

THE WATERS WE SHARE

A Comprehensive Conservation and Management Plan
for Alabama's Estuaries and Coast

2025-2035



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Preface

An estuary is a partially enclosed, coastal waterbody where freshwater from rivers and streams mixes with salt water from the ocean. Estuaries, and their surrounding lands, are places of transition from land to sea.

In 1987, the U.S. Congress created the National Estuary Program (NEP) through amendments to the Clean Water Act to identify, restore, and protect estuaries of national significance. Authorized under Title 3, Section 320, the Program's goal is to protect and restore the water quality and resources of estuaries and their associated watersheds, as designated by the U.S. Environmental Protection Agency (EPA) Administrator. This section builds on the central purpose of the 1972 Clean Water Act: to "restore and maintain the chemical and biological integrity of the Nation's waters" so they can support "the protection and propagation of fish, shellfish, wildlife, and recreation in and on the water."

Section 320 promotes comprehensive, long-term protection and restoration through collaborative, locally driven efforts. Each NEP is charged with convening a Management Conference of stakeholders, including federal, state, and local governments, scientists, businesses, and community leaders to:

- Assess water quality, living resources, and uses of the estuary.
- Identify causes of environmental problems, including pollutants from point, nonpoint, and legacy sources.
- Develop and implement a Comprehensive Conservation and Management Plan (CCMP) recommending corrective actions and restoration strategies.
- Coordinate efforts across agencies and jurisdictions for efficient and effective implementation.
- Monitor and evaluate progress toward restoring and maintaining the physical, chemical, and biological integrity of the estuary.

In 1995, the Mobile Bay National Estuary Program (MBNEP) was formally recognized by the EPA as part of the National Estuary Program. One of only 28 estuaries in the nation designated as nationally significant under Section 320, the MBNEP receives support through congressionally appropriated funds to the EPA. This designation affirms the ecological and economic importance of Alabama's estuaries and provides the foundation for the collaborative conservation and management efforts set forth in *The Waters We Share: A Comprehensive Conservation and Management Plan for Alabama's Estuaries and Coast*.

A Message from the Commissioner

It is my privilege to present *The Waters We Share: A Comprehensive Conservation and Management Plan for Alabama's Estuaries and Coast*. This plan stands as Alabama's federally approved roadmap for estuarine and coastal conservation, developed under the authority of the U.S. Environmental Protection Agency's National Estuary Program. Its approval affirms the national significance of our waters and underscores the importance of the partnerships guiding this effort.

The State of Alabama is proud to lead the Mobile Bay National Estuary Program's Management Conference, a collaborative body ensuring decisions are shaped by the best available science and the broadest possible range of perspectives. I extend sincere appreciation to the Dauphin Island Sea Lab for its administrative sponsorship of the Program, which has been vital to the success of this effort. Together, these partnerships allow us to align federal, state, and local resources in ways amplifying results, accelerating progress, and strengthening our shared commitment to conservation.

The Waters We Share is more than a plan. It is a pledge to safeguard the natural resources making Alabama's coast such an extraordinary place to live, work, and visit. By conserving the waters, habitats, and cultural traditions defining our coastal identity, we protect not only ecosystems but also the unparalleled quality of life enjoyed by all who call this region home.

Working together for a resilient coast,

A handwritten signature in black ink that reads "Christopher M Blankenship". The signature is written in a cursive style with a large, stylized initial "C" and a long, sweeping tail.

Christopher Blankenship
Commissioner, Alabama Department of Conservation and Natural Resources

A Message from the Director

The Waters We Share: A Comprehensive Conservation and Management Plan for Alabama's Estuaries and Coast is, at its core, a **resilience plan**. Through its guiding principles, goals, and objectives, the plan charts a path to strengthen the ecological, economic, and cultural resilience of Alabama's coastal communities and habitats. By improving water quality, restoring critical habitats, sustaining living resources, supporting economic opportunities, engaging communities, and preparing for natural and man-made challenges, the plan builds the capacity of both natural systems and people to withstand and recover from storms, flooding, pollution, and development pressures. Its guiding principles of science-based decision making, collaboration, innovation, stewardship, and equity ensure that actions not only protect today's resources but also sustain them for future generations. In this way, *The Waters We Share* weaves resilience into every aspect of coastal management, positioning Alabama's estuaries and coast to thrive in the face of change.

As Director of the Mobile Bay National Estuary Program, I extend my deepest gratitude to the members of the MBNEP Management Conference for their invaluable contributions to the development of this Comprehensive Conservation and Management Plan. The countless volunteer hours you devoted to vetting ideas, setting priorities, and forging new collaborations are reflected in the ambitious actions we propose for the next decade. I am thankful, humbled, and inspired by the collective impact embodied in your active participation.

What makes this program truly unique is the size and diversity of its Management Conference, which unites scientists, governments at every level, businesses and community leaders in a shared commitment to safeguard our estuaries. Because of this extraordinary collaboration, I am more optimistic than ever about the long-term conservation of Alabama's estuaries and coast, and confident that together we will preserve our way of life while building a stronger future for generations to come.

With appreciation for your continued commitment,

A handwritten signature in black ink that reads "Roberta Swann". The signature is fluid and cursive, with a long horizontal line extending from the end of the name.

