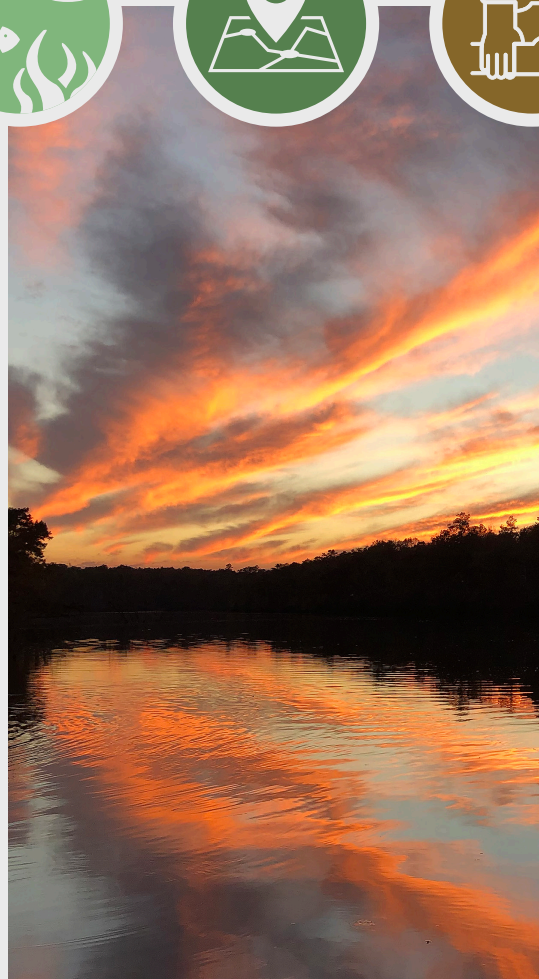
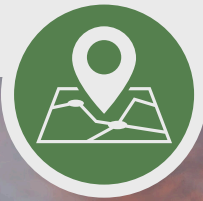


