are approximately 432.8 miles of critically eroded beach, 9.1 miles of critically eroded inlet shoreline, 96.5 miles of non-critically eroded beaches, and 3.2 miles of non-critically eroded inlet shoreline. These records do not indicate substantial change since the 2019 report (FCMP, 2019). However, the Critically Eroded Beach reports show the increasing mileage of eroding beaches as time progresses and the ongoing need for sand for beach nourishment projects and dune fill material. The source of the sand would be from offshore or inlet dredging or upland mines. (DEP, 2024b)

Summary of Critically Eroded Designations 2019-2024

Feature (miles)	2019	2024
Critically Eroded Beach	419.6	432.8
Critically Eroded Inlet Shoreline	8.7	9.1
Non-Critically Eroded Beach	90.9	96.5
Non-Critically Eroded Inlet Shoreline	3.2	3.2

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

Regional comprehensive ocean management plans:

Coral Protection and Restoration Program (CPR) 2024-2029 Strategic Plan, Office of Resilience and Coastal Protection, DEP: CPR was established in 2020 within the DEP Office of Resilience and Coastal Protection to support the holistic management of Florida's Coral Reef. This plan provides the objectives and strategies for the following strategic priority areas: (DEP, 2024c).

- Coral Protection and Restoration Program Capacity: Ensure appropriate CPR staff and leadership capacity to support Florida's Coral Reef (FCR) wide priorities.
- Funding Administration: Effectively secure and administer state, federal and private funding to address state supported FCR priorities.
- Holistic Resilience-Based Management of FCR: Use science-based decision making to guide and support regional, state and national coral reef authorities, policies and procedures to ensure consistency and effectiveness of reef management actions.
- Protection and Restoration of FCR: Support implementation of regional disturbance response, water quality and ecosystem restoration related priorities including Florida's Coral Reef Restoration and Recovery Initiative.
- Coordination and Information Sharing: Participate in regular coral reef-related meetings to ensure efficient information sharing, consistent FCR branding and maintenance of key partnerships.

The Gulf of America Alliance (GOAA – formerly GOMA): GOAA is a 501c3 non-profit regional partnership aimed at enhancing the environmental and economic health of the Gulf of America. Established in 2004, it involves the five Gulf Coast states of Texas, Louisiana, Mississippi, Alabama, and Florida. The alliance focuses on addressing various challenges, including coastal habitat restoration, water quality improvement, and sustainable economic development. (GOMA, 2024a)

The alliance published the Governor's Action Plan Number IV for Healthy and Resilient Coasts for 2021 through 2026. It is the fourth in a series of plans that provide a blueprint for addressing common issues in a voluntary and collaborative way among states that border the Gulf. It is an effort to provide a unified approach to prioritizing coastal ecosystem health as a connected entity. Primary goals of the plan are: (GOMA, 2021)

- providing forums for collaboration
- developing and modifying tools to address regional issues
- enabling strategic partnerships
- tracking restoration efforts

The alliance also maintains the Gulf of America Open Data Platform, an updated GIS database with a large collaboration of data regarding the ecosystems in the Gulf of America. All the data is free and available for public use and viewing. Map themes representing stakeholder topics include: (GOMA, 2024b)

- Bathymetry
- Community Resilience
- Offshore Energy
- Priority Habitats
- Living Shoreline Site Suitability Models
- Restoration
- Water Quality
- Regional Sediment

U.S. Coral Reef Task Force (USCRTF) – The USCRTF was created in 1998 by a Presidential executive order to create a unified coral preservation organization. There are two major themes that are addressed by the task force; understanding coral reef ecosystems from a scientific basis and reducing the impacts of human activities on these ecosystems. Under these two themes are thirteen further goals to quantify progress on addressing the overarching themes. Resolutions that have been passed since the previous assessment are: (USCRTF, 2024).

- (2021) USCRTF Framework for Fiscal Years (FY) 2022-FY 2026 Priority Action Plan
- (2023) 47.3 – Amendment to Resolution 28.1: Watershed Partnership Initiative
- (2023) 47.2 – Coral Reefs as National Natural Infrastructure
- (2023) 47.1 – National Action for Coral Disease Outbreak Prevention, Rescue, and Recovery

Florida's Imperiled Species Management Plan (ISMP): FWC maintains an ISMP for 2016 through 2026. The ISMP aims to protect and recover species that are at risk of extinction in the state. It outlines strategies for conservation, habitat restoration, and species monitoring. The plan emphasizes collaboration among state agencies, conservation organizations, and the public to enhance biodiversity and protect critical habitats. Originally approved in November 2016, the amendment was added in December 2018 and September 2022. The 2022 revision approved rule revisions to add a new amphibian species to the State Threatened designation. (FWC, 2022)

Single-sector management plans:

Apalachicola Bay System Ecosystem-Based Adaptive Restoration and Management Plan: In 2020, Florida prohibited the harvesting of wild oysters from Apalachicola Bay through 2025. The plan provides a report and recommendations from the Apalachicola Bay System Initiative Community Advisory Board and was adopted unanimously on November 29, 2023. The plan was an effort led by the Florida State University Coastal & Marine Laboratory and details the goals, strategies, and management planning to turn Apalachicola Bay into a sustainable oyster fishery once wild oyster harvesting is reopened in January 2025. (FSUCML, 2023)

Biscayne Bay Commission: Established in 2021 by legislation, the Biscayne Bay Commission began meeting in January 2022. The legislation enables direct action to address issues in the Bay such as sea level rise, impaired water quality, habitat loss and human activity that conflicts with the bay's well-being. The Biscayne Bay Commission monitors the strategic plan and creates a financial plan to fund priorities. The Biscayne Bay Commission issues semiannual reports describing the accomplishments and the status of each pending task. (DEP, 2024e)

The Florida Keys National Marine Sanctuary (FKNMS) 2022 Restoration Blueprint: Revised Draft Management Plan - FKNMS introduced a revised draft management plan and proposed rule in the Fall 2022 known as Restoration Blueprint. This management document is a revision from 2019 that outlines the protection of the marine sanctuary while advancing towards the following goals: (FKNMS, 2022).

- GOAL 1: Improve our understanding of sanctuary resources and ecosystem services, and their value to the Florida Keys economy.
- GOAL 2: Improve the condition of sanctuary resources and, where possible, restore ecosystem structure and function.
- GOAL 3: Reduce threats to sanctuary resources and manage human uses and associated impacts.
- GOAL 4: Increase awareness and support for FKNMS and its resources.
- GOAL 5: Advance and support collaborative and coordinated management.

Aquatic Preserve (AP) Management Plan updates: See also Special Area Management Planning.

State Park Unit Management Plan (UMP) updates: See also Special Area Management Planning.

Basin Management Action Plan (BMAP) updates: See also Cumulative and Secondary Impacts.

Surface Water Improvement and Management (SWIM) Plan updates: See also Cumulative and Secondary Impacts.

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)	Y; approved 1981	Y; GOMA 2004, GSAA 2009 (defunct)
Under development (Y/N)	N/A	N/A
Web address (if available)	N/A	https://gulfofmexicoalliance.org/files/pdfs/governors-action-plans/governors_action_plan_iv.pdf
Area covered by plan	Entire state except federal and tribal lands*	GOMA: AL, FL, LA, MS, TX

***** For planning and developing coordinated projects and initiatives relating to coastal resource protection and management and for completing federal consistency reviews of federally-licensed and permitted activities, only the geographical area encompassed by the 35 Florida coastal counties and the adjoining territorial sea is utilized (DEP, 2024d).

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.

There are many significant issues within this enhancement area that have previously been identified as a target of a 309 strategy and received 309 funding. This enhancement area is wide ranging and contains many of the highest priority single issues, including monitoring and management of coastal biological communities, water quality, and invasive species.

Each of the partner agencies within the FCMP is likely to have multiple issues that they are actively monitoring, maintaining, or managing that fall within the category of an Ocean Resources enhancement area.

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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)[19]

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[20] includes existing data for many energy facilities and activities.

[19] 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.

[20] *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 [#1, #2, #3]	16.4 mi^2	unknown	N	↓
Electrical grid (transmission cables) [#1, #4]	82.9 mi^2	unknown	8 submarine cables	↑
Ports [#1, #5, #6]	9 principle ports; 16 ports	↑	Y	–
Liquid natural gas (LNG) [#7, #8, #9, #10, #11, #12]	3	↑	4 (1 pending; 3 approved)	↓
Electric Power Facilities (Oil) [#1, #13]	16	–	N	–
Electric Power Facilities (Gas) [#1, #13]	46	–	Y	–
Electric Power Facilities (Coal) [#1, #13]	10	–	N	–
Electric Power Facilities (Nuclear) [#1, #13]	4	–	Y	–
Electric Power Facilities (Wave) [#13, #14]	N	–	N	–
Electric Power Facilities (Tidal) [#13, #14]	N	–	N	–
Electric Power Facilities (Current, ocean, lake, river) [#13, #14]	N	–	N	–
Electric Power Facilities (Hydropower) [#13, #14]	N	–	N	–
Electric Power Facilities (Ocean thermal energy conversion) [#13, #14]	N	–	N	–
Electric Power Facilities (Solar) [#13, #14]	35	–	Y	–
Electric Power Facilities (Biomass) [#13, #14]	29	–	N	–
Other (please specify)	–	–	–	–

[#1] Ocean Reports (BOEM & NOAA, 2024): https://coast.noaa.gov/digitalcoast/tools/ort.html

[#2] FERC Approved Major Pipeline Projects (FERC, 2024a): https://ferc.gov/industries-data/natural-gas/approved-major-pipeline-projects-1997-present

[#3] FERC Major Pipeline Projects Pending (FERC, 2024b): https://www.ferc.gov/industries-data/natural-gas/major-pipeline-projects-pending

[#4] TeleGeography (TeleGeography, 2024): https://www.submarinecablemap.com/status/planned

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[#14] FERC Hydrokinetic Projects (2024c): https://www.ferc.gov/licensing/hydrokinetic-projects

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.

DACS - 2023 Office of Energy Annual Report: Florida is the second largest generator of electricity in the nation, with the majority coming from steam and combustion turbine generators, primarily fueled with natural gas and coal. The main point of expansion within the current landscape of energy generation will be in the renewable energy sector. Within the next 10 years (by 2032), the projected Net Energy for load by category compared to current loading is as follows:

- Nuclear: 11.2% (2022) to 10.5% (2032)
- Coal: 6.4% (2022) to 2.5% (2032)
- Natural Gas: 69.5% (2022) to 55.9% (2032)
- Renewables: 5.8% (2022) to 28% (2032)
- Interchange and All Others: 7.1% (2022) to 3.2% (2032)

Florida is the third most populous state in the nation, with 22.6 million people, and has experienced a 5.1% population growth rate since 2020. Most of the energy use is dominated by the residential and transportation sectors. In 2021, Florida ranked 45th in total energy consumption per capita. Daily and seasonal demand variations require higher energy consumption in summer than winter months. (FDACS, 2023)

PSC Review of the 2023 Ten-Year Site Plans of Florida's Electrical Utilities: The Ten-Year site plans for Florida's electric utilities are reviewed by the PSC every year for the focus of forecasting energy demand, infrastructure needs, and plans for generation sources. Population growth and economic development within the state are driving increased electrical usage and can be shown below. (PSC, 2023)

- Renewable resources are growing in the state with 9,274 megawatts (MW) currently available as capacity.
- Solar photovoltaic sources account for 84% of the existing renewables in Florida.
- Over the next 10 years, Florida's total renewables will increase by over 27,000 MW, all accounted for by solar photovoltaic.
- Expected 1,900 MW increase of traditional generation with natural gas plant additions offset by coal and oil retirements.
- Natural gas generation is expected to decline from 70% to 56%.
- On May 11, 2023, the EPA released a rule with five separate actions under the Clean Air Act Section 111, targeting greenhouse gas emissions from fossil fuel-fired electric generating units.
- As a result, the state is preparing for an increase in electric vehicle charging stations and increases in electric vehicle charging infrastructure.

3. Briefly characterize the existing status and trends for federal government facilities and activities of greater than local significance[21] in the state's coastal zone since the last assessment.

Eagle LNG Partners (Jacksonville, FL): In October of 2023, Eagle LNG Partners, LLC took delivery of its first LNG carrier ship, the Coral Favia, marking a new partnership with Anthony Veder, another small-scale LNG firm services the Caribbean basin. In May of 2023, JAXPORT partners support continued growth of LNG as a clean marine fuel, increasing bunkering capacity and fuel power generation for LNG specialty tanks. (Eagle LNG, 2023)

Jax LNG (Jacksonville, FL): As of 2024, JaxPort is the only U.S. East coast port to offer on-dock and near-dock LNG fueling capabilities. There are four shipping lines committed to LNG as a marine fuel with more than 16 million gallons of LNG storage capacity in Jacksonville. There are three active LNG facilities and two LNG suppliers in Jacksonville as well. Their tenants include TOTE Maritime Puerto Rico and Crowley. (JaxPort, 2024)

American LNG Marketing LLC (Hialeah, FL): In 2020, t he U.S. Department of Energy Office of Fossil Energy acted on applications requesting export of LNG from the lower 48 states to non-free trade agreement counties for a term ending in 2050. This discontinues its practice of issuing standard 20-year export terms. This policy provides important commercial benefits to authorization holders and foreign buyers of U.S. LNG. (DOE, 2020)

American LNG (Titusville, FL): The American LNG Titusville Terminal is an LNG export station that was applied for in 2015 to export 600,000 metric tons of LNG per year. They were seeking a 20-year authorization since the last report. However there have been no published project updates in over four years. The project was presumed cancelled as of 2021. (GEM, 2023)

Strom Inc. LNG (Crystal River, FL): In the previous report, Strom Inc had requested to export 56.43 billion cubic feet of LNG from a site in Crystal River Florida. On November 18, 2021, Strom submitted a request asking DOE to vacate their previous request, effectively cancelling their plans of a plant development. They noted that they had plans to relocate their facility to another state. (DOE, 2021)

Florida Gas Transmission Pipeline: This natural gas mainline runs from Port Lavaca, Texas to Miami, Florida, and has a capacity of more than a 1000 million cubic feet per day. It is owned by Florida Gas Transmission Company, LLC, a 100% owned subsidiary of Citrus Corp. The Putman expansion was completed in Putnam County 2022. (GEM, 2022)

[21] 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).

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	Y	N	N
State comprehensive siting plans or procedures	Y	N	N

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

No categories had significant changes. Of note is the following change in statutes, regulations, policies, or case law.

In May of 2024, Governor DeSantis signed House Bill 1645 prohibiting the construction or expansion of offshore wind energy facilities and certain wind turbines located on real property within a mile of the state's coastline or intracoastal waterways or on waters of the state. (The Florida Senate, 2024)

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.

Within the state boundaries, energy production is limited and thus a low priority for the Coastal Management Program.