Roberta Swann
Director, Mobile Bay National Estuary Program

Introduction

A Brief History of the Mobile Bay National Estuary Program



Since its designation in 1995, the Mobile Bay National Estuary Program (MBNEP) has guided its work through a series of Comprehensive Conservation and Management Plans (CCMPs). Each plan has evolved with science, community priorities, and the growing needs of Alabama’s coast.

The MBNEP was created when Alabama’s estuaries were recognized by the U.S. Environmental Protection Agency (EPA) as waters of national significance. From the beginning, its purpose has been to bring together communities, agencies, and stakeholders to set priorities for the health of Mobile Bay and its watersheds. With support from the Alabama Department of Conservation and Natural Resources and the Dauphin Island Sea Lab, the MBNEP has become a trusted convener and catalyst for estuarine protection and restoration.

The first CCMP, published in 2002, was organized into three volumes — *A Call to Action*, *The Path to Success*, and *Working Together*. This plan identified the main issues facing Mobile Bay, outlined strategies for protection, and highlighted the importance of cooperation among partners.

In 2006, several coastal communities sought help with stormwater runoff and asked to benefit from the technical expertise and convening role of the MBNEP. In response, the Program’s boundaries were officially expanded to include all of Mobile and Baldwin counties. This expansion recognized the strong connections between upland communities and coastal waters and broadened MBNEP’s scope to address watershed-scale challenges.

In 2013, MBNEP released its second CCMP, *Respect the Connect: A Comprehensive Conservation and Management Plan for Alabama’s Estuaries and Coast*. The plan emphasized the links between land, water, and people. It guided efforts to restore watersheds, measure ecosystem health, build community capacity, and expand education and involvement. Many of its recommendations have been carried out with success, though work under *Respect the Connect* continues.

In 2017, MBNEP updated its bylaws to support program growth and began revising its CCMP under EPA’s five-year update requirement. The third iteration, an update to *Respect the Connect*, was approved in 2018. This update evaluated implementation progress, modified some recommended actions, and was vetted through the Management Conference. It guided MBNEP’s work from October 2018 through September 2024.

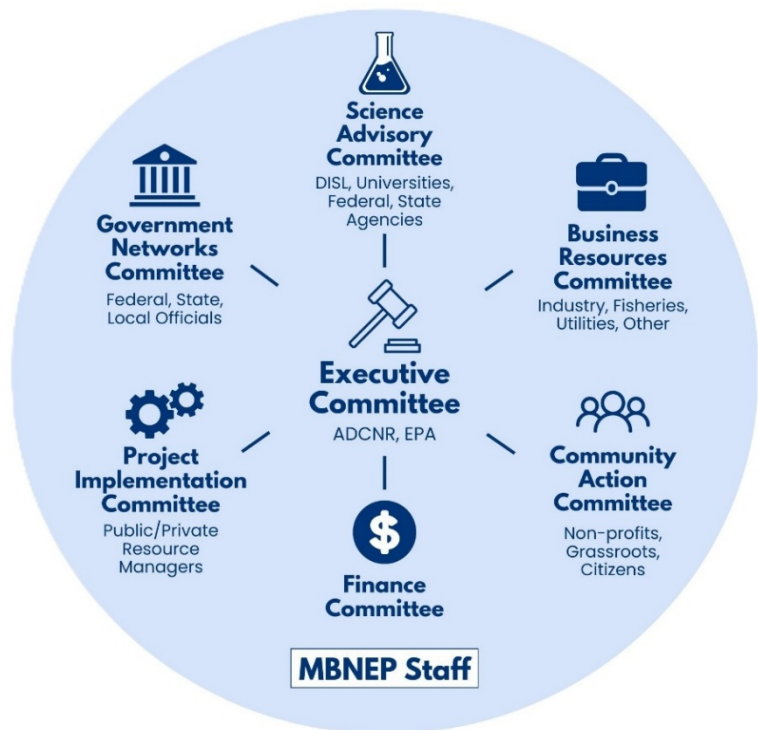
In 2023, the bylaws were revised again in preparation for a new CCMP. That year, MBNEP completed an assessment of existing Watershed Management Plans, an evaluation of the 2018 CCMP, and a Stressor Evaluation Report with the Science Advisory Committee. These assessments, combined with extensive community outreach in 2023 and 2024 and the 2025 *State of Alabama’s Estuaries and Coast* report, provided the foundation for the new plan.

Each CCMP is community-driven, informed by scientific assessments to identify stressors and shaped by input from citizens, subject matter experts, and resource managers. Together, these plans chart actions to conserve, restore, and protect the resources most valued by those living in coastal Alabama.

Now, *The Waters We Share: A Comprehensive Conservation and Management Plan for Alabama’s Estuaries and Coast* builds on this history. Informed by new science, stronger partnerships, and broad community input, it sets a renewed course for the next decade. This plan reflects Alabama’s shared commitment to protecting the natural resources, economic vitality, and cultural heritage that make its estuaries nationally significant.

The Management Conference

In addition to the CCMP, a hallmark of every National Estuary Program is the establishment of a Management Conference to guide CCMP development and implementation. MBNEP’s Management Conference is structured into working committees bringing together policymakers, implementers, community groups, businesses and citizens to expand support for the plan and address emerging issues. These committees meet at least four times a year with MBNEP staff serving as facilitators, ensuring broad participation in setting priorities, providing science and policy input, and advancing watershed planning and stewardship. This structure enables MBNEP to serve as a



community connector and capacity builder, creating the backbone organization needed to achieve collective impact for Alabama's coastal environment.