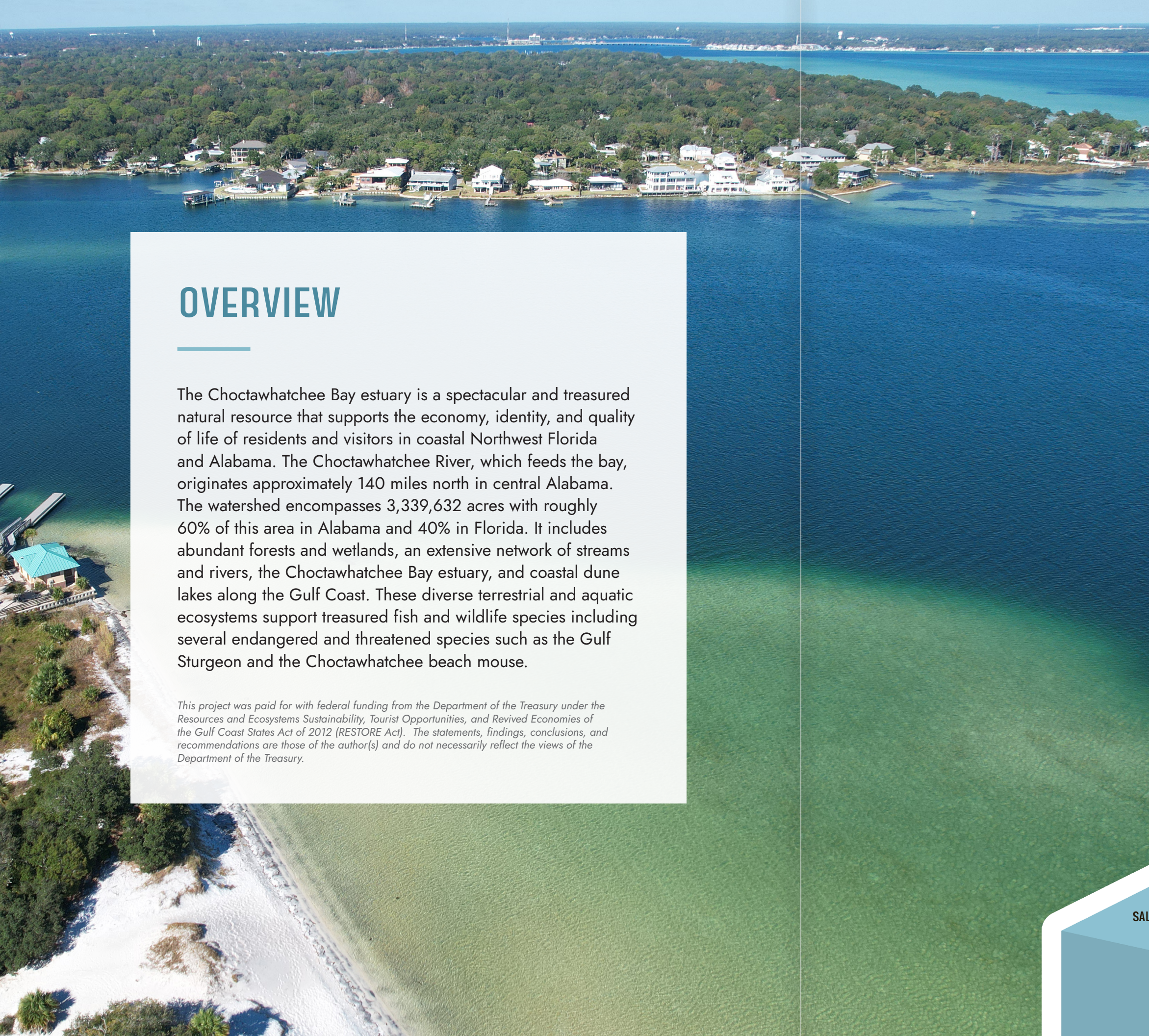


CHOCTAWHATCHEE

ESTUARY **BAY** PROGRAM

2024 Comprehensive Conservation & Management Plan | Executive Summary



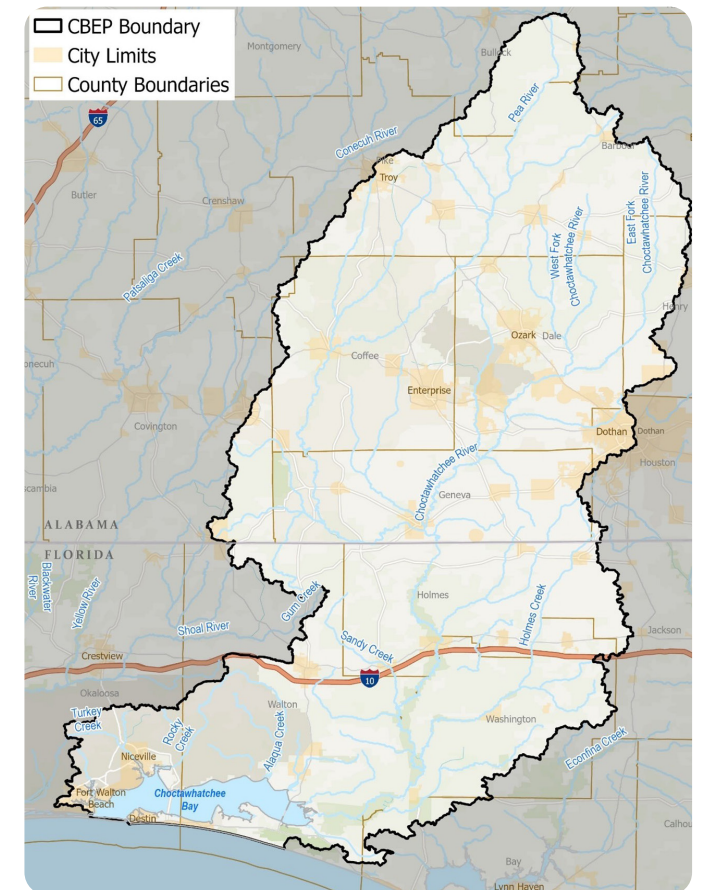


OVERVIEW

The Choctawhatchee Bay estuary is a spectacular and treasured natural resource that supports the economy, identity, and quality of life of residents and visitors in coastal Northwest Florida and Alabama. The Choctawhatchee River, which feeds the bay, originates approximately 140 miles north in central Alabama. The watershed encompasses 3,339,632 acres with roughly 60% of this area in Alabama and 40% in Florida. It includes abundant forests and wetlands, an extensive network of streams and rivers, the Choctawhatchee Bay estuary, and coastal dune lakes along the Gulf Coast. These diverse terrestrial and aquatic ecosystems support treasured fish and wildlife species including several endangered and threatened species such as the Gulf Sturgeon and the Choctawhatchee beach mouse.

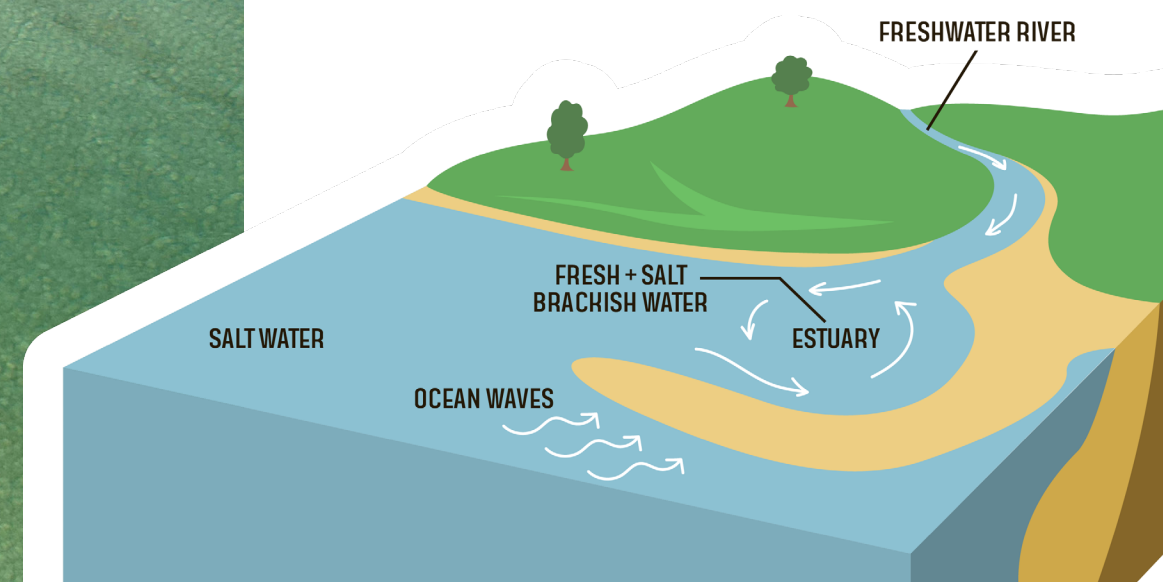
This project was paid for with federal funding from the Department of the Treasury under the Resources and Ecosystems Sustainability, Tourist Opportunities, and Revived Economies of the Gulf Coast States Act of 2012 (RESTORE Act). The statements, findings, conclusions, and recommendations are those of the author(s) and do not necessarily reflect the views of the Department of the Treasury.

CBEP MANAGEMENT AREA:



WHAT IS AN ESTUARY?

An *estuary* is the area where freshwater rivers or streams meet the ocean. The mixing of this freshwater and salt water creates an area of brackish water.



WHAT IS THE CHOCTAWHATCHEE BAY ESTUARY PROGRAM?