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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.[22]

Status and Trends of Aquaculture Facilities and Activities as of 2022

Type of Facility/Activity	Number of Facilities [23]	Approximate Economic Value (M)	Change Since Last Assessment (2019)* (↑, ↓, –, unknown) Change from 2017 to 2022	
Catfish	19	$0.69	↓	↑
Trout	1	unknown	↓	unknown
Other food fish	78	$24.93	↓	↑
Baitfish	6	$0.25	↓	↓
Crustaceans	41	$33.83	↑	↑
Mollusks	247	$53.35	↑	↑
Ornamental fish	188	$62.37	↑	↑
Sport or game fish	18	$1.82	↓	↑
Other aquaculture products	168	$13.86	↑	↑
Total	**766**	**$191.10**	↑	↑

*The previous assessment was created for 2019. However, the period analyzed in the previous assessment was for 2012 to 2017. This assessment analyzed data from the 2017 to 2022 report (USDA, 2022).

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.

Florida Aquaculture Plan 2023: This report was created for the purposes of applied research and economic development to benefit the state of Florida. Florida is in position to grow towards becoming

[22] 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.

[23] 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.

the nation's leader in the aquaculture agricultural sector. Florida has around 1,000 certified aquaculture farms with 1,500 varieties of fish, plants, mollusks, crustaceans, corals, and aquatic reptiles for food and non-food markets. (Florida Aquaculture Review Council, 2023)

University of Florida Holistic Assessment of Using Shellfish for Water Quality Improvement in Florida: A project concluded in 2023 quantifies the amount and monetary value of nitrogen removal services attributed to shellfish aquaculture. An online tool to calculate the values is available to the public. (UF IFAS, 2023) (UF IFAS, 2024a)

UF Institute for Food and Agriculture Sciences (IFAS) Online Resource Guide for Florida Shellfish Aquaculture: The University of Florida maintains an updated database for the shellfish industry with research news, presentations, suppliers' lists, and other information regarding the field. According to the website there are a few updated statistics for the state: (UF IFAS, 2024b).

- $19.6 million in sales value of Florida cultured shellfish
- 600+ jobs supported by clam farming
- $38.6 million economic impact of cultured clams
- 103 million clams produced in 2022
- 4.7 million oysters produced in 2023

Florida Aquaculture Association: The Florida Aquaculture Association was created as a joint effort by individuals and municipalities to convene on regulation development and news collaboration for state aquaculture. They created the Aquaculture Review Council to have a direct line of communication with the Commissioner of Agriculture. They maintain a news section that is constantly updated with new state reports, scientific data, and more publications to keep the public informed. (FAA, 2022)

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.

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

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

Aquaculture Comprehensive Siting Plans for Procedures:

In October 2023, the Florida Aquaculture Review Council published an updated Florida Aquaculture Plan with prioritized recommendations for research and development in the economic state sector. (Florida Aquaculture Review Council, 2023)

Aquaculture Statutes, Regulations, and Policies:

In November 2023, the DACS Division of Aquaculture published an updated Aquaculture BMP Manual. (DACS, 2023)

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 continues to expand in Florida in both open water and land-based facilities. In addition, aquaculture continues to provide important economic, social, and environmental benefits while protecting and enhancing commercial and recreational fisheries. Environmental impacts are mitigated through regulatory oversight and coordination with managed preserve areas.

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Phase II Assessment

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	Physical Alterations	Throughout coastal zone
Stressor 2	Invasive Species	Throughout coastal zone
Stressor 3	Pollution	Throughout coastal zone

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.

Physical alterations to wetlands may alter hydrologic and geologic features required for wetlands to function. Physical alterations may be human or naturally induced as a result of coastal development, storms, sea level rise, freshwater inundation, etc. As reported in the Wetlands Phase I Assessment, wetlands in Florida are being permanently lost and temporally disturbed. The impacts are being offset by preservation, creation, and improvement. Since the records are from permitted activities, i.e., construction, these data do not account for losses due to natural processes, such as shoreline erosion or coastal storms.

Invasive species such as Burmese pythons, Melaleuca, Brazilian pepper trees, hydrilla, water hyacinth and others can damage habitat, harm native wildlife and alter the ecology of Florida's natural systems and wetlands. The University of Florida's IFAS hosts the Center For Aquatic And Invasive Plants. The Center maintains a database of invasive plan species, provides support for aquatic plant management in Florida, and provides the latest research on the topic. (IFAS, 2024) FWC's Invasive Plant Management Section is responsible for coordinating and funding two statewide programs controlling invasive aquatic and upland plants on public conservation lands and waterways throughout the state. (FWC, 2024a)

In Florida sediment, chemical, and biological sources of pollution may affect and impact wetlands. Water quality improvement programs are discussed in the Secondary and Cumulative Impacts Phase I Assessment.

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
Wetlands loss due to natural processes including sea level rise	Mapping and monitoring to track changes
Upland development encroachment	Mapping and monitoring to track changes

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

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.

No significant changes have been made since the last assessment.

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?

The Florida Cooperative Land Cover Map (CLC) is a partnership between the FWC and the Florida Natural Areas Inventory (FNAI). The GIS-based dataset contains ecologically based statewide land cover data derived from existing sources and expert reviews of aerial photography. The CLC is revised continuously, with new versions released annually. FWC is the lead agency for updates and maintenance of the CLC, while FNAI provides guidance and contributes data. The CLC follows the Florida Land Cover Classification System. (FWC, 2023)

FWC's Fish and Wildlife Research Institute Technical Report 21, titled *Coastal Habitat Integrated Mapping and Monitoring Program Report for the State of Florida* (CHIMMP) discusses the types of Florida's coastal habitats and the various methods for classification, mapping of land cover data, and monitoring that are, or have been, employed in Florida. The report includes chapters specific to 12 coastal regions. Data and information in 9 regions have been updated since 2020: Big Bend and Springs Coast, Charlotte Harbor and Estero Bay, Collier County, Everglades, Florida Keys, Biscayne Bay, Palm Beach and Broward Counties, Indian River Lagoon and Northeast Florida. The region-specific chapters cover threats to salt marshes and mangroves, summarize mapping and monitoring efforts, and provide recommendations for protection, management, and monitoring specific to the region. The report concludes by providing priorities and recommendations for ecosystem management of Florida's coastal habitats. (FWC, 2024)

DEP's 2023 STAR details and explains many of Florida's regulated programs and associated projects for water quality improvements. As required by section 403.0675, F.S., STAR provides updates on the status of protection and restoration actions through TMDLs; BMAPs; alternative restoration plans; minimum flows or minimum water levels; and recovery or prevention strategies. Using an interactive digital format users can explore specific areas of interest and download project data. (DEP, 2023)

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: _____Development Pressures_____

   Description: Physical alterations to wetlands in Florida have been identified as a stressor/threat. As population and upland development increases, pressures on wetlands will continue with the potential for water quality declines and habitat loss to directly impact wetlands and watersheds. Understanding the scale of the threat and the outcomes of mitigation and conservation alternatives could provide insight into the future management of Florida's wetlands.

Management Priority 2: _____Sea Level Rise_____

Description: Wetlands loss due to natural processes including sea level rise is a stressor/threat within Florida. Understanding the scale of the threat, predicting future scenarios, and researching management schemes is needed to understand how to manage or offset this type of wetlands loss.

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	Y	Effects of sea level rise; Resiliency of wetlands; There is an ongoing need to evaluate these trends and provide comprehensive assessments based on the most recent data available.
Mapping/GIS	Y	Accurate assessment of current wetland coverage, change over time and projected changes due to sea level rise.
Data and information management	Y	Compile, manage, and make more widely available wetlands data to agencies and the public to assist in research, and management and policy decisions.
Training/capacity building	N	
Decision-support tools	N	
Communication and outreach	N	
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 indicated in the assessment, data and information management are priority needs to assist managers with management and policy decisions. A strategy will be developed that supports the Wetlands enhancement area.

References:

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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[24] 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	Flooding (riverine, stormwater, tides)	Throughout coastal zone
Hazard 2	Coastal Storms (including storm surge)	Throughout coastal zone
Hazard 3	Shoreline Erosion	Throughout coastal zone

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 the State of Florida Enhanced State Hazard Mitigation Plan, flooding is the most significant coastal hazard within the coastal zone with the highest overall vulnerability score of 15 out of 15. The scoring is based on frequency, probability, injuries, damage to infrastructure and economy, and damage to the environment. As of January 2023, 468 communities participate in the NFIP, with only ten communities not participating. There are 1.46 million NFIP policies in the State of Florida, with flood insurance coverage totaling over $380 billion. There have been 350,201 NFIP claims in Florida since the beginning of the program in 1978, with the total paid equaling over $6.7 billion. Furthermore, Florida pays $845 million in insurance premiums each year to the NFIP. The probability of flooding from inland or riverine sources, coastal sources, or floodplain sources is noted as very high for the state, thus the classification as most significant coastal hazard to the state of Florida. (DEM, 2023) (DEM, 2024)

   The second highest state hazard for the coastal zone is from coastal storms, with a score of 14 out of 15, and ranges from tropical depressions up to major hurricanes. A significant risk to the coastal zone is that storm surge can raise the water level several feet or more, causing flooding in normally dry areas many miles from the shore, especially in low-lying coastal areas. Damage from storm surge can be catastrophic. Historically, about half of the direct deaths in landfalling tropical cyclones in the U.S. are from storm surge. In addition to surge, high winds, tornadoes, rainfall, and rip currents during coastal storms can all impact coastal regions with devastating outcomes. (DEM, 2023)

   The third highest state hazard for coastal zones is erosion, with a score of 11 out of 15. Although the SHMP outlines multiple forms of erosion, coastal erosion remains the most significant erosion threat. The Critically Eroded Beaches 2024 report noted updates to previous reports for the state of Florida list, including 432.8 miles of critically eroded beach, 9.1 miles of critically eroded inlet

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

shoreline, 96.5 miles of non-critically eroded beach and 3.2 miles of non-critically eroded inlet shoreline statewide. (DEM, 2023) (DEP, 2024)

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
Sea Level Rise	Sea level rise continues to be an emerging and ongoing issue as it affects each of Florida's coastal communities and counties differently. Continued research and data are needed to improve model prediction accuracy. Increased accuracy in sea level rise predictions can be used to enhance community vulnerability analyses, assign focus areas, and implement the appropriate adaptation strategies.

In-Depth Management Characterization

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

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

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	N	N
Hard shoreline protection structure restrictions	Y	N	N
Promotion of alternative shoreline stabilization methodologies (i.e., living shorelines/green infrastructure)	Y	Y	N
Repair/replacement of shore protection structure restrictions	Y	Y	N
Inlet management	Y	Y	N
Protection of important natural resources for hazard mitigation benefits (e.g., dunes, wetlands, barrier islands, coral reefs) (other than setbacks/no build areas)	Y	Y	N
Repetitive flood loss policies (e.g., relocation, buyouts)	N	N	N
Freeboard requirements	Y	Y	N
Real estate sales disclosure requirements	Y	N	Y

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)
Restrictions on publicly funded infrastructure	Y	Y	Y
Infrastructure protection (e.g., considering hazards in siting and design)	Y	Y	N

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	Y	Y	N
Sediment management plans	Y	Y	N
Beach nourishment plans	Y	Y	N
Special Area Management Plans (that address hazards issues)	Y	Y	Y
Managed retreat plans	Y	Y	N

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	Y
Hazards education and outreach	Y	Y	Y

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?

Since the last assessment, the State of Florida established the requirement for a Statewide Flooding and Sea Level Rise Resilience Plan on a three-year planning horizon to consist of ranked projects that address risks of flooding and sea level rise to coastal and inland communities in the state. All eligible projects

submitted to the department must be ranked and included. This provides a three-year plan of the funding availability and a multitude of project types to address coastal resiliency. (DEP, 2024a)

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: _Local Adaptation Planning_____

   Description: Local adaptation plans continue to be one of the strongest mechanisms for addressing coastal hazards. Recognizing hazards on a regional level and planning for mitigation on a local level develops a comprehensive plan while allowing communities to select the most appropriate solution. The FCMP recognizes that local adaptation planning is not a one size fits all approach, and the FCMP currently provides technical assistance to communities to address coastal hazard risks. While local adaptation planning efforts have increased considerably since the last assessment, in large part due to an increase in state funding for planning efforts, the FCMP can improve its technical assistance and outreach to local governments with regard to incorporating resilience into local planning, budgeting and updating out of date planning efforts. Counties in Florida are very diverse, and the FCMP recognizes that certain localities require more assistance than others.

   Management Priority 2: __Comprehensive Approach to Coastal Resilience _____

   Description: Coastal resilience will be a continual strategy used in coastal hazard mitigation for ongoing sea level rise, increased storm frequency, and other factors. Although coastal resilience has been more of a focus in recent years and funding opportunities by the state have increased, continual coordination amongst state and local agencies is needed to continue to develop comprehensive planning approaches. Further development of the planning approaches can also help the FCMP better align resources for use by local governments.

   Management Priority 3: __Comprehensive Approach to Sea Level Rise_____

   Description: Sea level rise has diverse impacts that can affect urban shorelines, natural habitats, high tide flooding, shoreline stabilization, and needed infrastructure upgrades. Although sea level rise is a slowly occurring factor, comprehensive mitigation plans are needed on a state and local level to plan for future long-term changes. The development of a comprehensive approach to sea level rise can also help the FCMP plan for resource use by local governments.

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	Y	Many of the coastal hazards impacting Florida are difficult to accurately predict, such as sea level rise, and increased frequency of king tides. Due to the constantly changing predictions on the impacts that coastal hazards will have on the diverse coastal communities and counties in Florida, continued hazard identification and risk assessment research is needed.
Mapping/GIS/modeling	Y	To accurately produce coastal hazard maps, GIS databases, and modeling tools that display current and future risk conditions, ongoing data collection and tool updates are needed in order to run customized analyses with local data.
Data and information management	Y	There have been several data sources, tools, and resources produced to assess coastal hazards including visualization tools, modeling tools, and decision support tools. Continual updates to these tools and resources are vital in providing updated trends and accurately predicting future hazards on a local scale. This includes making data and information readily available and accessible to researchers, governments, and the public.
Training/Capacity building	Y	The level of training and experience required for use of the risk hazard assessment tools varies. While there are a range of tools available, the tools are constantly being updated and adapted for new locations. Therefore, there is an ongoing need to assist and train local communities on the most recent coastal hazard mitigation tools available.
Decision-support tools	Y	To ensure the accuracy of decision support tools there is an ongoing need for the integration of public and private partners to consolidate risk assessment information into unified decision-support tools and update the tools with the latest datasets on a regular basis.
Communication and outreach	Y	Solutions to coastal hazards are primarily location based, due to the diverse coastal communities and counties in Florida. While many areas have had significant improvements in public involvement over the past five years, ongoing communication and outreach is needed. Structured discussions and other forms of public outreach allow for the development of unique local solutions to ongoing and emerging coastal hazards.
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.

Coastal hazards have been identified as a high priority for the state, due to its geographic location in the southern U.S. with shorelines fronting both the Gulf of America and Atlantic Ocean, its low-lying elevation, and extensive coastline. Strategies have been developed to enhance research, data collection, and management decisions related to coastal hazards and their impact on Florida.

References:

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Public Access

In-Depth Resource Characterization

Purpose: To determine key problems and opportunities to improve the CMP's ability to increase and enhance public access opportunities to coastal areas.