MBNEP's mission is to promote the wise stewardship of water quality and living resources of Alabama's estuaries and coast. To maximize effectiveness in promoting estuary health, the program's guiding principles are:

- ***Those who live it know it:*** Stakeholder input is vital to developing long-term solutions to local challenges. Economic opportunities must be available: Many jobs depend on coastal water quality, healthy populations of fish and wildlife, and a mosaic of habitats that provide essential ecosystem services.
- ***Environmental stewardship is interconnected:*** Coalitions that bring together diverse stakeholder interests are critical to comprehensively addressing the challenges of balancing economic development with environmental protection.
- ***It happens in the river, in the sea, and on the street:*** Citizens must be actively engaged in balancing the many uses of our natural resources so we can preserve our unique coastal ecosystems and the services they provide.

The vision of the Conference is of healthy estuaries where rivers meet the sea, supporting both ecological function and human use, and of coastal Alabama as a model of transformation where vibrant estuaries and rich biodiversity strengthen every sector of the community.

The purpose of the Conference is to leverage the collective networks, knowledge, and resources of its members to advance the stewardship of Alabama's estuaries and coast through collaborative action. Building on this foundation, the Conference has established a set of ambitious goals to guide conservation, restoration, and sustainable use of coastal resources:

- **Improve** understanding of environmental conditions
- **Promote** stewardship of water and living resources
- **Achieve** fishable and swimmable waters
- **Conserve** and restore critical habitats
- **Balance** environmental health with economic vitality
- **Amplify** successful management through collective impact

1. People and Place

Alabama's estuaries and coast reflect a deep connection between land, water, and people. Spanning the watersheds of Mobile and Baldwin counties, this landscape of rivers, bays, marshes, forests, and islands has shaped human settlement, commerce, and culture for centuries. Generations of coastal communities have built their livelihoods and traditions around these waters, from fishing and seafood harvests to shipbuilding, festivals, and family gatherings on the water. Today, the coast supports diverse communities, thriving industries, and some of the most biologically rich ecosystems in the nation, while providing food, recreation, and natural protection.

The Waters We Share are both a resource and a responsibility, sustaining ecological health, cultural heritage, and economic prosperity while preserving that balance.

The People

The predominant species influencing Alabama's estuarine waters is humans. For thousands of years, people have altered land uses, fragmented habitats, impacted water quality, extracted resources, and placed stress on the natural environment in coastal Alabama. Nationally, coastal shoreline counties make up less than ten percent of U.S. land area but, in 2020, were home to nearly 40 % percent of the population. These counties supported an average density of 446 people per square mile, more than four times the national average of 105 people per square mile and six times the density of inland counties at 74 persons per square mile. Alabama's two coastal counties reflect this same trend.

Population Change

Between 2010 and 2020, Baldwin and Mobile counties experienced very different population trends. Baldwin County saw rapid growth across nearly all its municipalities, with communities like Loxley (127%), Summerdale (70%), and Gulf Shores (54%) more than doubling or significantly expanding their populations. Larger communities such as Fairhope, Spanish Fort, and Foley also grew by more than 35%, reflecting Baldwin County's continued role as one of the fastest-growing areas in Alabama.

By contrast, Mobile County's population trends were more mixed. While some communities such as Dauphin Island (44%) and Saraland (21%) grew, the County's largest city, Mobile, declined by 4%, and other municipalities like Bayou La Batre (-43%), Chickasaw (-29%), and Prichard (-15%) experienced notable decreases. Together, these shifts highlight Baldwin County's rapid expansion along the Eastern Shore and coastal corridor, while Mobile County faces slower growth and in some cases population loss, underscoring the very different demographic pressures shaping the two counties that share Mobile Bay.

Table 1 Coastal Alabama Population Change 2010-2020 (Source: U.S. Census Bureau)

County/City/Town	Population 2010	Population 2020	% Change
Baldwin County	182,265	231,767	27%
Bay Minette	8,044	8,107	1%
Daphne	21,570	27,462	27%
Elberta	1,498	1,974	32%
Fairhope	15,326	22,477	47%
Foley	14,618	20,335	39%
Gulf Shores	9,741	15,014	54%
Loxley	1,632	3,710	127%
Magnolia Springs	723	811	12%
Orange Beach	3,784	5,441	44%
Perdido Beach	581	588	1%
Robertsdale	5,276	6,708	27%
Silverhill	706	768	9%
Spanish Fort	6,798	10,049	48%
Summerdale	862	1,468	70%
County/City/Town	Population 2010	Population 2020	% Change
Mobile County	412,992	414,809	0%
Bayou La Batre	2,558	1,468	-43%
Chickasaw	3,106	2,204	-29%
Citronelle	3,905	3,946	1%
Creola	1,926	1,936	1%
Dauphin Island	1,238	1,778	44%
Mobile	195,111	187,041	-4%
Mount Vernon	1,574	1,354	-14%
Prichard	22,659	19,322	-15%
Saraland	13,405	16,171	21%
Satsuma	6,168	6,749	9%
Semmes	4,408	4,941	12%

The combined 2020 population for both Baldwin and Mobile counties is 646,576. Mobile County contains the larger population of 414,809 with Baldwin County's population half that at 231,767. Population increased by 27.17% in Baldwin County from 2010 to 2020 and 0.44% in Mobile County for that same period. The total population of both counties increased 8.62% from 595,257 in 2010 to 646,576 in 2020.