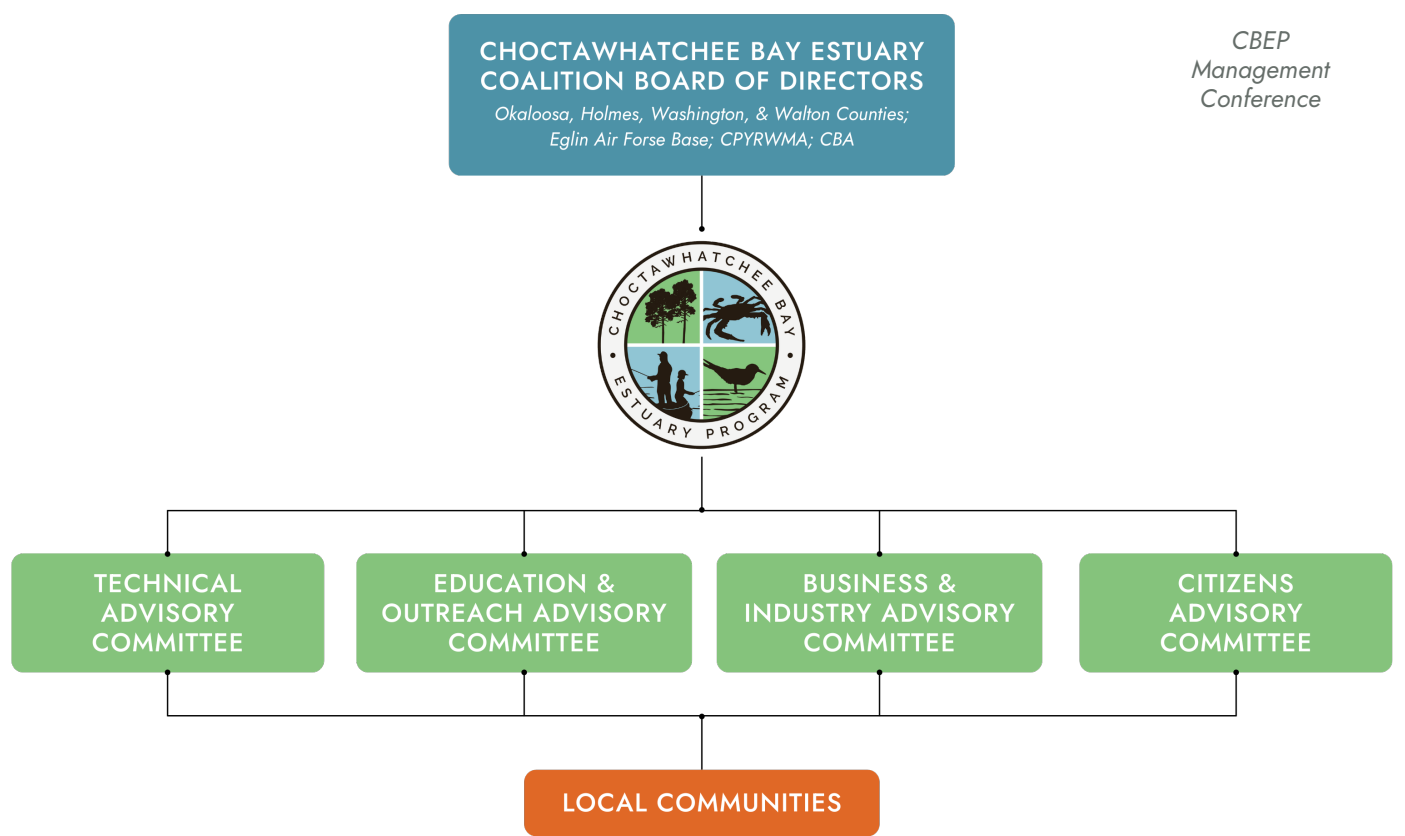
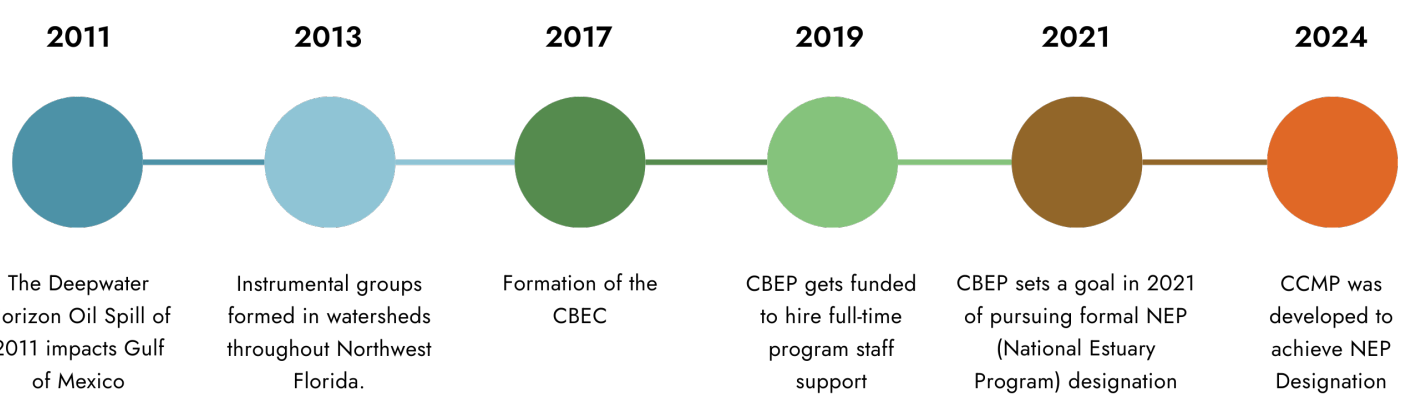
The Choctawhatchee Bay Estuary Program (CBEP) is a partnership between government, non-profit, and community partners to protect and improve the natural resources, water quality, and economic value of the Choctawhatchee Bay and its watershed. While efforts to protect the waterbody were coordinated at various local and regional levels, the development of a formal program is a critical step in securing the long-term knowledge, resources, and commitments to successfully support the environmental, educational, and economic values of the bay.

The Deepwater Horizon Oil Spill of 2011 significantly impacted habitats, wildlife, and local economies along the Gulf of Mexico, including Northwest Florida. While negative consequences remain, the spill also catalyzed attention in this region and highlighted the need to develop watershed planning and strategic stakeholder engagement. Through initial collaborative efforts driven by The Nature Conservancy (TNC) in 2013, along with other organizations, instrumental groups were formed in watersheds throughout Northwest Florida. These efforts were led by the counties, local municipalities, and other governmental and non-governmental organizations approving resolutions which led to the formation of the Choctawhatchee

Bay Estuary Coalition (CBEC) in June of 2017. The CBEC Board of Directors is represented by County Commissioners from each of Okaloosa, Walton, Holmes, and Washington Counties in Florida. Additional members include Eglin Air Force Base, the Choctawhatchee, Pea, and Yellow Rivers Watershed Management Authority (CPYRWMA) in Alabama, and the Choctawhatchee Basin Alliance (CBA).

The CBEC member counties committed in-kind administrative and technical support to develop the initial base of the CBEP. The CBEP is modeled after the U.S. Environmental Protection Agency's (EPA) National Estuary Program (NEP) approach to estuarine management. A critical element of this approach is the establishment of a Management Conference that includes key policy leaders from local, state, and federal government; as well as representatives from businesses, industries, agricultural interests, public/private institutions, Non-Governmental Organizations (NGOs), and the public.

The CBEC recognized the value of, and supported the development and implementation of, a Comprehensive Conservation and Management Plan (CCMP) which would support local priorities.



CBEP
Management
Conference



Quiet Reflections by Louis Cerrato
taken at Veterans Park Okaloosa Island



Choctawhatchee River at Robert Fowler
Memorial Park by Lisa Harris

THE CBEP VISION & MISSION

VISION STATEMENT

The Choctawhatchee Bay Estuary Program promotes a **thriving ecology** and **environment** for the Choctawhatchee Bay, River, and watershed. We aspire to **protect** and **enhance** these valuable assets for the enjoyment and **benefit** of our **communities**, and to support **diverse economic** and **recreational interests**.

MISSION STATEMENT

The Choctawhatchee Bay Estuary Program will implement programs and initiatives for the **protection** and **stewardship** of **natural resources** and **water quality** and **strengthen community resiliency** and provide **environmental education** to maintain a **vibrant economy** and high **quality of life**.

WHAT IS A COMPREHENSIVE CONSERVATION AND MANAGEMENT PLAN?