1. What are the three most significant existing or emerging threats or stressors to creating or maintaining public access within your coastal zone? Indicate the geographic scope of the stressor, i.e., is it prevalent throughout the coastal zone or are specific areas most threatened? Stressors can be private development (including conversion of public facilities to private); non-water-dependent commercial or industrial uses of the waterfront; increased demand; erosion; sea level rise or Great Lakes level change; natural disasters; national security; encroachment on public land; or other (please specify).

	Stressor/Threat	**Geographic Scope** (throughout coastal zone or specific areas most threatened)
Stressor 1	Private development/encroachment	Throughout coastal zone
Stressor 2	Natural disasters/sea level rise/erosion	Throughout coastal zone
Stressor 3	Increased demand	Throughout coastal zone

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

U.S. Census Bureau data shows that Florida experiences and overall positive percent change in population growth with four of the top ten fastest-growing metropolitan areas being in Florida from 2022 to 2023. (Census, 2024). In 2023 Florida saw the most visitors to the state ever with 140 million people. (Visit Florida, 2024). Due to the growing number of residents and visitors in Florida, there is an overall increased demand threat to the state's recreational public access.

According to the *2023 State of Florida Enhanced State Hazard Mitigation Plan* (DEM, 2023), the top three coastal hazards identified in Florida were flooding, coastal storms, and shoreline erosion (see also Coastal Hazards section). In addition, Florida currently has 432.8 miles of critically eroded beach, 96.5 miles of non-critically eroded beach, 9.1 miles of critically eroded inlet, and 3.2 miles of non-critically eroded inlet identified (DEP, 2024). The frequency and magnitude of storms, along with coastal erosion vulnerability, continues to be an ongoing threat to public access of beaches, trails, and other historic sites. In addition, sea level rise increases the threat of inundation of coastlines, that could result in damage or the loss of public access.

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
Sea Level Rise	Sea level rise continues to be an ongoing and emerging issue for the state of Florida, with the level on impact dependent on the area being assessed. Sea level rise poses a threat to coastal public infrastructure and access points, as more frequent inundation occurs. The ongoing need is for research, model updates, and future inundation maps to predict public access areas impacted by increased sea level rise and erosion.

In-Depth Management Characterization

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

1. For each additional public access 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 changes (positive or negative) have occurred at the state or territory level since the last assessment.

Significant Changes to Public Access 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)
Comprehensive access management planning	Y	Y	N
GIS mapping/database of access sites	Y	Y	N
Public access technical assistance, education, and outreach (including access point and interpretive signage, etc.)	Y	Y	N
Other (please specify)	N/A	N/A	N/A

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.

No significant changes have been made since the last assessment.

3. Identify and describe the conclusions of any studies that have been done that illustrate the effectiveness of the state's management efforts in providing public access 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 latest State-Owned Lands Public Access report, published by DEP in 2023, summarizes efforts by managing agencies to increase public access to lands in Florida acquired by the state for conservation. Managing agencies include DACS, DEP (Division of Recreation and Parks, office of Resilience and Coastal Protection, and Mining and Mitigation), FWC, WMDs, Department of Military Affairs, Department of Corrections, and the University of Florida. The report found that nearly all of these lands (99.03%) are open to public access, managing agencies are working to increase public access, and that there is attention on enhancing public access and recreational opportunities in areas that are open to the public through traditional means and the use of new technologies. (DEP, 2023)

Identification of Priorities

1. Considering changes in public access and public access 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 the effectiveness of its management effort to better respond to the most significant public access stressors. *(Approximately 1-3 sentences per management priority.)*

   Management Priority 1: Consolidate statewide public access data

   The Public Access report published by DEP provides insights into the level of public access and management of state owned lands. Similar efforts for all public lands (state, local, federal) would be useful in providing an understanding of the level of public lands with or without access. Comprehensive and consolidated data, along with mapping applications, could assist in identification of areas with inadequate access where access could be improved or created. These data will assist with quantifying the number of publicly available recreational areas, while also developing a priority level for each area of improvement.

   Description:

   Management Priority 2: Further develop visitor count methodology

   Description: Documenting visitor numbers to submerged lands is difficult to determine unless visitor access to the site is through an attended gate. A previous Visitor Use Monitoring Protocol provided insight towards this goal. Valuable data has been gathered via both traditional methods of visitor survey and newer technologies like drone-captured aerial imagery. The data gathered and lessons learned in the Visitor Use Monitoring Protocol study could be further expanded and applied towards management goals.

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	Y	Ongoing research needs to quantify recreational inventory, estimate number of annual visitors, document the participation by residents and visitors in various recreational activities, and determine the value of recreation and public access across the state.
Mapping/GIS	Y	Ongoing need for updated mapping/GIS information that depicts gaps in park availability, provides user friendly map access both online and through mobile apps, and continual updates to DEP's Florida Outdoor Recreational Inventory.
Data and information management	Y	Need to identify lands and waters with inadequate recreational access, or where existing access can be improved. Continued need to strengthen coordination of agencies and recreational providers for data collection and management planning.
Training/Capacity building	Y	Need for organizations to promote inclusion training and expand the ability of recreational activities to be accessible.
Decision-support tools	Y	Continual need to update supporting decision-making materials (reports/maps/training programs) with current data on public access and recreational use in order to assist in future local and state government decisions.
Communication and outreach	Y	Ongoing need to coordinate providers, agencies, and organizations to better connect recreational opportunities. Continual need to host public events to encourage exchange of information between recreation providers and user groups.
Other (specify)	N/A	N/A

Enhancement Area Strategy Development

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

Yes _____
No __X__

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

Due to the substantial and well established efforts that have taken place and continue, public access has been given a medium priority for this assessment. FCMP will continue efforts through its Coastal Partnership Initiative subgrant program and other initiatives to assist local communities in making small-scale improvements to public access but does not contemplate initiating a strategy.

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Florida Division of Emergency Management [DEM]. (2023). Local Mitigation Strategy Hazard Ranking Matrix. Retrieved from website: https://flshmp-floridadisaster.hub.arcgis.com/pages/lms-matrix-page

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Marine Debris

In-Depth Resource Characterization

Purpose: To determine key problems and opportunities to improve the CMP's ability to effectively manage marine debris in the coastal zone.

1. What are the three most significant existing or emerging challenges related to marine debris within your coastal zone? Indicate the geographic scope of the challenge, i.e., is it prevalent throughout the coastal zone, or are specific areas most threatened? Challenges can be land- or ocean-based marine debris reduction (e.g., behavior change to reduce waste, increase recycling, or litter less); catastrophic event-related debris; marine debris identification and removal; research and monitoring; education and outreach; or other (please specify).

	Challenges	**Geographic Scope** (throughout coastal zone or specific areas most threatened)
Challenge 1	Stormwater	Throughout coastal zone
Challenge 2	Storm related	Throughout coastal zone
Challenge 3	Derelict vessels	Throughout coastal zone

2. Briefly explain why these are currently the most significant challenges related to marine debris in the coastal zone. Cite stakeholder input and/or existing reports or studies to support this assessment.

Interception and reduction of marine debris discharged from stormwater networks is a challenge. A project, Operation TRAP, is underway by the University of Florida and Florida Sea Grant, with support from the NOAA Marine Debris Program through Bipartisan Infrastructure Law funding. The project is working with local governments and APs to capture debris and reduce the quantity of litter entering Florida's AP waterways in the Big Bend and Nature Coast region of the Gulf Coast. Operation TRAP focuses on the installation of interception technologies, data collection, and community engagement to encourage the reduction of single use items. Multiple proven interception technologies are being deployed to capture items commonly washed downstream through stormwater runoff and drainage systems. This is a pilot project that will serve as a case study with the results packaged into a Municipality Toolkit to make it easier for other coastal communities to adopt similar practices. (NOAA, 2023)

Marine debris also poses economic challenges in Florida, where the coastline supports key industries, such as tourism, fishing and maritime industries. The accumulation of debris such as plastics, abandoned fishing gear, and other waste can harm marine ecosystems, reduce fish populations, and deter tourists from visiting beaches, leading to revenue losses for these industries, local businesses and communities. Additionally, municipalities incur costs for cleanup efforts to maintain aesthetics and environmental quality of Florida's beaches and waterways. These costs, combined with the broader economic consequences of diminished ecosystem services, underscore the need for strategies to address marine debris in Florida.

Since the last assessment, storm related marine debris continues to be an issue due to the increase in coastal storm frequency. The most notable storms that occurred since the last assessment include Hurricane Sally (2020), Hurricane Ian (2022), Hurricane Nicole (2022), Hurricane Idalia (2023), Hurricane Debby (2024), Hurricane Helene (2024), and Hurricane Milton (2024).

DVs are a significant problem along Florida's coast and waterways, as they pose both environmental and navigation hazards. DVs can physically damage benthic resources, such as seagrasses and corals. There have also been many documented cases of pollution caused by submerged DVs via the discharge of fuels, oils, and other toxins into Florida waters. Submerged DVs are a boating safety hazard and could be struck by commercial or recreational vessels. The locations of DVs are continually being monitored and added to the FWC's database and map (FWC, 2024). FWC's VTIP program has begun to make progress in removing vessels from the water before they become DVs.

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
Marine debris entering waters through stormwater	Frequency, location, and level of impact
Removal of marine debris from aquaculture after coastal storms	Research regarding Florida aquaculture marine debris and impacts to specific species and habitat, including types of debris, frequency of impact, and possible solutions.

In-Depth Management Characterization

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

1. For each additional marine debris 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 indicate if significant state- or territory-level changes (positive or negative) have occurred since the last assessment.

Significant Changes to Management of Marine Debris

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)
Marine debris research, assessment, monitoring	Y	Y	Y
Marine debris GIS mapping/database	Y	Y	Y
Marine debris technical assistance, education, and outreach	Y	Y	Y
Marine debris reduction programs (litter control, recycling, etc.)	Y	Y	Y
Other (please specify)	Y	Y	Y

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.

Marine Debris Research, Assessment, and Monitoring: See discussion above regarding Operation TRAP. (NOAA, 2023)

In addition, research was conducted to evaluate the benefits and challenges of drone use for marine debris monitoring and response. In 2024, research was completed comparing drone imagery and recent coastal aerial imagery to locate marine debris accumulation sites and resulting impacts to habitats. This was a Section 309 funded project.

Marine Debris GIS Mapping/Database: See above regarding discussion of the FWC's DV database and map (FWC, 2024)

Marine Debris Technical Assistance, Education, and Outreach: See discussion in the Phase I assessment above regarding the DEP *2024 Florida Marine Debris Removal Guidance - Methods and Techniques for the Removal of Non-Storm Debris from Marine Habitats.* (DEP, 2024) This was a Section 309 funded project.

Marine Debris Reduction Programs (Litter Control, Recycling, etc.): See discussion in the Phase I assessment above regarding various programs throughout Florida.

Marine Debris Storm Response: In 2024, NOAA updated the *Florida Marine Debris Emergency Response Guide: Comprehensive Guidance Document* (NOAA, 2024). This document provides a detailed listing of the roles and responsibilities of local, state, and federal agencies, as well as other entities. It also provides details on permitting and compliance requirements when responding to and removing debris from waterways in Florida. In 2024, NOAA also released the *Florida Marine Debris Emergency Response Guide: Field Reference Guide* which includes organization contacts and the information for quick reference in the field and during times of crisis, (NOAA, 2024a)

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 to reduce marine debris 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?

No studies completed since the last assessment.

Identification of Priorities

1. Considering changes in marine debris and marine debris management since the last assessment, as well as stakeholder input, identify and briefly describe the top one to three management priorities where there is the greatest opportunity for the CMP to improve the effectiveness of its management effort to better respond to the most significant marine debris challenges *(Approximately 1-3 sentences per management priority.)*

   Management Priority 1: ____Long-term and strategic planning_____

   Description: Develop a long-term and strategic plan that specifically studies how marine debris in Florida impacts wildlife and habitat. Using the data from the research, develop management strategies focusing on preserving wildlife and protecting resource from impacts from marine debris.

Educate target audiences on the consequences of marine debris (i.e., impact, prevention, reporting, disposal, and legal consequences) through local citizen, community-driven initiatives and approaches. Improve methods for preventing, identifying, assessing, and removing marine debris.

Management Priority 2: ___Marine debris entering waters through stormwater_____

Description: Marine Debris is introduced through stormwater systems that drain into Florida's coastal waters. Researching and testing methods of interception and prevention would provide insight into the management of this marine debris source.

Management Priority 3: ____Marine debris from aquaculture after coastal storms_____

Description: In Florida, due to the growing number of aquaculture farms, preventing and minimizing the introduction of marine debris from aquaculture after coastal storms is a priority. This is a management area that could benefit from further development to improve debris prevention and removal outcomes.

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	Y	New rapid assessment techniques using aerial and remote sensing technologies are needed.
Mapping/GIS	Y	Increased mapping is needed across all marine debris categories to identify marine debris "hot spots.
Data and information management	Y	Many data sources are incomplete. Need more comprehensive data regarding multiple marine debris categories.
Training/Capacity building	Y	Training of teams to rapidly deploy after storm events is needed.
Decision-support tools	Y	Advanced planning for marine debris emergencies needs to be further developed.
Communication and outreach	Y	Improvement on the public's ability to report marine debris with a reliable and quality-controlled program is needed.
Other (specify)	Y	New rapid assessment techniques using aerial and remote sensing technologies are needed.

Enhancement Area Strategy Development

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

Yes _____
No ___X__

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

Marine debris is identified as a high priority issue in Florida as evidenced by the many existing and developing statewide initiatives which attempt to mitigate marine debris and its negative impacts. At this time a strategy is not proposed. FFDEP will continue to work with agency partners to develop programs that increase public awareness and reduce waste streams to help bring focus to areas where change can be achieved to create the greatest potential positive effect.

References:

Florida Department of Environmental Protection [DEP], Coral Reef Conservation Program. (2021). 4th, 5th, & 6th Annual Southeast Florida Reef Cleanup Summary. Retrieved from website: https://floridadep.gov/sites/default/files/Year%204%2B5%2B6%20Cleanup%20Summary_Final_02.2021_508-compliant.pdf

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National Oceanic and Atmospheric Administration. [NOAA]. (2024a). Florida Marine Debris Emergency Response Guide: Field Reference Guide. Retrieved from website: https://marine-debris-site-s3fs.s3.us-west-1.amazonaws.com/s3fs-public/publications-files/FL%20Field%20Reference%20Guide%202024_FinalWeb.pdf?VersionId=0aatal3XX7yCt3GVhf0W_KJZzBX7UIdT

Special Area Management Planning

In-Depth Resource Characterization

Purpose: To determine key problems and opportunities regarding the preparation and implementation of special area management plans for important coastal areas.

1. What are the one to three most significant geographic areas facing existing or emerging challenges that would benefit from a new or revised special area management plan (SAMP) or better implementation of an existing SAMP? For example, are there areas where existing management approaches are not working and could be improved by better coordination across multiple levels of government? What challenges are these areas facing? Challenges can be a need for enhanced natural resource protection; use conflicts; coordinating regulatory processes or review; additional data or information needs; education and outreach regarding SAMP policies; or other (please specify).