Age Distribution

The table below compares U.S. Census Bureau data from 2010 and 2020 for Baldwin and Mobile counties, highlighting population totals and changes across four broad age ranges. This comparison illustrates how the age structure of the two counties has shifted over the past decade and reveals contrasting demographic trends on either side of Mobile Bay. For both counties, these demographic shifts have implications for estuary and coastal planning, as an aging population and slower youth growth will shape future demands on infrastructure, natural resources, workforce capacity, and the stewardship of Alabama’s coastal environment.

Table 2 Coastal Alabama Age Distribution (Source: U.S. Census Bureau)

Age Ranges	Baldwin County			Mobile County		
	2010	2020	% Change	2010	2020	% Change
Total Population	182,265	231,767	27.2%	412,992	414,809	0.4%
0-19	45,821	54,714	19.4%	118,447	106,144	-10.4%
20-34	31,241	36,201	15.9%	84,438	82,614	-2.2%
35-54	48,826	56,691	16.1%	107,044	99,240	-7.3%
55+	56,377	84,161	49.3%	103,063	126,811	23.0%

Between 2010 and 2020, Baldwin County experienced rapid growth, with its population rising by 39%. Every age group increased in size, but growth was strongest among residents 55 and older, who grew by more than 63%. This reflects Baldwin’s appeal to retirees as well as continued immigration. Younger and working-age groups also expanded steadily, each gaining between 25% and 32%.

Mobile County, by contrast, saw its total population decline slightly, down 0.3% over the decade. Losses were concentrated among children and younger adults: the 0 to 19 age group fell by nearly 12%, while adults ages 35 to 54 declined by 6.5%. The only group to grow were those 55 and older, who increased by 21%. Together, these trends show Baldwin County expanding and aging at the same time, while Mobile County is experiencing population stagnation, an aging population, and a shrinking share of younger residents, changes that could challenge its future workforce and community vitality.

Ethnicity

Baldwin and Mobile counties differ in their diversity. In 2020, Baldwin County’s population was mostly Caucasian, while Mobile County showed greater balance, with more than one-third of residents identifying as African American and smaller but important Hispanic, Asian, and other communities contributing to the region’s cultural richness. Together, the two counties reflect both shared rich heritage and a blend of long-time locals and new arrivals from every corner of the country.

Table 3 Coastal Alabama Ethnic Distribution (Source: U.S. Census Bureau)

Ethnicity	Baldwin County			Mobile County		
	2010	2020	% Change	2010	2020	% Change
Total Population	182,265	231,767	27%	412,992	414,809	0%
Caucasian	152,200	189,399	24%	243,904	229,550	-6%
African American	16,966	18,217	7%	142,272	146,254	3%
Native American and Alaska Native	1,146	1,582	38%	3,541	4,057	15%
Asian	1,340	2,067	54%	7,507	8,585	14%
Hispanic	7,992	12,686	59%	9,936	13,425	35%
Native Hawaiian and Other Pacific Islander	79	143	81%	157	234	49%
Other	2,542	5,335	110%	5,675	5,998	6%

The largest ethnic population in both Baldwin and Mobile counties in 2020 was Caucasian, reflecting roughly 64.8% of the total population. This percentage was higher in Baldwin County, where the population was 81.7% Caucasian versus Mobile County where the population was 55.3% Caucasian. The second largest ethnic population in both Baldwin and Mobile counties in 2020 was African American, roughly 25.4% of the total population. This percentage was higher in Mobile County, where the population was 35.3% African American versus Baldwin County where the population was 7.9% African American. Hispanics represent a small portion of the population of both counties, although the percentage in Baldwin County (5.5%) exceeds that of Mobile County (3.2%).

Income

Data from 2010 and 2020 show how household income and poverty have shifted across coastal Alabama. Both Baldwin and Mobile counties added households, but their economic paths diverged. Baldwin reflects rising affluence, while Mobile continues to face persistent challenges.

Table 4 Coastal Alabama Income Distribution (Source: American Community Survey)

Income	Baldwin County			Mobile County		
	2010	2020	% Change	2010	2020	% Change
Total Households	69,476	105,698	52%	153,302	163,963	7%
Less than \$10,000	4,146	3,171	-24%	17,971	11,641	-35%
\$10,000 to \$24,999	11,605	9,619	-17%	30,428	24,430	-20%
\$25,000 to \$49,999	18,864	20,823	10%	41,314	38,531	-7%
\$50,000 to \$74,999	13,848	20,083	45%	27,923	27,381	-2%
\$75,000+	21,013	51,898	147%	35,666	62,142	74%
Poverty						
Total Population	182,265	231,767	27.2%	412,992	414,809	0.4%
Persons Below Poverty Level	22,237	22,481	1.1%	79,295	65,540	-17.3%
Percentage Population Below Poverty Level	12%	10%		19%	16%	

In Baldwin County, households grew by 52% in a decade. The largest gains were among those earning \$75,000 or more, which more than doubled. Middle- and upper-income groups also expanded, while households earning under \$25,000 declined. Poverty numbers remained fairly stable, but the rate fell from 12% to 10% as growth outpaced need.

In Mobile County, household growth was modest at 7%. High-income households rose strongly, but most other income groups declined, especially those earning under \$25,000. Poverty improved more than in Baldwin County, with the number of residents below the poverty line dropping 17%. Still, Mobile's poverty rate of 16% remains much higher than Baldwin's.