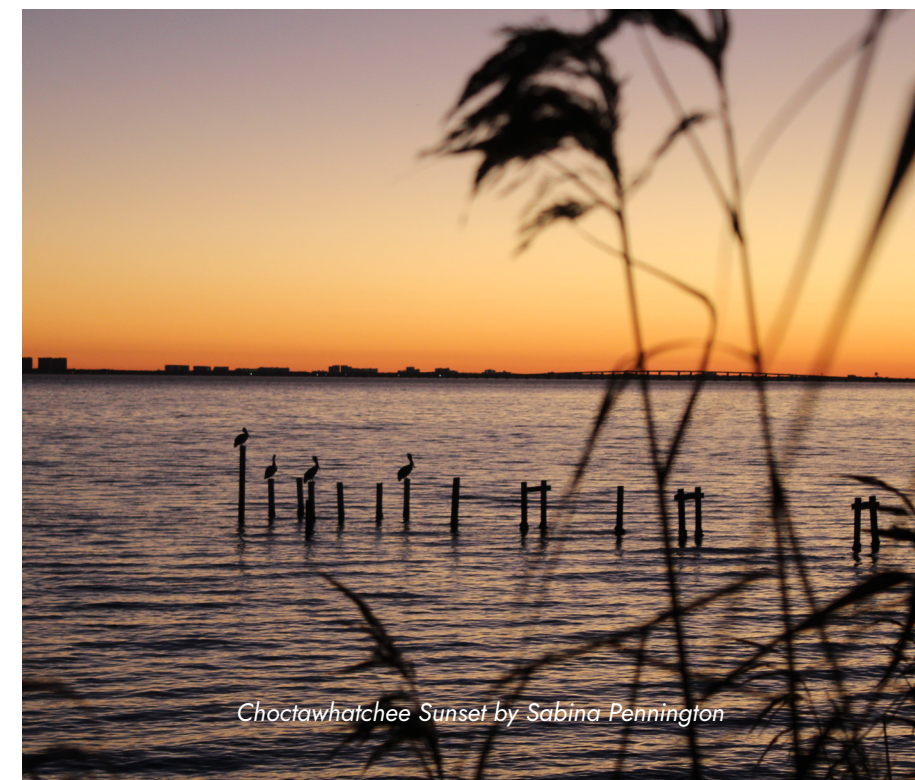
This document provides a summary of the first CCMP developed for Choctawhatchee Bay and its watershed. While the CCMP builds upon previous environmental assessment and planning efforts by numerous other stakeholders, this document is the first blueprint for restoration and management that has been developed to be compliant with the EPA's guidelines. It is meant to be a living document that is updated as projects are completed, as conditions change, and as new information and data are developed. Numerous partners and community members contributed to the content and vision, and it will take cooperation between business, industry, government, non-profits, and community members to enact these recommendations.

Beyond meeting the requirements to become a formal NEP, the purpose of the CCMP is to identify the prominent natural resources, impacts to those resources, and strategies to protect and/or improve their condition for generations to come. These resources include water quality of the bay and freshwater systems, habitats, and fish and wildlife populations. While much of Choctawhatchee Bay watershed is protected as conservation lands, impacts resulting from increasing development pressures around the bay and in the watershed, as well as global impacts from climate change and sea level rise, threaten to degrade the ecological integrity of the Choctawhatchee Bay system over time. Therefore, the CCMP establishes a strategic vision for enhanced public awareness and environmental education, improved environmental monitoring, continued resource protection for resilience and sustainability, and targeted restoration when and where needed.

The CCMP was prepared in a manner that: 1) integrates other completed bay and watershed management plans addressing the Choctawhatchee Bay system; and 2) is compliant with the CCMP requirements articulated by the EPA to be competitive for formal NEP designation. The major sections of the CCMP include the following:

- **Section 1 – Introduction**
- **Section 2 – Technical Characterization Summary**
- **Section 3 – Base Program Analysis**
- **Section 4 – Action Plans**
- **Section 5 – Finance Plan and Implementation Strategy**
- **Section 6 – Monitoring Program Plan**
- **Section 7 – Federal Consistency Report**
- **Section 8 – Public Participation Summary**
- **Section 9 – Summary of Response to Public Comments**
- **Section 10 – Appendices**

A draft CCMP was produced and made available for public review. A finalized CCMP incorporated comments obtained from the review process; this document provides a summary overview of the CCMP prepared for the CBEP.



Choctawhatchee Sunset by Sabina Pennington



LAND USE PLANNING
& MANAGEMENT

COMMUNITY
RESILIENCY



EDUCATION
& OUTREACH



WATER QUALITY
& QUANTITY



HABITAT PROTECTION
& MANAGEMENT

WHAT ARE THE FOCUS AREAS ADDRESSED IN THE CCMP?

Through an initial visioning and goal setting process, the CBEP and its stakeholders identified focus areas as program priorities, with preliminary goals and objectives. Subsequently, stakeholders, in a series of Technical Committee meetings and workshops, further refined and defined the projects, programs, and initiatives related to the following focus areas as:

1 WATER QUALITY & QUANTITY

Protect and restore water quality and quantity in freshwater and estuarine systems to meet applicable regulatory criteria and to support living resources requirements and community water supply needs.

2 HABITAT PROTECTION & MANAGEMENT

Protect, enhance, and restore existing riparian, aquatic, estuarine, and terrestrial habitats, and associated fish and wildlife populations, in the CCMP management area.

3 LAND USE PLANNING & MANAGEMENT

Support and promote conservation land acquisition and other land use best management practices to protect water quality and habitat in the CCMP management area.

4 COMMUNITY RESILIENCY

Support and promote land use planning, resilient green infrastructure, and nature-based solutions for the protection of communities and natural systems from extreme storm events, long-term climate change, and sea level rise.

5 EDUCATION & OUTREACH

Support enhanced public education and effective community engagement to promote the Vision and Mission of the CBEP, and implementation of the Action Plans defined in the CCMP.



Action Plans have been established for each of the priority Focus Areas. The Action Plans are based on problems/issues and information deficiencies identified as part of the Technical Characterization conducted within the CCMP (Section 2) as well as input received from the stakeholders in the Technical Committee workshops and comments received on the draft CCMP. For each Action Plan within the CCMP, the following information was presented:

- Background Summary
- Informational Needs
- Goals and Objectives
- Recommended Projects, Programs, and Activities
- Linkages with Other Focus Areas
- Action Plan Summary

This document provides an overview of each of the Focus Area Action Plans.



White Pelican, "A Closer Look" by Janet Fikar

WATER QUALITY & QUANTITY ACTION PLAN

Water quality is one of the most critical determinants of estuarine health, including the diversity, abundance, and distribution of aquatic plants and animals. Therefore, tracking the changes in water quality over time and by location can improve management of resources and is a critical element of any watershed management plan. Over the years, knowledge of the linkage between an estuary and its watershed has come to the forefront, as documented in other adopted CCMPs, estuarine management plans, and policies. In particular, excessive sediment and nutrient pollution can lead to negative impacts to the health of estuaries. Thus, most CCMPs have focused on the management of pollutant loadings delivered to the estuary.

Water quantity, particularly represented by freshwater flows, is another critical determinant of estuarine health. Variation in freshwater flows can significantly affect the spatial and temporal distributions of critical water quality constituents (e.g., salinity) in the estuary. Freshwater flows also directly affect variation in estuarine hydrodynamics (e.g., residence time) that often influence how estuaries respond to pollutant loads delivered by the watershed. Seasonal variation in freshwater flows is also of importance as the life cycles of many aquatic biota have evolved in response to the timing of freshwater flows to the estuary.