	Geographic Scope (within an existing SAMP area (specify SAMP) or within new geographic area (describe new area))	**Challenges**
Geographic Area 1	Gulf Coast	Need to update SAMPs to help coordinate restoration efforts based on site specific resource assessments. This is an ongoing need and conditions change with major storm events and as new data comes on board.
Geographic Area 2	Communities and habitats vulnerable to sea level rise	Coastal flooding adaptation and implementation. This is an ongoing need. The work towards planning for sea level rise needs to be ongoing and updated with new data and changing conditions.
Geographic Area 3		

2. Briefly explain why these are currently the most significant challenges that may require developing a new SAMP, or revising or improving implementation of an existing SAMP. Cite stakeholder input and/or existing reports or studies to support this assessment.

Florida's existing SAMPs could benefit from site specific resource assessments to inform regulatory and planning decisions. The Resources and Ecosystems Sustainability, Tourist Opportunities, and Revived Economies of the Gulf Coast States Act (RESTORE) of 2012 established the Gulf Coast Restoration Trust Fund for restoration projects, and multiple initiatives have begun to plan and construct restoration priorities for habitats, species, and public access. Existing SAMPs are being utilized to inform this prioritization process, making updated plans beneficial to a Gulf-wide effort. RESTORE funded projects have been distributed throughout the Florida Gulf Coast counties. Many SAMPs may be affected by these restoration projects.

Florida's low elevation and proximity of fresh water sources to the ocean make it particularly vulnerable to sea level rise. New or revised SAMPs that incorporate adaptation to future flooding and sea level rise will help manage the built infrastructure and natural resources of Florida's coastal communities.

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
Sea level rise	Sea level rise continues to be an emerging and ongoing issue as it affects each of Florida's coastal communities and counties differently. Although sea level rise research has increased over the past five years, there is an ongoing need for improved data to support updates to models and data layers. Increased accuracy in future sea level rise predictions will assist in analyzing impacted habitats and built infrastructure vulnerability.
Apalachicola oyster reefs	The Apalachicola Bay has experienced continual environmental and human stressors that have resulted in the decline in the number of oyster reefs present resulting in a prohibition on wild oyster harvesting through 2025. These stressors included a degradation in water quality, sea level rise, and increased salinity. Analysis of the multiple sources of stressors affecting Apalachicola's economically important oyster reefs and strategies to reduce their impact are needed to maintain the Apalachicola ecosystem and to turn Apalachicola Bay into a sustainable oyster fishery once wild oyster harvesting is reopened in January 2026.

In-Depth Management Characterization

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

1. For each additional SAMP 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 Related to 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 research, assessment, monitoring	Y	Y	Y
SAMP GIS mapping/database	Y	Y	Y
SAMP technical assistance, education, and outreach	Y	Y	Y
Other (please specify)			

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.

New and/or updated SAMPs have utilized a variety of research, assessment and monitoring procedures, mapping/database development, technical assistance, education, and outreach methods since the last assessment. See Phase I Management Characterization for a listing of the individual SAMPs that have been updated since the last assessment.

3. Identify and describe the conclusions of any studies that have been done that illustrate the effectiveness of the state's or territory's special area management planning efforts 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?

Special area management planning is used widely throughout the state of Florida to manage user conflicts and protect natural resources. However, no studies have been conducted on a statewide basis to evaluate these plans.

The FCMP conducted interviews in 2021 and 2022 with AP, Buffer Preserve, and NERR staff members to learn about existing and anticipated sea level rise threats in their areas and determine potential future management strategies. A report was written to summarize the information provided in the preserve staff interviews and to provide adaptation strategies and suggested performance measures for future management plans.

Identification of Priorities

1. Considering changes with coastal resource protection or coastal use conflicts within defined geographic areas, special area management planning activities 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 their ability to prepare and implement special area management plans to effectively manage important coastal areas *(Approximately 1-3 sentences per management priority.)*

    Management Priority 1: ____Local Adaptation Planning_____

    Description: Local regulation and comprehensive planning can be the best sources to address adaptation and management for coastal zones and natural hazards. Typically, this type of planning can directly reflect the overarching goals of the community. While the Resilient Florida Program provides financial grant assistance and the FCMP currently provides some technical and financial assistance to communities to address coastal hazard risks, the FCMP program recognizes that local adaptation planning is not a one size fits all approach with regard to incorporating resilience into local planning and budgeting. The use and incorporation of site-specific resource data and sea level rise data that is continuously being updated and processed needs to be included in the planning efforts.

Management Priority 2: ____Ongoing Update of Existing Management Plans_____

Description: The management of Florida's 43 APs is integral to the effectiveness of the FCMP. There is an ongoing need to update AP management plans, which will improve the management of these special areas. This also includes the updating of the state park UMPs within the coastal zones.

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	Y	There is an ongoing need on a state and local level for research on the status and trends of geographic areas with special area management. Updated research will provide improved vulnerability assessments, identify conflicts, and assist in the develop of a special area management plan specific to the geographic area.
Mapping/GIS	Y	As more recent and accurate research and data becomes available there is an ongoing need to update maps, GIS databases, and models with improved data layers. Mapping improvements will assist in hazard identification, sea level rise vulnerability assessments, resource assessments, and monitoring of aquatic managed areas.
Data and information management	Y	Continual data and information management is needed to provide readily accessible and accurate information at a state and local level. Improvement of data and information management will assist in management decisions and coordinate restoration projects.
Training/Capacity building	Y	As there is an increased accuracy of data and improvement to decision support tools, there is an ongoing need to assist local communities with incorporation of adaptation initiatives into local plans and budgeting.
Decision-support tools	Y	There is an ongoing need to coordinate public and private partners to integrate and consolidate risk assessment information into one or more unified decision-support tools. Continual tool improvements will assist in planning by supporting adaptative plans.
Communication and outreach	Y	Ongoing outreach to local governments and professional organizations is needed to implement adaptation action in local communities. Comprehensive resource assessments need to be publicly available to identify and inform others of the local hazards and management strategies being implemented.
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.

   SAMP is indicated as a high priority enhancement area for the FCMP as it is used widely throughout the state of Florida to manage user conflicts and protect natural resources. As seen in the many updated management plans listed above, Florida maintains an emphasis on site-specific management planning. Several strategies will incorporate SAMP as a core component.

Ocean and Great Lakes Resources

In-Depth Resource Characterization

Purpose: To determine key problems and opportunities to enhance the ability of state CMP to better address ocean and Great Lakes resources.

1. What are the three most significant existing or emerging stressors or threats to ocean and Great Lakes resources within your coastal zone? Indicate the geographic scope of the stressor, i.e., is it prevalent throughout the coastal zone, or are specific areas most threatened? Stressors can be land-based development; offshore development (including pipelines, cables); offshore energy production; polluted runoff; invasive species; fishing (commercial and/or recreational); aquaculture; recreation; marine transportation; dredging; sand or mineral extraction; ocean acidification; or other (please specify).

	Stressor/Threat	Geographic Scope (throughout coastal zone or specific areas most threatened)
Stressor 1	Residential and Commercial Development	Throughout coastal zone
Stressor 2	Biological Resource Use	Throughout coastal zone
Stressor 3	Human Intrusion and Disturbance	Throughout coastal zone

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

In the 2019 Florida SWAP, marine threats were listed and prioritized. Based on this study, the greatest threat to marine ecosystems was identified as residential and commercial development. Biological resource use was the second threat to marine ecosystems identified in the SWAP. This includes harvesting biological resources (deliberate and unintentional) to consume or control of specific species. Lastly, human intrusions and disturbances were identified in the SWAP as the third leading threat to marine ecosystems. Although tourism is a driving factor in Florida's economy, certain human activities can alter, destroy and disrupt habitats and species. Marine habitats can be impacted by humans from boating, swimming, snorkeling, SCUBA diving and other marine related activities.

The SWAP Implementation Goals direct and provide opportunities for partners to coordinate on conservation priorities. The following Implementation Goals and objectives will be achieved through State Wildlife Grant funding cycles, with projects beginning in 2024: Goal 1, Ecosystem Quality, Extent, Connectivity; and Goal 2, Species Viability and Resiliency. (FWC, 2024)

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
Sea Level Rise and Other Climatic Factors	Ongoing need for studies to examine the impacts of associated changes in sea level rise, precipitation and hydrological regimes, saline conditions, and temperature regimes.
Ocean acidification	Analysis of ocean acidification impacts on marine life, especially that of shellfish and corals.

Emerging Issue	Information Needed
Indian River Lagoon system	Research on multiple sources of water quality stressors contributing to harmful algal blooms, seagrass die-offs, and contamination and mortality of marine life.
Apalachicola oyster reefs	Analysis of effects of oyster harvest prohibition on oyster populations, water quality, and other natural communities. Further analysis of potential stressors, including environmental change and water quality, which have resulted in mass loss of oyster reefs.
Algal blooms	Research and evaluation of efforts related to algal blooms in relation to human activities and natural events.
Coral loss and disease	Further research to identify potential relationships with pathogens and environmental factors, strategies to treat infected colonies, and identification of disease resistant genotypes.

In-Depth Management Characterization

Purpose: To determine the effectiveness of management efforts to address identified problems related to the ocean and Great Lakes resources enhancement objective.

1. For each of the additional ocean and Great Lakes resources management categories below that were 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 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)
Ocean and Great Lakes research, assessment, monitoring	Y	Y	Y
Ocean and Great Lakes GIS mapping/database	Y	Y	Y
Ocean and Great Lakes technical assistance, education, and outreach	Y	Y	N
Other (please specify)			

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.

Statewide Ecosystem Assessment of Coastal and Aquatic Resources (SEACAR): The SEACAR project is a 309 funded project aimed to help guide the assessment process, generate communication and engagement activities, and identify the use of ocean resources within Florida. SEACAR's geographic scope covers the RCP managed areas and priority habitats. The following aquatic habitats are included in the assessment: water column, submerged aquatic vegetation, oyster reefs, coastal wetlands, and coral reefs. SEACAR provides status and trends reporting through web-based access to data and assessments from over 150 research studies and monitoring programs. These products are found on a public, user-friendly database with links to data and mapping features. (DEP, 2024) (DEP, 2024a)

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 planning for the use of ocean and Great Lakes resources 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?

While a variety of state agencies and programs address the management of ocean resources, no studies have been conducted on a statewide basis to evaluate these programs. Studies have been funded that evaluate particular areas but not a comprehensive review of effectiveness.

Identification of Priorities

1. Considering changes in threats to ocean and Great Lakes resources and 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 effectively plan for the use of ocean and Great Lakes resources. *(Approximately 1-3 sentences per management priority.)*

   Management Priority 1: ___Holistic Management of Florida's Coral Reef_____

   Description: Use science-based decision making to guide holistic coral reef ecosystem management and policy on cross-jurisdictional coral reef issues, with a focus on ecosystem restoration and water quality.

   Management Priority 2: __Coordination and Information Sharing _____

   Description: There is an ongoing need to continue coordination and information sharing for research, monitoring, and management across all categories of ocean resources. This includes participation in regular topic-related meetings to ensure efficient information sharing, maintaining key stakeholder partnerships, aligning management, research, and priorities with local, state, and federal partners.

   Management Priority 3: ____Update Existing Management Plans_____

   Description: The cohesive management of Florida's 43 APs is an essential aspect to the overall effectiveness of the FCMP. There is an ongoing need to update AP management plans, which will improve the FCMP's ability to manage ocean resources

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	Y	Ongoing need for the assessment of the impacts of sea level rise, ocean acidification, changes in precipitation and hydrological regimes, saline conditions, and temperature regimes. Ongoing need for water quality monitoring and its effects on ocean resources, particularly in Biscayne Bay, the Indian River Lagoon system, and Apalachicola Bay. Need for assessment of water quality and its effects on prolonged algal blooms. Need for assessment of causes of coral loss and Stony Coral Tissue Loss Disease.
Mapping/GIS	Y	As there is an increase in accuracy and availability of ocean resource data, there is an ongoing need to update and enhance current mapping projects. These include providing updated maps on restoration projects, coral loss, wetland coverage, intertidal and subtidal habitats, inundation from sea level rise, and other significant ocean resources statuses on a state and local level.
Data and information management	Y	Need for continual updates on the status of ocean resources at state and local scales in order to establish appropriate management decisions and evaluations.
Training/Capacity building	Y	There is an ongoing need to train local and state decision makers on resource assessment tools and management strategies available as the status and trends of ocean resources continues to be updated. Conduct training for land/resource managers and law enforcement officials to better protect cultural resources.
Decision-support tools	Y	Continual need for state and local ocean resource assessments to aid in appropriate government and management decision making.
Communication and outreach	Y	As the status and trends of ocean resources continues to be updated there is an ongoing need to compile publicly available resource assessments on a state and local level. The assessments can then be utilized in public outreach to introduce management strategies that can reduce the impact and threats to ocean resources.
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.

There are many significant issues within the Ocean Resources enhancement area that will be identified as the target for a strategy or incorporated into strategies. This enhancement area is wide ranging and contains many of the highest priority single issues, including monitoring and management of coastal biological communities and water quality.

References:

Florida Department of Environmental Protection. [DEP]. (2024). Statewide Ecosystem Assessment of Coastal and Aquatic Resources (SEACAR). Retrieved from website: https://floridadep.gov/SEACAR

Florida Department of Environmental Protection. [DEP]. (2024a). SEACAR Data Discovery. Retrieved from website: https://data.florida-seacar.org/

Florida Fish and Wildlife Conservation Commission. [FWC]. (2024). Florida's State Wildlife Action Plan (SWAP). Retrieved from website: https://myfwc.com/conservation/special-initiatives/swap/

Aquaculture

In-Depth Resource Characterization

Purpose: To determine key problems and opportunities for facilitating the siting of aquaculture facilities in the coastal zone.

1. What are the three most significant existing or emerging challenges to facilitating the siting of aquaculture facilities within the coastal zone? Indicate the geographic scope of the challenge, i.e., is it prevalent throughout the coastal zone or are specific areas most threatened? Challenges can be conflicting uses; coastal resource impacts; coordinating regulatory processes or review; insufficient data; natural disasters; or other (please specify).

	Challenges	**Geographic Scope** (throughout coastal zone or specific areas most threatened)
Challenge 1	Lease areas not available in all counties	Throughout coastal zone
Challenge 2	Conflicting use	Throughout coastal zone
Challenge 3	Insufficient data	Throughout coastal zone

2. Briefly explain why these are currently the most significant challenges to facilitating the siting of aquaculture facilities in the coastal zone. Cite stakeholder input and/or existing reports or studies to support this assessment.

Aquaculture lease areas are not located in the waters offshore of Okaloosa, Walton, Jefferson, Taylor, Dixie, Citrus, Hernando, Pasco, Hillsborough, Sarasota, Nassau, Duval, Flagler, St. Lucie, Martin, and Miami-Dade counties. (DACS, 2024)

Sites that are not a vacant parcel within an 'aquaculture use zone' will be reviewed for potential use conflicts such as riparian rights issues, zoning and other local ordinances, accessibility, navigation and public safety. (DACS, 2024)

Insufficient data such as water quality monitoring and existing natural resources may delay review and approval of new sites. (DACS, 2024)

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**
Aquaculture marine debris after storms	Assessment tools, monitoring and BMPs
Shellfish mortality events	Research funding; equipment; staffing
Apalachicola oyster reefs	Monitoring and research once wild oyster harvesting is reopened in January 2026.