Education

Both counties became more educated between 2010 and 2020. Baldwin County grew quickly in higher education, while Mobile County made important steps forward, especially in reducing the number of people without a diploma. While both counties reduced the share of residents without a high school diploma, Baldwin experienced particularly strong growth in college-level degrees, reflecting a rapidly changing educational landscape on the Eastern Shore and beyond.

Table 5 Coastal Alabama Educational Attainment Change 2010-202 (Source: American Community Survey)

Education	Baldwin County			Mobile County		
	2010	2020	% Change	2010	2020	% Change
Total Population 25 years and older	121,560	184,849	52%	263,796	281,187	7%
Less than 9 th Grade	4,715	3,563	-24%	12,877	6,402	-50.28%
Grade 9-12 (no diploma)	10,388	10,412	0%	33,895	21,854	-35.52%
High School Graduate	36,340	53,077	46%	90,438	94,328	4.30%
Some College (no degree)	28,248	39,609	40%	55,152	60,284	9.31%
Associate's degree	9,264	18,945	105%	19,300	22,024	14.11%
Bachelor's degree	22,040	39,152	78%	34,528	48,785	41.29%
Graduate or professional degree	10,565	20,091	90%	17,606	27,510	56.25%

In Baldwin County, the population age 25 and older grew by 52%, with notable declines among residents who had not completed high school. The number of high school graduates grew by 46%, while those with some college but no degree increased by 40%. The most dramatic gains, however, came in higher education: associate's degrees more than doubled, bachelor's degrees rose 78%, and graduate or professional degrees increased by 90%.

In Mobile County, the overall population age 25 and older remained stable, but educational attainment also shifted upward. Residents with less than a 9th-grade education fell by half, and those without a diploma dropped by more than a third. Growth occurred at every higher level: associate's degrees increased 14%, bachelor's degrees 41%, and graduate or professional degrees 56%. High school graduates and residents with some college also grew modestly, signaling steady, though slower, progress.

Housing

Census data from 2010 and 2020 show important shifts in housing patterns across Baldwin and Mobile counties. Both counties added housing units and saw more homes occupied, but the balance between owner-occupied and renter-occupied housing changed significantly, reflecting broader population and economic trends.

Table 6 Coastal Alabama Housing Change 2010-2020 (Source: U.S. Census Bureau)

Housing	Baldwin County			Mobile County		
	2010	2020	% Change	2010	2020	% Change
Total Housing Units	104,061	124,148	19.3%	178,196	184,441	3.5%
Occupied	73,180	93,116	27.2%	158,435	163,750	3.4%
Vacant	30,881	31,032	0.5%	19,761	20,691	4.7%
Owner – Occupied	53,071	58,128	9.5%	106,079	75,760	-28.6%
Renter – Occupied	20,109	34,988	74.0%	52,356	87,990	68.1%

In Baldwin County, total housing units grew by 19%, with the number of occupied units rising by 27%. Vacancies remained stable, but the makeup of occupied housing shifted. Owner-occupied homes increased by about 10%, while renter-occupied housing surged by 74%, pointing to rapid growth in the rental market.

Mobile County saw much slower growth, with housing units increasing by only 3.5% and occupied units by 3.4%. Vacant housing also rose slightly. Most notably, owner-occupied housing dropped sharply by nearly 29%, while renter-occupied units jumped by 68%. This indicates a significant shift away from homeownership toward rental housing.

Together, these data reveal contrasting housing dynamics. Baldwin County is growing quickly, with strong demand for both owner-occupied and rental housing. Mobile County, meanwhile, faces slower growth and a major decline in homeownership, balanced by a sharp rise in rental housing. These shifts highlight the changing needs and pressures on housing markets across coastal Alabama.

Employment

Between 2010 and 2020, Alabama’s coastal economy followed two very different paths. Baldwin County experienced rapid job growth across nearly every sector, reflecting its expanding population and economic base. Mobile County, by contrast, saw slower and more uneven change, with gains in some industries offset by declines in others, shaping a more complex employment landscape for the region

Table 7 Coastal Alabama Employment Shifts 2010-2020 (Source: American Community Survey)

Employment	Baldwin County			Mobile County		
	2010	2020	% Change	2010	2020	% Change
Civilian employed 16 years and over	78,520	115,586	47%	174,321	186,294	6.9%
Agriculture, forestry, fishing/hunting, mining	1,462	1,418	-3%	2,430	1,383	-43.1%
Construction	8,410	9,091	8%	14,990	13,856	-7.6%
Manufacturing	7,230	15,974	121%	19,544	24,174	23.7%
Wholesale trade	2,884	2,852	-1%	6,183	4,955	-19.9%
Retail trade	10,814	15,353	42%	21,964	23,550	7.2%
Transportation and warehousing, and utilities	4,204	6,270	49%	10,621	10,680	0.6%
Information	1,360	777	-43%	2,717	2,368	-12.8%
Finance and insurance, real estate and rental and leasing	5,378	9,817	83%	9,819	8,483	-13.6%
Professional, scientific, management, administrative and waste	7,749	13,980	80%	16,631	19,145	15.1%
Educational services, health care and social assistance	14,072	19,193	36%	38,001	44,380	16.8%
Arts, entertainment, recreation, accommodation and food services	7,478	9,611	29%	14,221	16,003	12.5%
Other services, except public administration	3,871	6,020	56%	9,763	9,696	-0.7%
Public administration	3,608	5,230	45%	7,437	7,621	2.5%

In Baldwin County, civilian employment grew by 47%, outpacing population growth and signaling strong economic momentum. Manufacturing more than doubled, and professional services, finance, real estate, transportation, health care, retail, and food services also expanded, reflecting Baldwin’s growing role as a hub for tourism and residential growth. Only a few sectors, such as agriculture and information, declined.