WATER QUALITY & QUANTITY ACTION PLAN SUMMARY:

Goals	Objectives	Activities	Responsible Entity(s) and Partners
Goal 1: Attain non-impaired status for all bay segments in Choctawhatchee Bay.	Monitor long-term water quality status and trends in Choctawhatchee Bay.	Develop and maintain a consolidated long-term ambient water quality database specifically for Choctawhatchee Bay.	CBEP, CBA, FDEP
		Identify data gaps and monitoring needs and implement projects and programs to address the identified deficiencies.	CBEP, CBA, FDEP
		Prepare periodic (e.g., bi-annual) Water Quality Status and Trends reports to assess short- and long-term changes in water quality conditions in Choctawhatchee Bay.	CBEP, CBA, FDEP
	Objective 1-2: Quantify pollutant loadings to Choctawhatchee Bay.	Develop a quantitative pollutant loading model for Choctawhatchee Bay and its watershed.	CBEP, FDEP, Contractor
	Objective 1-3: Develop a comprehensive Water Quality Management Plan for Choctawhatchee Bay.	Develop a waterbody response model for Choctawhatchee Bay.	CBEP, FDEP, Contractor
		Use the model to develop water quality targets and pollutant load reduction goals.	CBEP, FDEP, Contractor
		Identify priority water quality improvement projects that meet the pollutant load reduction goals.	CBEP, FDEP, Contractor
	Objective 1-4: Implement opportunistic pollutant load reduction and water quality improvement projects where feasible in the Choctawhatchee Bay watershed.	Support the implementation of water quality improvement projects identified by watershed stakeholders.	CBEP, CBA, Counties, FDEP
		Document the estimated pollutant load reductions attributable with planned and completed water quality improvement projects.	CBEP, FDEP, Contractor
	Goal 2: Ensure annual and seasonal freshwater inflows to Choctawhatchee Bay that maintain historical salinity gradients and healthy fish and wildlife populations.	Objective 2-1: Monitor long-term changes in freshwater inflows to Choctawhatchee Bay.	Develop and maintain a consolidated long-term freshwater inflow database specifically for Choctawhatchee Bay.
Identify data gaps and flow monitoring needs and implement projects and programs to address the identified deficiencies.			CBEP, NFWFMD, USGS
Develop annual and seasonal freshwater inflow targets.			CBEP, NFWFMD, Contractor
Prepare periodic (e.g., every 5 years) Hydrologic Status and Trends reports to assess short- and long-term changes in freshwater inflows to Choctawhatchee Bay.			CBEP, NFWFMD, Contractor



Convergence of
Choctawhatchee and Pea rivers
in Alabama by Lisa Harris

HABITAT PROTECTION & MANAGEMENT ACTION PLAN

Choctawhatchee Bay and its watershed includes a rich array of estuarine, riverine, aquatic, wetland, and upland habitats that support abundant fish and wildlife populations, including several listed Threatened and Endangered species.

The primary issue for both watershed and bay habitats is their degradation or physical destruction caused by various stressors. For all three types of critical watershed habitats the primary stressors are silviculture, agriculture, and urban land development.

WATERSHED HABITATS

The forested floodplain wetlands of the Choctawhatchee River and its primary tributaries, the Pea and Yellow Rivers, provide an extensive

buffer between the river system and land development activities on adjacent uplands, protecting against impacts to river hydrology and water quality. In addition, forested floodplain wetlands provide extensive fish and wildlife habitat as well as in-river water quality treatment from nutrient uptake and carbon sequestration. Forested floodplain wetlands in the Florida portion of the Choctawhatchee River corridor are very well-protected, with most of these wetlands currently under state ownership as dedicated conservation lands. However, a similar level of protection in the Alabama portion of the Choctawhatchee River floodplain corridor is lacking.

Non-riparian wetlands are wetland systems that are hydrologically isolated, or only intermittently

Critical Watershed and Bay Habitats in the Choctawhatchee Bay system	
Watershed Habitats	Bay Habitats
Forested floodplain wetlands Non-riparian wetlands Native upland habitats	Seagrasses Oyster beds Salt marshes Coastal dune lakes

flow to the river system. These wetlands also provide important fish and wildlife habitat as well as hydrologic storage in the watershed. Native uplands, such as longleaf pine communities, are typically areas of hydrologic recharge to groundwater that also provide critical wildlife habitat for a range of species.

Longleaf pine forests once encompassed more than 90 million acres across the Southeast, stretching from eastern Texas to southern Virginia. These forests represent some of the world’s most biologically diverse ecosystems and are home to nearly 600 plant and animal species, including 29 threatened and endangered species. But over the past two centuries, development, timbering and fire suppression reduced the ecosystem’s range by almost 97 percent. Remnant stands of longleaf pine still exist in the Choctawhatchee Bay watershed, however, upland habitats such as longleaf pine communities do not have regulatory protection and are dependent on cooperative public and private conservation programs to ensure protection.

BAY HABITATS

The stressors are more complex for the bay habitats. Seagrasses and oyster beds are submerged habitats and are thus potentially impacted by water quality degradation (e.g., excessive eutrophication and siltation) as well as direct physical impacts from propeller scarring and/or dredge and fill activities. Therefore, there are clear linkages between the Habitat and Water

Quality Action Plans for the submerged habitats.

Salt marshes are intertidal wetlands that are also threatened by dredge and fill activities but are now facing ecological stressors related to climate change and sea level rise. Where salt marshes butt up against filled/hardened shorelines, they cannot migrate landward with sea level rise and thus could be “pinched out” over time, resulting in potentially significant net losses.



Oyster Reef

The coastal dune lakes are rare and highly sensitive ecosystems that, in Florida, are unique to the Northwest region. They are threatened by both physical and water quality impacts associated with adjacent land development activities, as well as potentially by sea level rise. Coastal dune lakes in the Choctawhatchee Bay watershed fall almost entirely within Walton County, where stringent local Comprehensive Plan policies and regulations have been specifically developed to protect these habitats.

While the CCMP recognizes protected species that occur in the Choctawhatchee Bay watershed, the primary focus is on the natural habitats that support listed species and all other fish and wildlife resources. The assumption is that if the full mosaic and connectivity of habitats in the watershed are adequately protected then the needs of all species will be



DID YOU KNOW?

Coastal dune lakes are found only in four countries worldwide and in two U.S. states— Florida and Oregon. In the CBEP boundary alone, there are ten!

met. This paradigm has been applied successfully by other gulf-coast NEPs that have focused on restoring historic ratios and/or a mosaic of habitats, rather than on a single habitat type.

Tracking the status and trends of the various habitat types in the Choctawhatchee Bay watershed is limited by the available information derived from existing monitoring programs and periodic special studies. Currently, the assessment of changes in the areal extent of watershed and non-submerged bay habitats is dependent upon periodic updates to GIS land use data layers developed by both federal and state agencies. The frequency, methods, and classification schemes used in these land use data layer updates can differ substantially, resulting in a patchwork of incomplete and inconsistent information. Regular, more frequent updates of GIS land use data layers, using consistent methods and classification schemes, are needed to track changes in both developed and natural land use/cover types over time.