In-Depth Management Characterization

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

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

Significant Changes to Aquaculture Management

Management Category	Employed by the State (Y or N)	CMP Provides Assistance to Locals that Employ (Y or N)	Significant Changes Since Last Assessment (Y or N)
Aquaculture research, assessment, monitoring	Y	N	N
Aquaculture GIS mapping/database	Y	N	N
Aquaculture technical assistance, education, and outreach	Y	N	N
Other (please specify)			

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.

No management categories have significant changes since the last assessment.

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 to facilitate the siting of aquaculture facilities 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?

A study published in 2023 by NOAA, with assistance from DACS, investigated specific coastal ocean areas using spatial planning analysis to determine potential areas for future aquaculture operations along Florida's Gulf coast (up to 9 nautical miles offshore). The analysis found 34 potentially suitable sites in Florida state waters between Pensacola and Venice. The sites ranged in size from 204 to 7,407 acres, totaling 54,904 acres. This study indicates that additional areas may be able to be opened as future aquaculture use zones. The study notes that the work performed is concurrent with initiatives led by DACS to further identify growth sectors and opportunities for the aquaculture industry that align with industry and stakeholder interests. (Riley, et. al., 2023)

A study published by a variety of academic interests in 2023 examined the integration of stakeholder concerns into aquaculture development for facilities offshore of the Florida Gulf Coast. The study found that to gain social acceptance of offshore facilities, industry and government agencies will need to better incorporate public feedback into planning processes in a meaningful way. The study speaks to securing a 'social license' by consulting local communities and adapting projects in response to their concerns. (Guthrie, et. al., 2023)

While not a study, DACS provides information on the location of currently sited aquaculture facilities and how to site a new facility on their webpage. This information has been newly developed since the last assessment. (DACS, 2024)

Identification of Priorities

1. Considering changes in aquaculture activities, the management of these activities 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 the effectiveness of its management effort to better respond to the most significant aquaculture challenges. *(Approximately 1-3 sentences per management priority.)*

   Management Priority 1: ____Marine debris from aquaculture after coastal storms_____

   Description: In Florida, due to the growing number of aquaculture farms, preventing and minimizing the introduction of marine debris from aquaculture after coastal storms is a priority. This is a management area that could benefit from further development to improve debris prevention and removal outcomes.

   Management Priority 2: _____

   Description:

   Management Priority 3: _____

   Description:

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	As there is an increase in accuracy and availability of aquaculture data, there is an ongoing need to update and enhance current mapping projects.
Data and information management	Y	Need for continual updates on the status of aquaculture at state and local scales to establish appropriate management decisions and evaluations.
Training/Capacity building	N	
Decision-support tools	N	
Communication and outreach	Y	Ongoing outreach to stakeholder groups to inform and educate on aquaculture issues is needed.
Other (specify)		

Enhancement Area Strategy Development

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

Yes	_____
No	___X___

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

Aquaculture continues to expand in Florida, in both open water and land-based facilities. In addition, aquaculture continues to provide important economic, social, and environmental benefits while protecting and enhancing commercial and recreational fisheries. Environmental impacts are mitigated through regulatory oversight and coordination with managed preserve areas. FCMP will continue coordination with DACS Division of Aquaculture but does not contemplate initiating a strategy.

References:

Florida Department of Agriculture and Consumer Services. [DACS]. (2024). Aquaculture. Retrieved from website: https://www.fdacs.gov/Agriculture-Industry/Aquaculture

Guthrie, A. G., Barbour, N., Cannon, S. E., Marriott, S. E., Racine, P., Young, R., Bae, A., Lester, S. E., & Michaelis, A. [Guthrie, et. al.]. (2023). Assessing socio-environmental suitability and social license of proposed offshore aquaculture development: A Florida case study. Retrieved from website: https://doi.org/10.1111/jwas.13031

Riley, Kenneth L. et al. [Riley, et. al.]. (2023.) Aquaculture Spatial Planning in Florida : A Pilot Study to Assess Potential Offshore Aquaculture Zones along Florida's Gulf Coast. Retrieved from website: https://doi.org/10.25923/rrqv-3s98

Strategies

Strategy: Collaboration between SEACAR and the Integrated Mapping and Monitoring Programs to Improve Management and Monitoring in Florida's Coastal Ecosystems

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
- ☐ Coastal Hazards
- ☒ Ocean/Great Lakes Resources
- ☒ Special Area Management Planning
- ☐ Cumulative and Secondary Impacts
- ☐ 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
- ☐ Cumulative and Secondary Impacts
- ☒ Wetlands
- ☐ Marine Debris
- ☐ Public Access

II. Strategy Description

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

☐ A change to coastal zone boundaries;

☒ New or revised authorities, including statutes, regulations, enforceable policies, administrative decisions, executive orders, and memoranda of agreement/understanding;

☐ New or revised local coastal programs and implementing ordinances;

☐ New or revised coastal land acquisition, management, and restoration programs;

☒ New or revised special area management plans (SAMP) or plans for areas of particular concern (APC) including enforceable policies and other necessary implementation mechanisms or criteria and procedures for designating and managing APCs; and,

☒ 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:*** *State the goal of the strategy for the five-year assessment period. The goal should be the specific program change to be achieved or be a statement describing the results of the project, with the expectation that achieving the goal would eventually lead to a program change. For strategies that implement an existing program change, the goal should be a specific implementation milestone. For example, work with three communities to develop revised draft comprehensive plans that consider future sea level rise or, based on research and policy analysis,*

present proposed legislation on wetland buffers to the state legislature for consideration. Rather than a lofty statement, the goal should be achievable within the time frame of the strategy.

In Florida numerous agencies across all levels of government, universities, and non-governmental organizations (NGOs) collect environmental monitoring data about the state's natural resources. The DEP is charged with protecting, conserving, and managing the state's natural resources, and the Fish and Wildlife Research Institute (FWRI), part of the Florida Fish and Wildlife Conservation Commission (FWC), is responsible for providing timely information and guidance to protect, conserve, and manage Florida's fish and wildlife resources. DEP and FWRI, along with other agencies, work in concert to collect, standardize, and distribute data and reports based on their monitoring. However, due to overlap in agency missions and authorities, there is potential for duplication of work in these efforts. Additionally, the technical reports compiled from these data sets are time-consuming to publish, limiting the frequency of updates. The Statewide Ecosystem Assessment of Coastal and Aquatic Resources (SEACAR) program has a history and track record of successfully leveraging existing partnerships and completing significant data compilation and standardization. The partner agencies seek to streamline the reporting process through this strategy to reduce the report compilation timeline, allowing for adaptive management that can be applied statewide in aquatic preserves and other managed areas, fisheries, and natural resources. After laying the groundwork through this strategy, it is envisioned that the two agencies will enter into an MOA or MOU to document the continued efforts that will both improve natural resource data collection/dissemination and reduce duplication of efforts.

This strategy will automate data sharing methods, enabling more rapid updates to FWC/FWRI's statewide Integrated Mapping and Monitoring Program (IMMP) reports and improving cross-collaboration between statewide data providers. Through this collaborative effort, information-sharing and data compilation between SEACAR and the IMMPs will be streamlined and improved. This collaboration is designed to broadly disseminate coastal habitat maps, monitoring data, threats, and recommendations to relevant statewide managers. Coastal habitats will include Florida's coastal wetlands (the focus of the Coastal Habitat Integrated Mapping and Monitoring Program, CHIMMP), oyster reefs (Oyster Integrated Mapping and Monitoring Program, OIMMP), and seagrass beds (Seagrass Integrated Mapping and Monitoring (SIMM) program). This five-year period will focus on updating and broadly disseminating the compiled information on coastal habitat mapping, monitoring, threats, and recommendations to relevant statewide managers.

The CHIMMP and OIMMP reports document statuses, trends, and extents of coastal wetlands and oyster reefs in regional chapters. They also document regional threats, list mapping and monitoring programs, and provide a list of recommendations for management and filling of data gaps. Version 1 of the CHIMMP report was published in 2017, and Version 1 of the OIMMP report was published in 2019. Both were written in partnership with dozens of statewide experts. Version 2 of the reports are underway, and updated chapters are published on the program websites (CHIMMP and OIMMP). These technical reports, as well as statewide oyster mapping products maintained by OIMMP, have served as key information-sharing resources describing the status, trend, and available data for coastal habitats in Florida.

Completion of version 2 of the CHIMMP and OIMMP statewide reports will serve as a necessary step towards synchronization and collaboration between SEACAR and IMMP data products. The strategy will establish standardized data import tables for data providers and customized SEACAR data export tables to enable more rapid updates to future IMMP chapters. Through a combination

of interagency collaboration and workshops, the strategy will identify and implement streamlined and automated methods to share data between SEACAR and IMMP, allowing for automated creation of figures, maps, and reports. This will allow for more rapid dissemination of recent coastal habitat data to statewide managers, which will minimize duplication of work and maximize opportunities for collaboration across agencies in Florida.

C. Description *Describe the proposed strategy and how the strategy will lead to and/or implement the program changes selected above. If the strategy will only involve implementation activities, briefly describe the program change that has already been adopted, and how the proposed activities will further that program change. (Note that implementation strategies are not to exceed two years.)*

Timely dissemination of scientific data is a continuing priority for coastal habitat management in Florida. The FWC/FWRI process to publish a technical report requires 6-12 months of writing, reviewing, and editing/layout per chapter. Completion of an entire CHIMMP or OIMMP report takes years, which delays the dissemination of data. This proposal will assist in: (a) identifying and implementing processes to pull citations and data summaries from the DDI for report inclusion; (b) implementing streamlined and automated formatting processes for chapter text, figures, and maps; all while, (c) continuing to work with local experts and managers as chapter coauthors in order to incorporate local knowledge. IMMP chapters are broadly used by researchers and managers across the state. More rapid updates will enable sharing of more recent status updates and monitoring data to decision makers.

This strategy will leverage and build on the knowledge gained through the well-established network of collaborators that has been assembled during the previous years of the SEACAR and IMMP projects.

In another effort to broadly share coastal habitat information, three workshops with in-person and/or remote options will be held as part of the proposed project. Workshops will follow a similar format as previous workshops hosted by the IMMPs and SEACAR. Workshops will include presentations from statewide coastal wetland or oyster experts on their mapping and monitoring programs. Workshops will specifically focus on disseminating the knowledge that has been compiled during the IMMP regional chapter revisions and make plans for continued coordination of mapping and monitoring efforts. These efforts will pull partners together to determine how the data gathered and disseminated by the IMMPs can support habitat assessments for species of greatest conservation need (SGCN) and other managed species. In addition to the workshops, regular email communications will be maintained with statewide IMMP collaborators to announce publications, mapping updates, and other important updates relevant to the coastal habitat community. IMMP project staff will also attend other regional workshops organized by partner organizations. Finally, the statewide maps Oyster Beds in Florida (which provides the most up-to-date map of live oysters in Florida) and the Index of Oyster Maps in Florida (which includes all known oyster maps) will be updated as new maps become available.

III. Needs and Gaps Addressed *Identify what priority needs and gaps the strategy addresses, and explain why the proposed program change or implementation activities are the most appropriate means to address said needs and gaps. This discussion should reference the key findings of the assessment and explain how the strategy addresses those findings.*

CHIMMP was initiated in 2013. OIMMP was initiated in 2015, following requests at CHIMMP workshops to develop a similar effort for oysters. Now both programs support the conservation actions in the 2019 State Wildlife Action Plan and FWC's Landscape Conservation Strategic Initiative (see 2019 Action Plan, Chapter 5). Data products from the IMMPs are widely used by researchers and managers, as coastal wetlands, oyster reefs, and seagrass beds are all critical coastal habitats for commercially and recreationally important fish species. The information compiled by CHIMMP and SIMM is directly used by the FWC's Department of Marine Fisheries Management to assist in tracking habitat location and status over time. For instance, Red Drum and Snook heavily rely on coastal wetlands and seagrasses as nursery habitat. Therefore, FWC's regional management of Red Drum and Snook is broken down into areas largely based on the CHIMMP regions, which enables the annual reviews of the status and trends for these species to also document changes in salt marsh and mangrove habitat over time following CHIMMP-generated acreage assessments. Also, the Oyster Beds in Florida, which is actively maintained and updated by OIMMP, is the only complete statewide map of oyster reefs in Florida. This map is used by numerous end-users, including restoration practitioners, FWC's Division of Marine Fisheries Management, and SEACAR to identify monitoring on particular reefs.

IV. Benefits to Coastal Management *Discuss the anticipated effect of the strategy, including the scope and value of the strategy, in advancing improvements in the CMP and coastal management, in general.*

Oyster reefs, coastal wetlands, and seagrass beds comprise important sub- and intertidal habitats along the coast of Florida. The 2019 State Wildlife Action Plan recognizes that these intertidal habitats are home to approximately 110 SGCN in Florida. Along with providing critical habitat for many economically important and protected species, these coastal habitats also provide vital ecosystem services and have high intrinsic economic value. Partnerships initiated through the IMMP networks have led to collaborative efforts such as a monitoring project to determine best substrates for artificial oyster reef creation in Tampa Bay (Adams et al. 2021 and Radabaugh et al. in press in Marine Ecology Progress Series), a long-term coastal wetland monitoring program in Tampa Bay (the Critical Coastal Habitat Assessment program), contributions to the Florida Oyster Recovery and Science working group, and calculation of statewide or regional acreage trends as requested by FWC and DEP managers. OIMMP also continues to fill a data need by actively maintaining the only statewide oyster map as well as an interactive online Index of Oyster Maps in Florida to provide a record of all available oyster maps in Florida. OIMMP has also compiled county-specific historical oyster harvest data, which was typed from paper copies of the Florida Commercial Marine Fish Landings publications from 1950 to 1983 and is available online in the Appendix of the OIMMP report and in excel format. OIMMP personnel are collaborating with the Molluscan Fisheries group at FWRI in a separately funded project to map, monitor, and create habitat suitability indices to guide oyster restoration in several bays along the Florida Gulf Coast. Other separately funded efforts by CHIMMP principal investigators (PIs) have provided monitoring information that has been shared with coastal wetland experts and land managers via the CHIMMP report and workshops. These efforts include monitoring mangrove damage and recovery following Hurricanes Irma and Ian, studying mangrove stress in areas of altered hydrology, and monitoring the recovery of stressed ecosystems following restoration.

This strategy will improve timely distribution of and access to these critical data and reports, allowing for more immediate and effective adaptive management of the state's natural resources.

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

The likelihood of success for this strategy is high, due to the agencies' established record of successful project implementation and support at the administration level for these efforts. FWRI has successfully completed statewide reports**,** including version 1 CHIMMP and OIMMP reports published in 2017 and 2019, respectively. CHIMMP and OIMMP are well-positioned to complete Version 2 of the statewide IMMP reports. Nine CHIMMP chapter updates have already been web-published and two more updates are well underway, leaving only three remaining chapters. Six OIMMP chapter updates have been web-published and three more updates are underway, leaving only two remaining chapters.