Mobile County added just 7% more jobs over the decade. Gains came in manufacturing, health care, professional services, and food services, but many traditional sectors shrank, including agriculture, wholesale trade, construction, finance, real estate, and information. The result is modest job creation, offset by significant losses, producing slower overall growth than in Baldwin.

The smallest industry in Baldwin County, accounting for only 0.7% of the employed population, was Information. The smallest industry in Mobile County, accounting for 0.7% of the employed population, was agriculture, forestry, fishing and hunting, and mining.

These patterns reveal a coastal economy that is expanding rapidly in Baldwin County while lagging in Mobile. Baldwin's broad-based growth points to resilience and opportunity, while Mobile's uneven results highlight persistent challenges. Together, the trends show the need for coordinated workforce and economic strategies to support a strong and sustainable future for coastal Alabama.

Municipal Resource Disparities in Coastal Alabama

Coastal Alabama's municipalities vary widely in their capacity to manage growth, provide services, and invest in infrastructure. Larger and more affluent cities such as Daphne, Fairhope, and Foley benefit from growing tax bases and professional staff, which allow them to pursue planning initiatives, expand wastewater and stormwater infrastructure, and attract new investment. In contrast, communities like Bayou la Batre and Prichard face shrinking populations, reduced revenues, and aging infrastructure limiting their ability to provide the same level of services. Bay Minette, the county seat of Baldwin County, has a stronger governmental role but still faces fiscal constraints compared to faster growing Eastern Shore municipalities, highlighting how even county seats may lack the same resources as their neighbors. These disparities create uneven capacity across the region to manage growth and environmental pressures.

The consequences of these differences are clear in how communities prepare for and respond to coastal challenges. While some municipalities can invest in stormwater upgrades, habitat restoration, and long-term planning, others struggle to maintain basic infrastructure or depend heavily on state or federal grants to fund critical projects. Addressing these disparities requires collaboration, technical assistance, and regional partnerships to ensure all communities, large or small, growing or shrinking, can play a role in sustaining Alabama's estuaries and coast.

The Economies

In coastal Alabama, our waters are our most valuable resource, not only in terms of the many ecosystem services they provide for our needs but also in the quantifiable ways in which they directly contribute to our economy. Examples include, but are not limited to:

Port of Mobile

The most recent figures from the Alabama Port Authority show that Alabama's only deepwater seaport and their associated network of hundreds of large and small businesses generate over \$130 billion in economic value annually and 453,253 jobs nationwide. In Alabama alone, the Port fuels \$98 billion in economic value and more than 351,000 jobs, all from a five-mile stretch of Mobile River shoreline.

Tourism

The *2023 Alabama Tourism Economic Report* notes that in that year, more than 11 million tourists visited Mobile and Baldwin counties alone. This represents 41% for the entire State, with the Baldwin County beaches hosting the largest share of visitors. Those visitors spent \$9.7 billion in our counties, also representing 41% of the State total, and provided for 87,903 direct and indirect jobs for our coastal residents.

Beaches

Alabama's beaches are more than just a tourism magnet; they serve as the first line of defense against extreme storm events. By absorbing wave energy, stabilizing shorelines, and protecting inland communities from flooding and erosion, healthy beaches reduce the costly impacts of hurricanes and tropical storms. At the same time, they fuel the State's economy, attracting 6.5 million visitors in 2023 who generated \$6.7 billion in spending and supported 55,000 jobs. This dual role highlights the essential value of Alabama's beaches as both a natural buffer for resilience and a driver of economic prosperity.

Birding

Barrier islands are hotspots for birding in coastal Alabama which has become an increasingly popular and lucrative draw for tourists. Dauphin Island lies in the heart of bird migration flyway and boasts a list of 320 bird species, impressive for such a small area. This is also the site of the famous "fallout" when exhausted birds, having made their spring migration across the Gulf, literally fall onto the nearest wooded area for rest and feeding before continuing their migratory journeys. The Island also boasts a dedicated bird sanctuary. The Fort Morgan peninsula, Bon Secour National Wildlife Refuge, and the Gulf State Park are all high on the list for local and visiting birders.

Commercial Fishing

Recent figures show that in 2019, the Alabama harvest of shrimp and hard-shell crabs were valued at \$269 million and \$58 million, respectively. Figures for 2024 valued the eastern oyster harvest at \$1.5 million. The U.S. Department of Commerce valued saltwater commercial fishing in Alabama at \$62.7 million in 2022.

Recreational Fishing

The number of recreational saltwater fishing licenses sold in coastal Alabama grew from 75,000 in 2001 to 210,000 in 2023, according to the Alabama Coastal Fishermen's Association and the Alabama Department of Conservation and Natural Resources, Marine Resource Division. Bass fishing has become an increasingly popular sport in the Mobile-Tensaw River Delta which now claims a spot on Alabama's Bass Fishing Trail, with tournaments scheduled each month from early spring through fall. The economic impact of recreational fishing on the Alabama economy in 2022 was \$399 million dollars.