Data on the status and trends in estuarine fish populations in Choctawhatchee Bay is lacking. The FWC manages a Fishery Independent Monitoring (FIM) Program which is regularly implemented in some parts of Florida, but not in the Northwest estuaries. Given the recent and projected human population growth in Northwest Florida, and associated increases in recreational fishing pressure, it is recommended that the FWC expand the FIM program to cover Choctawhatchee Bay and the other major Northwest Florida estuarine systems.

HABITAT PROTECTION & MANAGEMENT ACTION PLAN SUMMARY:

Goals	Objectives	Priority Activities	Responsible Entity(s) and Partners
Goal 1: Maximize the conservation of forested floodplain wetlands throughout the watershed.	Objective 1-1: Maintain the current area of conserved forested floodplain wetlands in the Florida portion of the watershed and increase where feasible.	Identify critical gaps in the protection of the Florida portion of the Choctawhatchee River floodplain and place these areas under conservation easements where feasible.	CBEP, FDEP, NFWFMD, TNC, Counties
	Objective 1-2: Increase the area of conserved forested floodplain wetlands in the Alabama portion of the watershed.	Publicly acquire forested floodplain conservation lands in Alabama that are contiguous to forested floodplain conservation lands in Florida to extend continuous river corridor protection from the Florida border northward.	CBEP, FDEP, NFWFMD, TNC, Counties
Goal 2: Conserve ecologically significant non-riparian wetlands throughout the watershed.	Objective 2-1: Maintain the current area of conserved non-riparian wetlands throughout the watershed, and increase where feasible.	Identify ecologically significant non-riparian wetlands that are not protected and place these areas under conservation easements where feasible.	CBEP, FDEP, FWC, NFWFMD, Counties
Goal 3: Conserve and restore native upland habitats throughout the watershed.	Objective 3-1: Increase the area of conserved and restored longleaf pine communities.	Support the efforts of the Longleaf Pine Alliance (LPA) and the NRCS Longleaf Pine Initiative (LLPI) to protect and restore longleaf pine ecosystems throughout the watershed.	CBEP, Counties
Goal 4: Protect existing seagrasses and increase seagrass coverage where feasible.	Objective 4-1: Maintain a baseline seagrass coverage of 5,500 acres and increase seagrass coverage where feasible.	Develop local ordinances and/or state protections to implement Seagrass Protection Zones in the bay that minimize boating impacts to existing seagrass beds.	Counties, Cities, FWC
		Reduce nutrient and sediment loadings to Choctawhatchee Bay from all sources to ensure optimal water clarity for seagrass growth and reproduction.	Counties, Cities
	Objective 4-2: Design and implement a comprehensive and routine seagrass monitoring program in Choctawhatchee Bay.	Coordinate with FWC, NFWFMD and other state agencies as appropriate to design, fund, and implement an ongoing comprehensive seagrass monitoring program.	CBEP, CBA, FWC, NFWFMD
Goal 5: Protect existing oyster beds and increase oyster bed coverage where feasible.	Objective 5-1: Maintain a baseline oyster bed coverage of 225 acres and increase oyster bed coverage where feasible.	Design and implement a comprehensive oyster bed and benthic mapping survey including an assessment of historical oyster bed distributions.	CBEP, CBA, FWC, Contractor
		Design and implement opportunistic oyster bed restoration and creation projects where feasible.	CBEP, CBA, FWC, Contractor
Goal 6: Promote oyster bed restoration/creation and oyster aquaculture where feasible.	Objective 6-1: Increase the acreage Conditionally Approved shellfish harvesting areas.	Coordinate with FDACS to conduct more frequent shellfish assessments and updates to the shellfish harvesting area and aquaculture lease maps.	CBEP, FDACS
		Promote the oyster industry in Choctawhatchee Bay including both oyster aquaculture and the harvesting of natural oysters.	CBEP, FDACS
Goal 7: Preserve existing salt marshes and increase salt marsh coverage where feasible.	Objective 7-1: Maintain a baseline salt marsh coverage of 2,500 acres and increase salt marsh coverage where feasible.	Coordinate with federal and state wetland regulators to ensure adequate protection of salt marshes from dredge and fill activities.	CBEP, FDEP, NFWFMD, USACE
		Design and implement opportunistic salt marsh restoration and creation as well as living shoreline projects where feasible.	CBEP, CBA, FWC, Contractor
Goal 8: Maintain balanced and healthy fish populations in Choctawhatchee Bay.	Objective 8-1: Periodically assess the status and trends in fish populations in Choctawhatchee Bay.	Coordinate with FWC/FIM to conduct regular fish population assessments in Choctawhatchee Bay.	CBEP, CBA, FWC/FIM
Goal 9: Preserve and enhance the habitat integrity of the coastal dune lake ecosystems.	Objective 9-1: Support the Walton County Comprehensive Plan policies and regulations to protect the coastal dune lake ecosystems.	Coordinate with Walton County to improve public recognition of coastal dune lakes as unique and rare habitats, and to ensure adequate protection of coastal dune lake ecosystems.	CBEP, Walton County



LAND USE PLANNING & MANAGEMENT ACTION PLAN

Land use planning is generally described as the process of regulating the uses of land by governmental authorities with the goal of balancing private property rights with the promotion of desirable social and environmental outcomes and the efficient use of public resources. The objectives of modern land use planning include minimization of land use conflicts, reduction of urban sprawl, optimization of infrastructure costs, promotion of economic growth, and protection of environmental resources.

During CCMP development workshops, the CBEP stakeholders identified the following issues of concern regarding land use planning and management:

- Rapid Population Growth and Excessive Seasonal Tourism
- Increasing Development Densities in the Lower Watershed (Florida)
- New Development Pressures in the Upper Watershed (Alabama)

- Inconsistent and/or Weak Comprehensive Plan Policies and Land Development Regulations
- Long-Term Conservation Land and Water Management on Eglin Air Force Base
- Need for Additional Conservation Lands Primarily in the Upper Watershed

Pursuant to Chapter 163, Florida Statutes, all counties are required to develop and adopt by ordinance a Comprehensive Plan which includes numerous elements relevant to the mission of the CBEP.

As part of the CCMP development, a review of the adopted Comprehensive Plans for each of the four Florida counties in the CBEP management area was conducted to assess applicable goals, objectives, and policies. Prior to conducting this review, “critical planning criteria” were developed to assess and compare the respective county Comprehensive Plans. The Land Use and Management Action Plan incorporates criteria not currently addressed by county Comprehensive Plans.