SEACAR has already successfully developed and initiated report automation through trend analyses and managed area reports, available at https://github.com/FloridaSEACAR. The ability to rapidly compile and update standardized graphs, maps, reports, and citations, will help to accelerate the IMMP report revision process.

Information sharing is a key component to this strategy. Five OIMMP, five CHIMMP, and six SEACAR workshops have previously been hosted for Florida coastal habitat experts. Workshops included in-person and remote options and the agenda included presentations by statewide experts and breakout groups. Workshops are widely attended, with the last OIMMP workshop attended by a total of 134 people. PowerPoints and agendas from workshop presentations are available online at the CHIMMP resource website, the OIMMP resource website, and SEACAR resource website. OIMMP and CHIMMP already have active email lists, and OIMMP currently maintains statewide oyster maps with assistance from FWC/FWRI's GIS group. The SEACAR DDI collects, standardizes, and disseminates data from over 40 partner agencies.

VI. Strategy Work Plan *Using the template below, provide a general work plan that includes the major steps that will lead toward or achieve a program change or implement a previously achieved program change. For example, even if the final adoption of the program change is outside of the CMP's control, what steps will be included in the work plan so the CMP ensures the program change is considered, reviewed, and hopefully adopted by the outside entity? Who are the other stakeholders or elected officials that need to be engaged, and how and when during the strategy development process? What is the decision-making or voting process that is involved in the adoption of the program change, and how will the CMP interact with this process to ensure that the proposed program change is considered? If the state intends to fund implementation activities for the proposed program change, describe those in the plan as well. The plan should identify a schedule for completing the strategy and include major projected milestones (key products, deliverables, activities, and decisions) and budget estimates. If an activity will span two or more years, it can be combined into one entry (i.e., Years 2-3 rather than Year 2 and then Year 3). While the annual milestones are a useful guide to ensure the strategy remains on track, OCM recognizes that they may change somewhat over the course of the five-year strategy due to unforeseen circumstances. The same holds true for the annual budget estimates. Further detailing and adjustment of annual activities, milestones, and budgets will be determined through the annual cooperative agreement negotiation process.*

Strategy Goal: Automate data sharing methods to enable more rapid updates to FWC/FWRI's statewide IMMP reports and improve cross-collaboration between statewide data providers

Total Years: 5

Total Budget: $816.235

Year: 1

Description of activities: FWC will work with collaborators to finalize version 2 of the CHIMMP and OIMMP statewide report. Coauthors will provide regional descriptions of coastal habitat status, trends, mapping and monitoring programs, threats, and recommendations. The final reports will be used as a template for the development of the automations process. A workshop focused on Florida's coastal wetlands will be held to disseminate information and gather feedback on automation of the statewide reports. Programs will be identified that are in the OIMMP, CHIMMP, and SIMM reports, but are not contributing to SEACAR and vice versa. An outline of the necessary steps required to move towards synchronization and collaboration between the SEACAR data discovery interface and IMMP teams and products will be developed.

Major Milestone(s): Publish CHIMMP and OIMMP version 2 reports in collaboration with coauthors (printed copies and online). Document programs contributing to IMMP and SEACAR. Host coastal wetlands in Florida workshop. Create an outline of steps necessary towards synchronization and collaboration between SEACAR and IMMP data products.

Budget: $163,247

Year: 2

Description of activities: The project team will begin investigation and implementation of methods to improve automation and speed of information sharing for the IMMP report development. Automations to be explored will include incorporating citations and data summaries from the SEACAR DDI and incorporating habitat specific online data and mapping information, such as fisheries data for the OIMMP reports. Data providers for programs identified in Year 1 as missing from SEACAR or IMMP will be contacted and provided with resources for how they can be included in the programs and protocols will be established to ensure data providers to both programs are captured and receive information about the projects and collaborations. Additionally, some programs only have spatial data. The SEACAR team will work to develop methods to incorporate these programs into program lists and mapping products.

Major Milestone(s): Investigate and implement methods to improve automation and speed of information sharing for IMMP reports. Load available data from programs identified in Year 1. Establish a protocol for ensuring data providers to both programs are captured and receive information about the projects and collaborations.

Budget: $163,247

Year: 3

Description of activities: The project team will facilitate a workshop focused on oysters in Florida to disseminate information and gather feedback on the automation of the statewide reports. The following activities will take place: continue implementing methods to improve information sharing and automation of the IMMP reports; develop an automation process for integration of the Oyster Beds in Florida, shellfish harvesting, and coastal wetlands (statewide land use land cover) data and maps; calculate saltmarsh and mangrove change over time to assess resiliency and coastal hazards using integrated data and maps; utilize SEACAR program summaries for IMMP project descriptions; and, identify additional sections of the report for the integration of logic scripting to improve efficiency in updating the reports.

Major Milestone(s): Host an oysters in Florida workshop. Continue implementing methods to improve automation of IMMP reports and speed of information sharing for updates. Integrate Oyster Beds in Florida, shellfish harvesting, and coastal wetlands (statewide land use land cover) data and maps. Provide program summaries utilizing information available in SEACAR for IMMP reports. Integrate spatial data, from programs that lack data loads, into program pages.

Budget: $163,247

Year: 4

Description of activities: A coastal wetlands in Florida workshop will be hosted to share progress on the automation of the IMMP reports and get user feedback on development and formatting. Region-specific hurricane descriptions from NOAA/National Hurricane Center (NHC) reports (including information such as category and location of landfall, wind speed, and storm surge) will be automated for inclusion in the IMMP chapters. Report formatting will be automated to establish a user-friendly document that will provide consistent, up-to-date information for adaptive management and restoration needs.

Major Milestone(s): Continue implementing streamlined and automated formatting processes for chapter text and maps. Automate hurricane descriptions. Host a coastal wetlands in Florida workshop. Develop automated maps to show data availability.

Budget: $163,247

Year: 5

Description of activities: The automated IMMP reports will be rendered. FWC and DEP will determine the frequency for updating the automated reports based on resources, management needs, and data availability. The report template and products will be shared with coauthors and stakeholders.

Major Milestone(s): Complete guidance from FWC and DEP on the frequency for updating the automated reports. Finalize the report template and rendered product(s).

Budget: $163,247

VII. Fiscal and Technical Needs

A. Fiscal Needs: *If 309 funding is not sufficient to carry out the proposed strategy, identify additional funding needs. Provide a brief description of what efforts the CMP has made, if any, to secure additional state funds from the legislature and/or from other sources to support this strategy.*

The funding should be sufficient to complete this project due to the ability to leverage other existing state funds for critical steps detailed below:

- The Seagrass Integrated Mapping and Monitoring program is financially supported by a recurring State of Florida Legislative Budget Request allocated to FWC/FWRI. Thus, funding is not requested here for SIMM reports or workshops. SIMM is primarily relevant to this project as SIMM PIs will collaborate with SEACAR to improve additions of seagrass data to the SEACAR database.
- CHIMMP and OIMMP are currently funded by Florida's State Wildlife Grant (SWG) award F23AF02628 through December 2025. A continuation of CHIMMP and OIMMP funding has been recommended by the SWG 2024 grant cycle to the USFWS for funding from FY2025-2028. If this funding is received, it will support completion of the Version 2 reports, OIMMP and CHIMMP workshops, coastal wetland field monitoring, and completion of oyster habitat mapping in one area of need in Florida. The goals presented here can still be completed if SWG funding is not received.

B. Technical Needs: *If the state does not possess the technical knowledge, skills, or equipment to carry out all or part of the proposed strategy, identify these needs. Provide a brief description of what efforts the CMP has made, if any, to obtain the trained personnel or equipment needed (for example, through agreements with other state agencies).*

FWC and FWRI possess the technical knowledge and staffing necessary to analyze data, develop maps, write chapters, format chapters, and web-publish results. FWC and FWRI employ experts in ArcGIS, technical writing, editing, website design, and publishing. Some needs (e.g., printing) may be completed outside of the agency. DEP and its contractors possess the technical knowledge necessary to continue to manage SEACAR and make modifications and improvements necessary to meet the goals of this strategy.

VIII. Projects of Special Merit (Optional)

If desired, briefly state what projects of special merit the CMP may wish to pursue to augment this strategy. (Any activities that are necessary to achieve the program change or that the state intends to support with baseline funding should be included in the strategy above.) The information in this section will not be used to evaluate or rank projects of special merit and is simply meant to give CMPs the option to provide additional information if they choose. Project descriptions should be kept very brief (e.g., undertake benthic mapping to provide additional data for ocean management planning). Do not provide detailed project descriptions that would be needed for the funding competition.

1. Complete mapping of oyster reefs in an area of Florida with out-of-date or incomplete mapping data.
2. Projects to address data gaps.

Strategy: Mapping the Saltwater/Freshwater Interface in Outstanding Florida Springs

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
- ☒ Coastal Hazards
- ☐ Ocean/Great Lakes Resources
- ☐ Special Area Management Planning
- ☒ Cumulative and Secondary Impacts
- ☐ 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
- ☐ Cumulative and Secondary Impacts
- ☐ Wetlands
- ☐ Marine Debris
- ☐ Public Access

II. Strategy Description

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

☐ A change to coastal zone boundaries;

☐ New or revised authorities, including statutes, regulations, enforceable policies, administrative decisions, executive orders, and memoranda of agreement/understanding;

☐ New or revised local coastal programs and implementing ordinances;

☐ New or revised coastal land acquisition, management, and restoration programs;

☒ New or revised special area management plans (SAMP) or plans for areas of particular concern (APC) including enforceable policies and other necessary implementation mechanisms or criteria and procedures for designating and managing APCs; and,

☒ 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:*** *State the goal of the strategy for the five-year assessment period. The goal should be the specific program change to be achieved or be a statement describing the results of the project, with the expectation that achieving the goal would eventually lead to a program change. For strategies that implement an existing program change, the goal should be a specific implementation milestone. For example, work with three communities to develop revised draft comprehensive plans that consider future sea level rise or, based on research and policy analysis, present proposed legislation on wetland buffers to the state legislature for consideration. Rather than a lofty statement, the goal should be achievable within the time frame of the strategy.*

The goal of this strategy is to establish a methodology in year one for data collection to identify the saltwater/freshwater interface (SWFWI) in the Wakulla Springs basin coastal region from which a baseline dataset will be attained. From that baseline dataset, project deliverables will include 2D cross sections and plan view maps at different select depths below land surface of the SWFWI. The methodology will then be applied in years two through five to the remaining coastal springs regions along the Gulf Coast. The resulting data and products can be used by water resource managers at the DEP and WMDs to monitor groundwater conditions along the Springs Coast or to site monitoring wells that can be used to better track the SWFWI. Inland migration of the SWFWI may lead to harmful saline influences on Outstanding Florida Springs (373.802, F.S.; proposed Rule 62-41.401, F.A.C.) and drinking water supply wells.

C. Description: *Describe the proposed strategy and how the strategy will lead to and/or implement the program changes selected above. If the strategy will only involve implementation activities, briefly describe the program change that has already been adopted, and how the proposed activities will further that program change. (Note that implementation strategies are not to exceed two years.)*

The proposed project seeks to map the SWFWI using a combination of airborne and ground-based geophysics targeting the area of coastal springs along the Gulf from as far west as Bald Point State Park and southeast to Pasco County where the largest concentration of Florida's coastal and near coast springs exist. Year one of the project will focus on the coast adjacent to the Wakulla Springs basin. Years two through five would extend the methods applied in year one to the remaining Big Bend, Nature, and Springs Coasts along the Gulf. The resulting data and maps could be used by water resource managers at the DEP and WMDs to monitor groundwater withdrawals which may cause or lead to harmful saline influences to coastal springs and drinking water supply wells, as defined by 62-41.401 (1, c - e) (2, c – d) F.A.C. for Outstanding Florida Springs (373.802, F.S.). See: https://floridadep.gov/owper/water-policy/content/outstanding-florida-springs-ofs

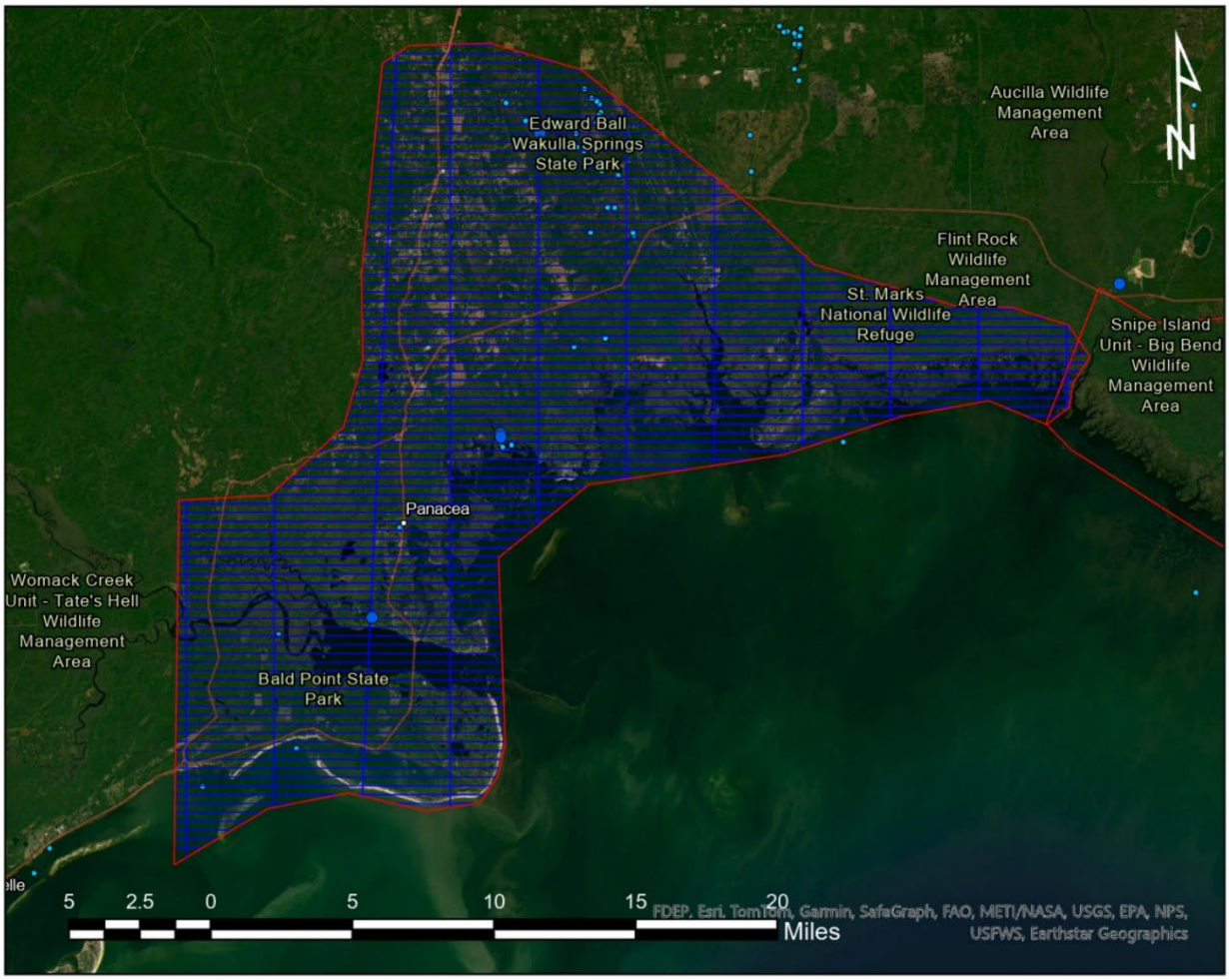
The proposed SWFWI mapping project will set an important baseline of knowledge for the Wakulla Springs basin as it relates to 62-41.401, F.A.C. Evidence regarding the saline influences affecting Wakulla Springs and other springs within the basin is sparse. Attaining baseline knowledge of where the SWFWI is will enable water managers and regulators to understand how saline waters may be or are impacting the basin's springs. The baseline data gathered by the proposed project will enable them to affectively evaluate and apply 62-41.401 F.A.C.'s proposed "Uniform Definition of Harmful to Water Resources."