Other Recreational Uses

Coastal Alabama boasts a wide array of other recreational opportunities based on its estuaries and coast. Among them are boating (motorized and unmotorized), shrimping, birdwatching, hunting, swimming, hiking, and beachgoing. In recent years, State officials have invested record amounts of

funding in coastal parks and public access points that provide almost endless opportunities for recreation, such as swimming, fishing, biking and disc golf, picnicking, and even entertainment including concerts and performing arts.

The Landscape

Watershed: an area or ridge of land that separates waters flowing to different rivers, basins, or seas. An area or region drained by a river, river system, or other body of water.

The Greater Mobile Bay Watershed

A watershed is the land area which channels rainfall and runoff into creeks, streams, and rivers, eventually draining into larger water bodies such as bayous, bays, and the ocean. The watershed feeding Mobile Bay spans more than two-thirds of Alabama and extends into Mississippi, Georgia, and Tennessee. Covering 43,600 square miles, it is the sixth largest drainage basin in the United States by area and the fourth largest by flow volume, discharging an average of, or almost 500 gallons of water per second!

Several major rivers define this system, including the Mobile, Tensaw, Spanish, Apalachee, and Blakeley. These rivers drain agricultural fields, urban centers, and forested areas, carrying freshwater, nutrients, sediments, and pollutants into the estuarine environment. Their combined outflows form the Mobile-Tensaw Delta, the second largest intact river delta system in the nation. The Delta includes extensive wetlands and waterways with more than 200 rivers, bays, creeks, bayous, lakes, and sloughs.

The Perdido and Escatawpa River Watersheds

The Perdido River and Escatawpa watersheds are typical blackwater systems with iced tea-like waters resulting from tannins released by decaying vegetation. Both are vital parts of Alabama's coastal environment, each with distinct landscapes and contributions. The Perdido River, forming part of the boundary between Alabama and Florida, winds through pine forests, swamps, and bottomlands before emptying into Perdido Bay, where its waters support important fish and shellfish habitats and provide opportunities for recreation. To the west, the Escatawpa River flows south through forested and rural lands of Mobile County before entering the Mississippi Sound. With its sand-bottomed channels, the Escatawpa supports high biodiversity, including rare species, and remains one of the least developed river systems in the region. Together, these watersheds connect upland habitats and rural communities to the bays and estuaries of Alabama's coast, playing an essential role in ecological health and community well-being.

The MBNEP Coverage Area

Although the actual watershed for Mobile Bay encompasses more than two thirds of the State of Alabama and portions of Georgia, Mississippi, and Tennessee, MBNEP's primary target area is limited to southern Alabama, including all of Mobile and Baldwin counties, from the eastern border with Florida to the western border with Mississippi. In addition, it extends seaward to the three-mile State jurisdictional limit. MBNEP's target area also includes Mississippi Sound, west to the Mississippi/Alabama border and Perdido Bay east to the Florida border.

Coastal Alabama is defined by an extensive network of waterways shaping its ecology, economy, and culture. Major rivers include the Bayou La Batre, West Fowl, Fowl, Dog, Fish, Magnolia, Bon Secour, and Perdido. These are joined by important creeks and bayous such as Chickasaw, Norton, Three Mile, Eight

Mile, Bay Minette, D'Olive, and Fly creeks, as well as the Styx River, which carry freshwater and nutrients into Alabama's coastal estuaries. Bays and lagoons complete the system, including Grand Bay, Portersville Bay, Mobile Bay, D'Olive Bay, Weeks Bay, Bon Secour Bay, Little Lagoon, Wolf Bay, and Perdido Bay, as well as the man-made Intracoastal Waterway. Together, these interconnected waters support diverse habitats, fisheries, and communities, linking upland watersheds with the Gulf of America.

Mobile Bay and its Significance

Mobile Bay is one of Alabama's most important natural and cultural landmarks, valued for its exceptional biodiversity, productivity, and historical significance. It is approximately 32 miles long and 23 miles across at its widest point and averages only ten feet of depth.

Environmentally, it is sustained by the Mobile-Tensaw Delta, which delivers a network of freshwater habitats that support rich fisheries, diverse wildlife, and the ecological health of the Gulf. Economically, the Bay serves as a critical transportation link between inland rivers and the Gulf, supporting shipping, fisheries, tourism, and other coastal industries.

Culturally, Mobile Bay has been a crossroads for centuries, inhabited first by indigenous peoples, including Mississippian cultures, and later explored by Spanish expeditions in the early 1500s, who named it *Bahía del Espíritu Santo*, or Bay of the Holy Spirit. It played a pivotal role in the Civil War as one of the last Confederate ports and is forever tied to the story of the *Clotilda*, the last known slave ship to enter the United States, which brought enslaved Africans to the Mobile-Tensaw Delta in 1860 and led to the founding of Africatown. The Bay's layered history is still visible today in the heritage of coastal communities, French-inspired architecture, and enduring cultural traditions, underscoring Mobile Bay's lasting importance to Alabama and the nation.