COMPARISON OF COUNTY COMPREHENSIVE PLANS REGARDING CBEP CRITICAL PLANNING CRITERIA:

Critical Planning Criteria	Okaloosa	Walton	Holmes	Washington
Specific recognition of Choctawhatchee Bay as a significant natural resource of concern; recognition of and support for the CBEP	Not Addressed	Specifically Addressed	Not Addressed	Not Addressed
Commitment to local conservation land acquisition in coastal zone; protection of coastal resources; commitment to coastal habitat protection and restoration (e.g., living shorelines)	Generally Addressed	Specifically Addressed	Not Applicable	Not Applicable
Protection of environmentally sensitive lands; protective buffers and setbacks from wetlands; protection of critical habitats for listed fish and wildlife	Specifically Addressed	Specifically Addressed	Not Addressed	Generally Addressed
Discourage urban sprawl in environmentally sensitive areas through transfer of density rights and other mechanisms	Specifically Addressed	Specifically Addressed	Not Addressed	Not Addressed
Wastewater: extend central sewer service to priority coastal and watershed areas now served by septic systems; improve WWTP level of treatment for nutrient control	Generally Addressed	Specifically Addressed	Not Addressed	Generally Addressed
Stormwater: enhanced water quality treatment; treatment retrofit in older basins; use and protection of natural wetlands and floodplains for stormwater management	Generally Addressed	Specifically Addressed	Not Addressed	Generally Addressed
Transportation: promotion of greenways; paving and stormwater retrofit of unpaved dirt roads to reduce sediment and pollutant runoff	Not Addressed	Specifically Addressed	Not Addressed	Specifically Addressed
Urban/residential fertilizer ordinances; promotion of agricultural BMPs for pollution controls; local nutrient controls	Not Addressed	Generally Addressed	Not Addressed	Not Addressed
Reduce pollution from marinas and boaters; recreational boater seagrass protection zones; marina siting criteria	Generally Addressed	Generally Addressed	Not Applicable	Not Applicable
Special recognition of dune lakes as significant natural resources; protective setbacks and buffer; basin-specific stormwater requirements	Not Applicable	Specifically Addressed	Not Applicable	Not Applicable

LAND USE PLANNING & MANAGEMENT ACTION PLAN SUMMARY:

Goals	Objectives	Priority Activities	Responsible Entity(s) and Partners
Goal 1: Ensure that all four Florida County Comprehensive Plans effectively address the CBEP critical planning criteria.	Objective 1-1: Amend County Comprehensive Plans as appropriate to adequately and consistently address the CBEP critical planning criteria.	Identify specific amendments that could be made to address this objective.	CBEP, Counties
Goal 2: Ensure consistency between CBEP goals and the long-term management of Eglin AFB lands in the watershed.	Objective 2-1: Develop and execute a Memorandum of Agreement between CBEP and Eglin AFB.	Develop a draft MOA between CBEP and Eglin AFB that ensures consistency with CBEP goals and general compliance with the CBEP critical planning criteria.	CBEP, Eglin AFB
Goal 3: Coordinate with key Alabama stakeholders to ensure consistency between the CBEP critical planning criteria and Alabama state and local land use regulations.	Objective 3-1: Identify and coordinate with key stakeholders in Alabama to improve consistency between the CBEP critical planning criteria and Alabama land use regulations.	Identify key Alabama local government units to coordinate with regarding the improvement of consistency with the CBEP critical planning criteria.	CBEP, Alabama stakeholders



Cessna Park by Sean Murphy

COMMUNITY RESILIENCY ACTION PLAN

Resiliency is generally defined as the ability to adapt to changing conditions, and to withstand and rapidly recover from disruptions caused by acute and chronic stressors. Like other Gulf coast estuaries, Choctawhatchee Bay and its surrounding urban communities are increasingly vulnerable to natural disasters as well as powerful long-term environmental changes, including the following:

- Rising Sea Levels
- Increasing Air and Water Temperatures
- Greater Intensity of Storm Events
- Amplified Storm Surges
- More Frequent Nuisance and Catastrophic Flooding
- Increasing Human Population and Development Pressures

These stressors affect both the natural and built environments. Coastal wetlands are being impacted by increased shoreline erosion, landward migration, and species shifts (e.g., mangrove encroachment into salt marshes). Water quality is being affected by increased sedimentation, algal blooms, and ocean acidification. Low-lying coastal infrastructure, including roads, bridges, airports, sewage/water treatment plants, power plants, and commercial/residential developments, is increasingly vulnerable to storm surge and flooding.

It is beyond the scope of the CCMP to address the full range of resiliency issues related to the built environment; however, improving the resiliency of the natural environment is within the purview of the

CBEP. The primary issue regarding natural system resiliency in Choctawhatchee Bay is the inadequate protection of vulnerable coastal and bay shorelines, and the inability of hardened shorelines to accommodate sea level rise.

Living shorelines provide intertidal fish and wildlife habitat and protect against coastal erosion. If properly designed and constructed, they can also build new coastal wetlands waterward of existing hardened shorelines through sediment accretion and marsh building processes, thus keeping pace with sea level rise. The construction of living shoreline projects along existing eroded shorelines as well as hardened shorelines in the bay is a proven resilience strategy.

In addition to the construction of living shorelines, there are other land use policies and regulations that could be implemented to improve the resiliency of both the natural and built environment. As discussed in the Land

Use Planning and Management Action Plan, the four Florida counties in the Choctawhatchee Bay watershed could improve their Comprehensive Plans to more effectively and consistently address CBEP critical planning criteria related to coastal resiliency, including the following:

- Conservation Land Acquisition of Low-Lying Coastal Areas and Floodplains
- Post-Storm Acquisition and Conservation of Frequently Flood-Damaged Properties
- Increase Development Setbacks from Surface Waters, Wetlands and Floodplains
- Elevate Bridges, Pump Stations to Accommodate Local Sea Level Rise Projections
- Protect Critical Infrastructure (Airports, Power Plants, Sewage/Water Treatment Plants)
- Increase Levels-of-Service For Stormwater Management Systems
- Convert Existing Septic Systems to Central Sewer in Low-Lying Coastal Areas

COMMUNITY RESILIENCY ACTION PLAN SUMMARY:

Goals	Objectives	Priority Activities	Responsible Entity(s) and Partners
Goal 1: Improve the protection of vulnerable bay shorelines from erosion and enhance natural processes to build intertidal habitats that keep pace with sea level rise.	Objective 1-1: Conduct a living shoreline suitability assessment and develop a living shoreline master plan for Choctawhatchee Bay.	Develop and implement a protocol for assessing living shoreline suitability.	CBEP, CBA, FWC
	Objective 1-2: Opportunistically implement the design, permitting, and construction of priority living shoreline projects where feasible, pursuant to the master plan.	Opportunistically implement priority living shoreline projects identified in the master plan.	CBEP, CBA, FDEP
Goal 2: Ensure that applicable County Comprehensive Plans adequately and consistently address the CBEP critical planning criteria related to coastal resiliency.	Objective 2-1: Amend County Comprehensive Plans as appropriate to adequately and consistently address the CBEP critical planning criteria related to coastal resiliency.	Identify specific amendments that could be taken to address this objective.	CBEP, Counties



Outreach & Education of youth at an Estuary Festival

EDUCATION & OUTREACH ACTION PLAN

The CBEP is committed to environmental stewardship leading to the protection and restoration of Choctawhatchee Bay and its watershed. By embracing the model of the National Estuary Program, the CBEP strives to engage diverse stakeholders, incorporate science-based practices, and foster collaborative, community-driven efforts within the Choctawhatchee Bay watershed.