The pilot project will consist of a multi-method investigation of the SWFWI in the surficial aquifer and Floridan Aquifer System (FAS) in the Wakulla Springs basin in the Northwest WMD. A minimum of 20 ground-based time-domain electromagnetic (TDEM) soundings would be collected to construct 2D cross sections and plan view maps of resistivity and conductivity relative to depth at the study site. Ground-based measurements will be used in conjunction with airborne electromagnetic (AEM) data to create high resolution cross sections and plan view depth slice maps of conductivity/resistivity values. Electrical resistivity tomography (ERT) transects will also be acquired in select locations for shallow high-resolution surveys, as needed, where TDEM may not be a suitable method. In addition, seismic refraction, and multichannel analysis of surface waves (MASW) methods will be used in each site for identifying the depth to bedrock (top of rock) and to aid in stratigraphic interpretations. Nearby wells will be sampled for water chemistry to

corroborate the geophysical results. This data will be calibrated and correlated with existing lithological and geophysical borehole data.

This data will contribute to forming the highest resolution map of the freshwater/saltwater interface for the Wakulla Springs basin and other Outstanding Florida Springs areas in future years. Geophysical results will be correlated and compared with borehole lithology samples, water quality data, and geophysical well logs. By integrating AEM, ground-based TDEM and ERT, and seismic methods with hydrogeological data, the project aims to enhance understanding of the saltwater/freshwater interface in the Wakulla Springs basin. Findings will inform sustainable water management strategies and support adaptation to future climate scenarios, benefiting communities and ecosystems reliant on freshwater resources. These data could also be used to inform karst hazard development models as the freshwater/saltwater mixing zone is known to enhance and accelerate limestone dissolution. Repeat surveys could occur every so many years to assess changes.

The cost for the strategy is provided by Option A (Figure 1) and Option B (Figure 2). Option A includes spacing of flight lines at 500 m. Option B includes a less dense spacing of flight lines at 1000 m. The cost could decrease further if we reduce the overall area of airborne data coverage with a compromise between data coverage and resolution based on funding. Figure 3 shows the extent of coverage for years two through five.



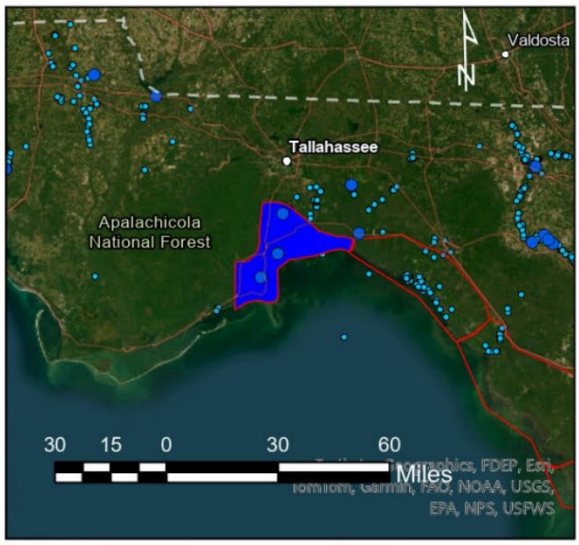
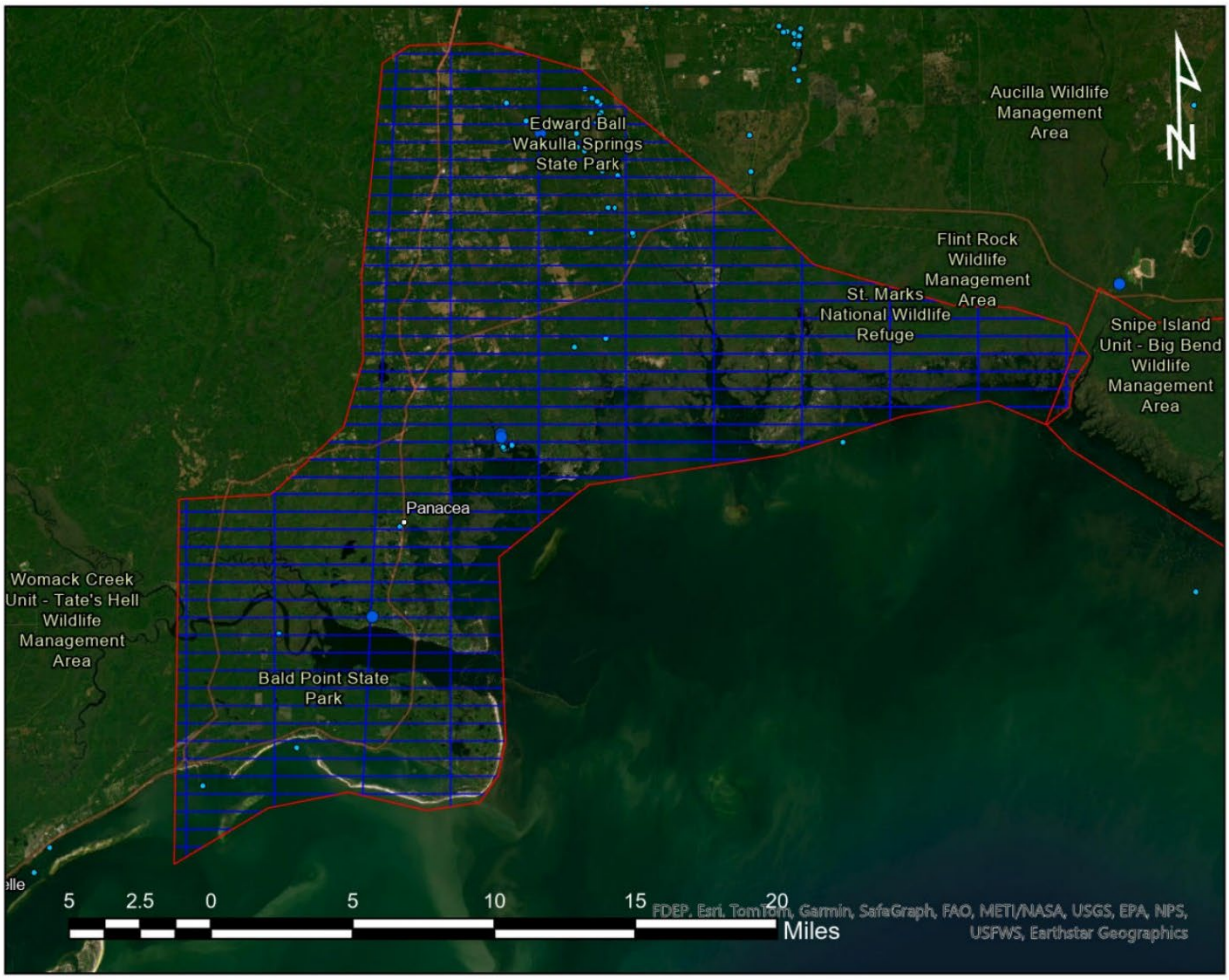


Figure 1. Option A - 500 m flight lines for Wakulla Springs basin. Tie points (N-S lines) are 5 km apart.



Legend

- Fresh/Salt Study Flight Areas
- Springs
- Outstanding Florida Springs
- 1000 m flight lines

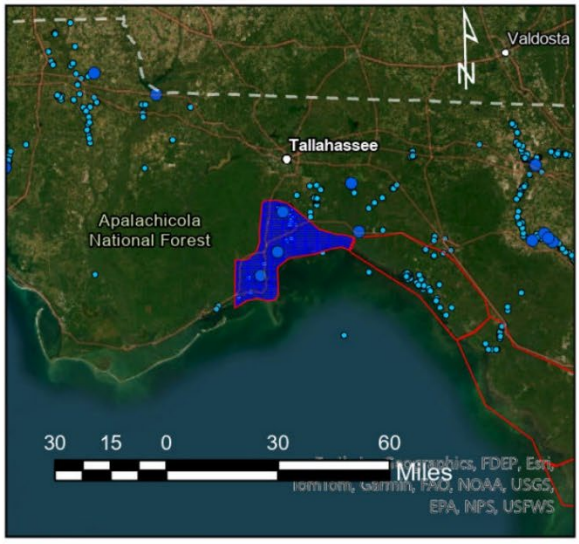


Figure 2. Option B - 1000 m flight lines for Wakulla Springs basin. Tie points (N-S lines) are 5 km apart.

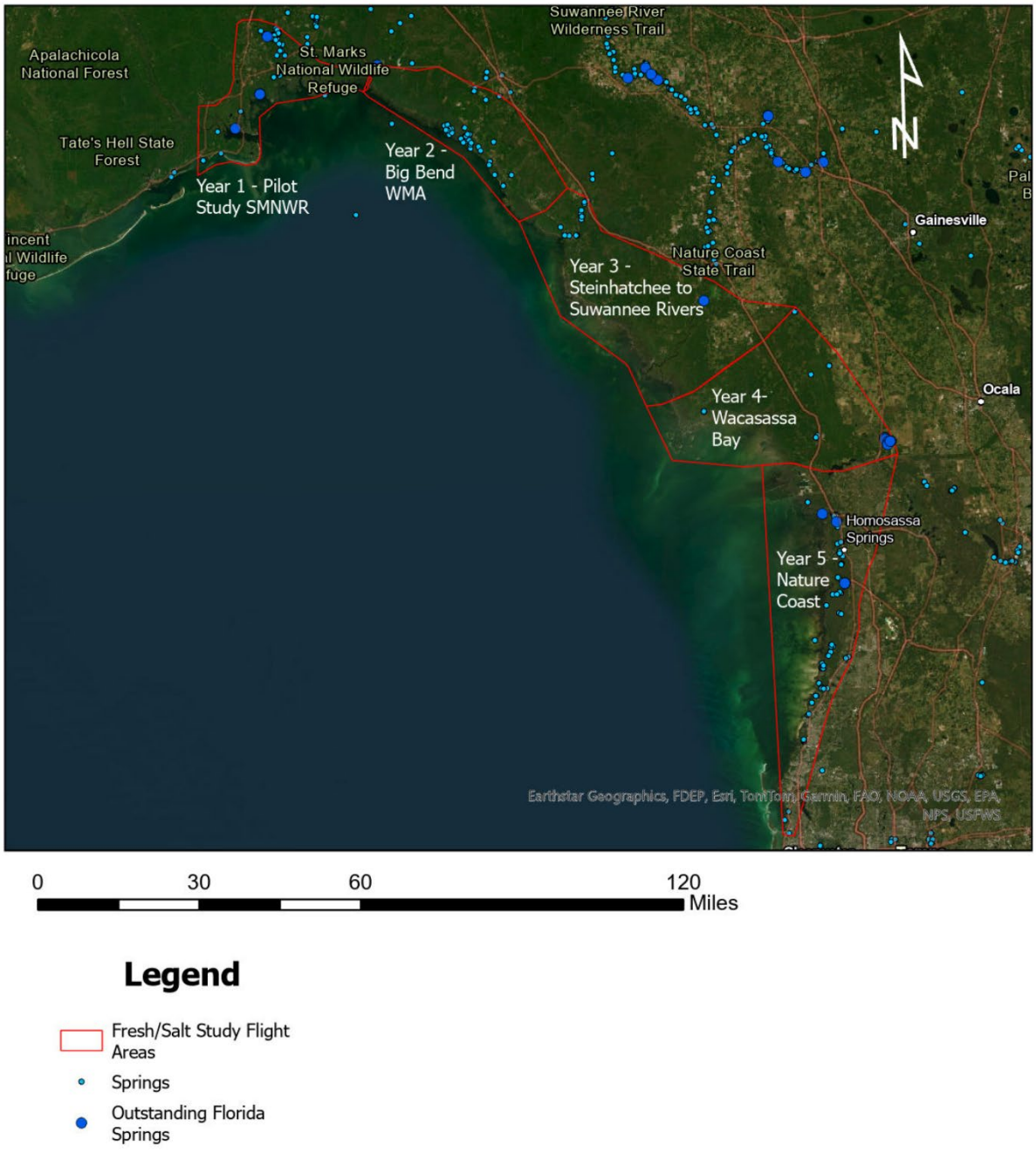


Figure 3. Five-year Study Area Plan extending from Bald Point State Park in the northwest to Dunedin in the southeast.

III. Needs and Gaps Addressed

Identify what priority needs and gaps the strategy addresses, and explain why the proposed program change or implementation activities are the most appropriate means to address said needs and gaps. This discussion should reference the key findings of the assessment and explain how the strategy addresses those findings.

Data collection and analysis supported by this strategy will provide baseline knowledge of where the saltwater/freshwater interface is, which will enable water managers and regulators to understand how saline waters may be or are impacting the basin's springs. Currently, the freshwater/saltwater interface is measured from well data that are sparsely distributed in the Wakulla Springs basin. The proposed strategy will fill data gaps and provide maps and cross sections of the saltwater/freshwater interface in the Wakulla Springs basin.

"The NWFWMD has developed a single-density, numerical groundwater flow model which simulates the freshwater flow component of the Upper Floridan aquifer and includes the FGS's proposed project area along coastal Wakulla County. The NWFWMD has plans to convert the existing model to a density-dependent flow model which would allow the simulation of the entire aquifer regardless of water quality. Accurate mapping of the saltwater/freshwater interface is needed to best represent the boundary in the model since predictive model results are sensitive to the initial position of the interface. An improved model will benefit many NWFWMD programs including Minimum Flows and Levels, Water Supply Assessment and Planning, and Water Use Permitting."

-Tony Countryman, P.G.
Hydrogeologist V
Northwest Florida Water Management District

"I have reviewed the document outlining the proposal entitled "Mapping the Saltwater/Freshwater Interface in Outstanding Florida Springs." The Suwannee River Water Management District (SRWMD) supports this effort. The SRWMD has developed a single-density, numerical groundwater flow model which simulates the freshwater flow component of the Upper Floridan aquifer and includes the FGS's proposed project area along the coast within the model domain. There is limited data on the depth of the freshwater-saltwater interface. Correct representation of this interface will improve the District's ability to represent groundwater flow, plan for future growth, and prepare density dependent models of coastal systems. Accurate mapping of the saltwater/freshwater interface is needed to best represent the boundary in the model since predictive model results are sensitive to the initial position of the interface. An improved model will benefit many SRWMD programs including Minimum Flows and Levels, Water Supply Assessment and Planning, Water Resources, and Water Use Permitting."