Educating the public about Choctawhatchee Bay and its watershed, and the ecosystem services and economic benefits derived from these natural resources, is critical to garnering stakeholder support for the protection and restoration activities proposed in the CCMP. In addition, effective

public education, outreach, and engagement activities can lead to a broad, multi-generational consensus and commitment to the vision and mission of the CBEP.

The framework of the Education and Outreach Action Plan was developed with stakeholder input to ensure community engagement with programs and initiatives that promote the Mission, Vision, and Core Values of the CBEP. The primary goal of an effective Estuary Program is to enhance community engagement as a vital component within the watershed, thereby raising public awareness for the importance of understanding, protecting, and restoring Choctawhatchee Bay and its watershed.

EDUCATION & OUTREACH ACTION PLAN SUMMARY:

Goals	Objectives	Priority Activities	Responsible Entity(s) and Partners
Goal 1: Develop and implement a comprehensive Education and Outreach Plan (EOP) to communicate and promote the goals of the CBEP.	Objective 1: Provide for open communication and relationship building with the community.	Create a stakeholder engagement plan that outlines how to identify, connect with, and maintain relationships with key stakeholders.	CBEP
		Set specific targets for the number of stakeholders engaged, surveys collected, and feedback implemented.	CBEP
		Develop a timeline for hosting events and administering surveys to gather community values and concerns; and evaluate effectiveness of community events through web-based comment portals, townhall workshops, social media analytics, and program evaluation.	CBEP
		Develop a budget range for outreach activities, including surveys and event hosting.	CBEP
	Objective 2: Secure and utilize grant funding.	Identify all grant programs that are applicable for supporting the CBEP.	CBEP
		Develop a schedule for identifying and applying for grants.	CBEP
		Track the number of grants applied for, awarded, and the amount secured and include a budget for grant application expenses.	CBEP
		Measure the impact of grants by tracking the progress of partner-directed research, restoration projects, and community-based initiatives funded through grants.	CBEP
	Objective 3: Establish a working relationship with the media.	Inventory and identify key media outlets and organizations in the watershed.	CBEP
		Create a media outreach plan with a detailed timeline for engaging with media outlets.	CBEP
		Track the number of media outlets engaged, the frequency of coverage, and the reach of media coverage.	CBEP
		Monitor media coverage's impact on community awareness and participation.	CBEP
		Develop a budget for media engagement efforts.	CBEP
	Objective 4: Improve community understanding.	Develop a schedule for implementing adult, businesses, and tourist education curricula to include hands-on field experiences.	CBEP
		Track the number of people educated and assess their understanding of watershed-related topics.	CBEP
		Administer pre- and post-participation surveys to measure changes in knowledge and awareness.	CBEP
		Develop a budget for education program development and implementation.	CBEP
	Objective 5: Develop an active volunteer base.	Identify a pool of dedicated stakeholders who are willing and able to voluntarily promote EOP.	CBEP
		Create a detailed volunteer engagement plan with a schedule for promoting community-led events and citizen science opportunities.	CBEP
		Track the number of volunteers engaged and their contributions to outreach, restoration, and preservation activities.	CBEP
		Evaluate the impact of volunteers on achieving outreach and conservation goals.	CBEP
		Create a calendar to show events happening all over the watershed.	CBEP
		Create budget for volunteer engagement activities.	CBEP
	Objective 6: Become a centralized source for information.	Collaborate with the Choctawhatchee Basin Alliance to promote and utilize the interactive water quality GIS map and dashboard.	CBEP, CBA
		Collaborate with the Choctawhatchee Basin Alliance to prepare an annual Water Quality Report Card.	CBEP, CBA
		Measure the increase in website traffic, dashboard usage, and engagement with partner organizations.	CBEP
		Monitor the program's presence in local government and chamber of commerce meetings and its response to impact events.	CBEP
		Develop a budget for maintaining and promoting the dashboard and for preparing the annual Water Quality Report Card.	CBEP



On the Bayou by Michael Crane



Snowy Plover in the Snow (Sand)



Osprey with Catch by John Cooper



"Wave Catcher" by Ekaterina Ilina

While the Action Plans are the primary sections of the CCMP, EPA requires the following inputs:

- Characterization of the estuary's priority environmental problems and their likely causes based on current conditions, historical trends, and projected future conditions. The CCMP includes a summary of status and trends in land use/population, water quality/quantity, and natural resources, including habitats and associated fish and wildlife populations. (Section 2)
- A Base Program Analysis in the CCMP that identifies for each Focus Area some of the existing programs, including monitoring, regulatory, and public outreach, that are supportive of the CCMP, and which can be further leveraged to accelerate progress. The analysis also identifies gaps that may be filled by CBEP or other partners in the future. (Section 3)
- EPA has determined that the development of a CCMP and the above stated purpose of the

Management Conference include a review of how implementation of the CCMP will be funded. Thus, the CCMP provides a Finance Plan, which lists opportunities for funding outside of the EPA, and proposed criteria for evaluating and prioritizing implementation strategies. (Section 5)

- As outlined in the Clean Water Act (CWA) Section 320 (b) (7) (Purpose 7), Federal Consistency Review is the process by which the Management Board of a National Estuary Program determines whether federal assistance and development programs are aligned with and supportive of the proposed actions within the CCMP. The CCMP Federal Consistency Review highlights specific federal assistance and development programs for each Focus Area that will catalyze implementation and success of the CCMP. If there are conflicts between federal programs and CCMP goals, it is incumbent on the Management Board to mitigate these inconsistencies. The CCMP provides an initial review of potential alignment or inconsistencies, as well as ways that the Management Board can ensure that updates to

the CCMP are consistent with local, state, and federal policies and programs. (Section 7)

- Development of a CCMP is subject to the public participation requirements of the Clean Water Act. The EPA's policy is that public support for the CCMP is critical to the long-term success of the plan and that each Management Conference must conduct a public participation program as part of the development and implementation of its CCMP. The CBEP CCMP includes a section summarizing public participation including activities of the CBEP Technical and Citizens Advisory Committees, as well as education and

outreach events. (Section 8)

- Guidance from the EPA specifies the public must have an adequate opportunity to review and comment on a draft CCMP. Additionally, a Management Conference must address the comments either by making the changes to the draft CCMP or by explaining why no change was made. The Summary of Response to Public Comments) of the CCMP describes how the draft CCMP was made available for the public to review and includes a table of responses to the comments during document revision. (Section 10)

The following related documents can be downloaded from the Choctawhatchee Bay Estuary Program website:

- *Choctawhatchee Bay Estuary Program Comprehensive Conservation & Management Plan*
- *Choctawhatchee Bay and Watershed Technical Characterization Analysis*
- *Choctawhatchee Bay Water Quality Report Card*