-Amy Brown, Ph.D., P.G.
Deputy Executive Director, Water Resources
Suwannee River Water Management District

IV. Benefits to Coastal Management

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

These data will be used to inform coastal water management practices in the Wakulla Springs basin and other coastal springs areas and fill in gaps in our knowledge of dynamic coastal hydrogeology. These data could also be used to inform karst hazard development models as the freshwater/saltwater mixing zone is known to enhance and accelerate limestone dissolution.

V. Likelihood of Success

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

Assuming data acquisition occurs in a timely manner with no delays, it is highly likely that the goal will be reached in the first year and each additional year of the project. The product produced each year will depend on the funding amount received each year, but the project goal would remain on task with sufficient funding. FGS staff can do preemptive TDEM measurements in areas for years one through five now that we have acquired the ground-based system. This will allow for more precise flight areas to be planned for and will increase overall project efficiency. Additionally, these data will be useful for calibrating the airborne data in each study area.

The FGS has recently acquired a ground-based TDEM system and has successfully tested it in the field. The system is highly mobile and rapid to deploy, requiring a minimum of two people to operate it efficiently. Results have been promising throughout testing and correlate with the known geology/hydrology of the measured areas. Ground-based data points will be essential for calibrating and correlating any airborne data, as mentioned above.

VI. Strategy Work Plan

Using the template below, provide a general work plan that includes the major steps that will lead toward or achieve a program change or implement a previously achieved program change. For example, even if the final adoption of the program change is outside of the CMP's control, what steps will be included in the work plan so the CMP ensures the program change is considered, reviewed, and hopefully adopted by the outside entity? Who are the other stakeholders or elected officials that need to be engaged, and how and when during the strategy development process? What is the decision-making or voting process that is involved in the adoption of the program change, and how will the CMP interact with this process to ensure that the proposed program change is considered? If the state intends to fund implementation activities for the proposed program change, describe those in the plan as well. The plan should identify a schedule for completing the strategy and include major projected milestones (key products, deliverables, activities, and decisions) and budget estimates. If an activity will span two or more years, it can be combined into one entry (i.e., Years 2-3 rather than Year 2 and then Year 3). While the annual milestones are a useful guide to ensure the strategy remains on track, OCM recognizes that they may change somewhat over the course of the five-year strategy due to unforeseen circumstances. The same holds true for the annual budget estimates. Further detailing and adjustment of annual activities, milestones, and budgets will be determined through the annual cooperative agreement negotiation process.

Strategy Goal: Mapping the SWFWI using Airborne and Ground-based Geophysics along Florida's Springs Coast

Total Years: 5

Total Budget: Option A: $1,758,765 Option B: $1,339,570

Year: 1

Description of activities: The FGS will contract out an Airborne TDEM survey of the Wakulla Springs basin. Ground-based TDEM ground-truthing for Wakulla Springs basin. ERT transects and Seismic data will also be collected in targeted areas. Assist with field data collection of ground-based geophysics including TDEM, ERT, and seismic.

Major Milestone(s): Wakulla Springs Basin SWFWI map. Ground-based geophysical map of SWFWI in the Wakulla Springs basin. Ground-based geophysical models/maps created for calibration, correlation, and comparison to airborne data.

Budget: Option A: $351,753; Option B: $267,914

Year: 2
Description of activities: Expansion to Year 2 Big Bend Water Management Area (WMA) coastal springs area. Ground-based TDEM ground-truthing for Big Bend WMA area. ERT transects and Seismic data will also be collected in targeted areas. Assist with field data collection of ground-based geophysics including TDEM, ERT, and seismic.

Major Milestone(s): Airborne TDEM SWFWI map for area. Ground-based geophysical map of SWFWI in the Big Bend WMA area. Ground-based geophysical models/maps created for calibration, correlation, and comparison to airborne data.

Budget: Option A: $351,753; Option B: $267,914

Year: 3
Description of activities: Expansion to Year 3 Steinhatchee to Suwanee River springs area. Ground-based TDEM ground-truthing for Steinhatchee to Suwannee River area. ERT transects and Seismic data will also be collected in targeted areas. Assist with field data collection of ground-based geophysics including TDEM, ERT, and seismic.

Major Milestone(s): Airborne TDEM SWFWI map for area. Ground-based geophysical map of SWFWI in the Steinhatchee to Suwannee River area. Ground-based geophysical models/maps created for calibration, correlation, and comparison to airborne data.

Budget: Option A: $351,753; Option B: $267,914

Year: 4

Description of activities: Expansion to Year 4 Wacasassa Bay springs area. Ground-based TDEM ground-truthing for Wacasassa Bay springs area. ERT transects and Seismic data will also be collected in targeted areas. Assist with field data collection of ground-based geophysics including TDEM, ERT, and seismic.

Major Milestone(s): Airborne TDEM SWFWI map for area. Ground-based geophysical map of SWFWI in the Wacasassa Bay Springs area. Ground-based geophysical models/maps created for calibration, correlation, and comparison to airborne data.

Budget: Option A: $351,753; Option B: $267,914

Year: 5

Description of activities: Expansion to Year 5 Nature Coast springs area. Ground-based TDEM ground-truthing for the Nature Coast springs area. ERT transects and Seismic data will also be collected in targeted areas. Assist with field data collection of ground-based geophysics including TDEM, ERT, and seismic.

Major Milestone(s): Airborne TDEM SWFWI map for area. Ground-based geophysical map of the Nature Coast springs area. Ground-based geophysical models/maps created for calibration, correlation, and comparison to airborne data.

Budget: Option A: $351,753; Option B: $267,914

VII. Fiscal and Technical Needs

A. Fiscal Needs: *If 309 funding is not sufficient to carry out the proposed strategy, identify additional funding needs. Provide a brief description of what efforts the CMP has made, if any, to secure additional state funds from the legislature and/or from other sources to support this strategy.*

The funding provided through Section 309 should be sufficient to complete the strategy. Existing FGS staff will administer the strategy. A full-time 'Other Personal Services' (OPS) position has been allocated for each year of the project and will greatly benefit the project operating efficiency by ensuring field data acquisition deadlines are met and by contributing and compiling supporting geologic data such as borehole geophysical data, lithologic borehole data, water chemistry, and springs data. The dedicated full-time OPS position will allow the FGS to produce baseline resistivity/conductivity maps of each region before any airborne surveys are completed.

B. Technical Needs: *If the state does not possess the technical knowledge, skills, or equipment to carry out all or part of the proposed strategy, identify these needs. Provide a brief description of what efforts the CMP has made, if any, to obtain the trained personnel or equipment needed (for example, through agreements with other state agencies).*

While data will be collected through contract(s) supported by Section 309 funding, FGS has sufficient technical expertise to administer and complete this strategy. FGS staff will collect and process the ground-based TDEM data, seismic data and ERT data to make geologic and hydrologic site characterizations.

VIII. Projects of Special Merit (Optional)

If desired, briefly state what projects of special merit the CMP may wish to pursue to augment this strategy. (Any activities that are necessary to achieve the program change or that the state intends to support with baseline funding should be included in the strategy above.) The information in this

section will not be used to evaluate or rank projects of special merit and is simply meant to give CMPs the option to provide additional information if they choose. Project descriptions should be kept very brief (e.g., undertake benthic mapping to provide additional data for ocean management planning). Do not provide detailed project descriptions that would be needed for the funding competition.

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
Collaboration between SEACAR and the IMMP to Improve Management and Monitoring in Florida's Coastal Ecosystems	309	$163,247	$163,247	$163,247	$163,247	$163,247	$816,235
Mapping the Saltwater/ Freshwater Interface in Outstanding Florida Springs Option A	309	Option A: $351,753	Option A: $351,753	Option A: $351,753	Option A: $351,753	Option A: $351,753	Option A: $1,758,765
Option B	309	Option B: $267,914	Option B: $267,914	Option B: $267,914	Option B: $267,914	Option B: $267,914	Option B: $1,339,570
Total Funding Option A:	309	Option A: **$515,000**	Option A: **$515,000**	Option A: **$515,000**	Option A: **$515,000**	Option A: **$515,000**	Option A: **$2,575,000**
Total Funding Option B:	309	Option B: **$431,161**	Option B: **$431,161**	Option B: **$431,161**	Option B: **$431,161**	Option B: **$431,161**	Option B: **$2,155,805**

Summary of Stakeholder and Public Comment

This section provides a list of the stakeholder groups or individuals engaged during the assessment development process and a brief summary of their feedback. It also provides a summary of the public comments received during the public comment period and how the CMP responded to those comments.

The FCMP has been seeking input from partner agencies, local governments, and interested parties for several years. The FCMP has consulted with state and regional partners throughout the development of the assessment and strategies. Communication for the 309 assessment and strategies ranged from telephone calls and email correspondence to meetings.

In the summer of 2024, the FCMP created a website hosted by DEP with content about the Coastal Zone Enhancement Program (CZMA Section 309) and descriptions of the nine enhancements areas. The website details the assessment and strategy drafting process, provides links to previous documents, and describes how stakeholders can participate in the process. The website will post the draft documents and invite review and commenting on the documents. Lastly, a point of contact is provided so that the public can receive more information.

As part of the 2024 Fall Coastal Managers Forum, staff from the Florida Coastal Management Program (FCMP) provided background on the CZMA coastal zone enhancement grants program, Section 309, which requires an Assessment every three years in nine enhancement areas. DEP invited participants to be available for comments and provide details on projects to enhance the assessment. DEP detailed the strategy development process and highlighted the key points for agencies to consider when crafting a strategy. The meeting included questions and answers. DEP followed up with the meeting participants by providing a template for partners to use in developing strategies.

Acronym List

AEM	Airborne Integrating Electromagnetic
AP	Aquatic Preserve
APC	Area of Particular Concern
ARC	Florida's Acquisition and Restoration Council
ARPA	American Rescue Plan Act
BAR	Bureau of Archeological Resources
BEBR	Bureau of Economic and Business Research
BMAP	Basin Management Action Plan
BMP	Best Management Practice
BRACE	Building Resilience Against Climate Effects
CEMHS	Center for Emergency Management and Homeland Security
CHIMMP	Coastal Habitat Integrated Mapping and Monitoring Program
CLC	Cooperative Land Cover Map
CMP	Coastal Management Plan
CO-OPS	Center for Operational Oceanographic Products and Services
CPR	Coral Protection and Restoration Program
CZMA	Coastal Zone Management Act
DACS	Florida Department of Agriculture and Consumer Sciences
DBPR	Department of Business and Professional Regulation
DDI	Data Discovery Interface
DEM	Florida Division of Emergency Management
DEP	Department of Environmental Protection
DOH	Florida Department of Health
DV	Derelict Vessels
ECFRPC	East Central Florida Regional Planning Council
ENOW	National Ocean Watch
EPA	United States Environmental Protection Agency
ERP	Environmental Resource Permitting
ERT	Electrical Resistivity Tomography
FAA	Federal Aviation Agency
FAS	Floridan Aquifer System
FCMP	Florida's Coastal Management Program
FCR	Florida's Coral Reef
FERC	Federal Energy Regulatory Commission
FGS	Florida Geological Survey
FIM	Fisheries-Independent Monitoring
FKNMS	Florida Keys National Marine Sanctuary
FNAI	Florida Natural Areas Inventory
FORI	Florida's Outdoor Recreation Inventory
FWC	Florida Fish and Wildlife Conservation Commission
FWRI	Florida Wildlife Research Institute
FY	Fiscal Year
GIO	Florida Geographic Information Office
GOAA	Gulf of America Alliance
HAB	Harmful Algal Bloom

ICC	International Coastal Cleanup
IFAS	Institute of Food and Agricultural Sciences
IMMP	Integrated Mapping and Monitoring Program
ISMP	Imperiled Species Management Plan
LNG	Liquid Natural Gas
MASW	Multichannel Analysis of Surface Waves
MOA/MOU	Memorandum of Agreement/Understanding
MRRP	Monofilament Recovery and Recycling Program
MW	Megawatts
NCEI	National Centers for Environmental Information
NERR	National Estuarine Research Reserve
NFIP	National Flood Insurance Program
NGO	Non-Governmental Organization
NHC	National Hurricane Center
NOAA	National Oceanic and Atmospheric Administration
NOEP	National Ocean Economics Program
NWFWMD	Northwest Florida Water Management District
OIMMP	Oyster Integrated Mapping and Monitoring Program
OPS	Other Personal Services
PI	Principal Investigator
PSC	Public Service Commission
RCP	Office of Resiliency and Coastal Protection
RESTORE	Resources and Ecosystems Sustainability, Tourist Opportunities, and Revived Economies of the Gulf Coast States Act
RPG	Resilience Planning Grants
SAMP	Special Area Management Plan
SBMP	Strategic Beach Management Plan
SCORP	Florida's Statewide Comprehensive Outdoor Recreation Plan
SEACAR	Statewide Ecosystem Assessment of Coastal and Aquatic Resources
SEAFAN	Southeast Florida Action Network
SEFCRI	Southeast Florida Coral Reef Initiative
SFWMD	South Florida Water Management District
SGCN	Species of Greatest Conservation Need
SHELDUS	Spatial Hazards Events and Losses Database for the United States
SHMP	State Hazard Mitigation Plan
SIMM	Seagrass Integrated Mapping and Monitoring
SJWMD	St. Johns Water Management District
SLIP	Sea Level Impact Projection
SLOSH	Sea, Lake, and Overland Surges from Hurricanes
SRWMD	Suwanee River Water Management District
STAR	Statewide Annual Report
SWAP	State Wildlife Action Plan
SWFWMD	Southwest Florida Water Management District
SWG	State Wildlife Grant
SWIM	Surface Water Improvement and Management
SWFWI	Saltwater/Freshwater Interface
TDEM	Time-Domain Electromagnetic
TBRPC	Tampa Bay Regional Planning Council

TMDL	Total Maximum Daily Load
TN	Total Nitrogen
TP	Total Phosphorus
UFAS	Upper Floridan Aquifer System
U.S.	United States
UMP	Unit Management Plans
USCG	United States Coast Guard
USCRTF	United States Coral Reef Task Force
USFWS	United States Fish and Wildlife Service
USGS	U.S. Geological Survey
VTIP	Vessel Turn-In Program
WMA	Water Management Area
WMD	Water Management Districts

List of Florida's 35 Coastal Counties

MAP ID*:	COUNTY:
1	ESCAMBIA
2	SANTA ROSA
3	OKALOOSA
4	WALTON
5	BAY
6	GULF
7	FRANKLIN
8	WAKULLA
9	JEFFERSON
10	TAYLOR
11	DIXIE
12	LEVY
13	CITRUS
14	HERNANDO
15	PASCO
16	PINELLAS
17	HILLSBOROUGH
18	MANATEE
19	SARASOTA
20	CHARLOTTE
21	LEE
22	COLLIER
23	MONROE
24	MIAMI-DADE
25	BROWARD
26	PALM BEACH
27	MARTIN
28	ST. LUCIE
29	INDIAN RIVER
30	BREVARD
31	VOLUSIA
32	FLAGLER
33	ST. JOHNS
34	DUVAL
35	NASSAU

*MAP ID corresponds to the Florida Coastal Zone map on the following page.

Map of Florida's Coastal Zone