The Habitats and Their Ecosystem Services

Ecosystem services are the many benefits people receive free of charge from healthy natural systems such as forests, grasslands, wetlands, and aquatic environments. They are grouped into four categories. **Provisioning services** supply goods like food, clean water, medicinal resources, and energy. **Regulating services** maintain balance through climate control, pollination, purification of air and water, and pest and disease management. **Supporting services** underpin all others by driving nutrient cycling, photosynthesis, soil formation, and oxygen production. **Cultural services** enrich human well-being through spiritual value, education, recreation, and connection to nature. Together, these services demonstrate the vital role ecosystems play in sustaining both environmental health and human prosperity.

The following habitats provide critical ecosystem services to the flora and fauna of our coast:

Freshwater Wetlands

Freshwater wetlands are bottomland to upland areas with a natural supply of water, either from flooding rivers or streams, groundwater seeps, or depressions perched above shallow groundwater, ensuring wet conditions for at least a part, if not all, of the year. These vegetated habitats serve to slow and store

floodwater, recharge groundwater supplies, and enhance water quality by trapping excess sediments, nutrients, and other pollutants. Freshwater wetlands support highly diverse biological communities but are among the most highly stressed and historically altered habitats in coastal Alabama.

Intertidal Marshes and Flats

Along the coastal edge, intertidal habitats transition gradually from open water to higher ground, creating a mosaic of connected ecosystems. Closest to the shoreline, tidal flats are broad, open expanses regularly submerged and exposed by the tides. These areas provide critical feeding grounds for shorebirds and habitat for invertebrates such as snails, worms, and small crustaceans. Moving landward, intertidal marshes emerge, dominated by salt-tolerant grasses and herbaceous plants adapted to daily tidal flooding. These marshes serve as nurseries for fish and shellfish, foraging grounds for birds and wildlife, and natural filters that improve water quality by trapping sediments and nutrients. Further inland, salt marshes become more stable, supporting dense stands of robust vegetation thriving in brackish or saline soils. These higher marsh areas act as storm buffers by absorbing wave energy and reducing erosion, while also providing essential habitat for a wide array of species. Together, tidal flats, intertidal marshes, and salt marshes form a protective and highly productive coastal edge that sustains biodiversity and strengthens shoreline resilience.

Rivers, Streams, and Riparian Buffers

Along the inland edge, freshwater habitats transition from flowing watercourses to the vegetated lands framing them, creating an interconnected system vital to watershed health. Rivers and streams are natural channels carrying freshwater from upland sources downstream to tidally influenced estuaries. Their flow may be steady and permanent or temporary and intermittent, with beds ranging from rocky cobbles to sandy or muddy sediments. Bordering these waterways are riparian buffers, vegetated lands immediately adjacent to the stream or river. These buffers play a crucial role in stabilizing banks with strong root systems, reducing erosion, and slowing floodwater. They also filter sediments, nutrients, and pollutants before they reach the water, improving overall quality. Together, rivers, streams, and riparian buffers create diverse edge habitats supporting fish, reptiles, birds, and wildlife, as well as insects, crustaceans, and other aquatic invertebrates, linking healthy waters to thriving ecosystems.

Forests

Three forest habitat types—**longleaf pine, pine savanna, and maritime forest**—are grouped together because they provide similar ecosystem services and face many of the same stressors.

Longleaf pine forests once dominated the southeastern U.S. landscape at the time of European settlement. They offered exceptional wildlife habitat, thrived with regular fire, and were tolerant of strong winds and resistant to many pests and diseases affecting other pines. By the 20th century, however, most longleaf pine forests had disappeared due to widespread logging and development.

Pine savannas occur on poorly drained, non-riverine coastal lands, dominated by loblolly and slash pines with scattered hardwoods in wetter areas. These systems act as coastal buffers, characterized by widely spaced trees and a diverse understory of grasses and herbs. Their decline has been driven largely by human development.

Maritime forests once stretched widely along the northern Gulf Coast but now persist only in narrow, fragmented bands on barrier islands and coastal dune ridges. Adapted to windy conditions and salty air, they help stabilize soil, store groundwater, and provide valuable habitat for wildlife, including many migratory bird species.

Subtidal Habitats

Subtidal habitats include oyster reefs, submerged aquatic vegetation (SAV), unconsolidated sediments, and hard bottoms. Found below the mean low tide line, they provide critical habitat for fish, crustaceans, mollusks, and other benthic invertebrates. These systems face their greatest stress from human development, which increases sedimentation, dredging, filling, and altered freshwater flows that degrade habitat quality.

Oyster reefs form when oysters attach to one another, creating dense, three-dimensional structures in the brackish to salty waters of Mobile Bay and the Mississippi Sound. Beyond their commercial value, reefs serve as refuge for aquatic species, improve water quality through filtration, and help stabilize shorelines and water bottoms by buffering wave action. Local oyster populations are reduced not only by natural pressures such as varying salinity regimes exacerbated by periods of drought and flooding, predation during high salinity periods but also by harvest and habitat loss driven by development.

Submerged aquatic vegetation (SAV or seagrass) grows in shallow coastal waters across a range of salinities, forming expansive underwater meadows. These beds filter stormwater runoff, reduce shoreline erosion, and provide food for manatees and waterfowl while serving as nursery habitat for fish and shellfish. Development-related stressors, including degraded water quality from sediments and nutrients, land conversion, and scarring from recreational boat propellers, have caused major declines in SAV.

Together, oyster reefs and SAV demonstrate both the ecological and economic value of subtidal habitats and the urgent need to manage coastal development to protect and restore them.

Beaches and Shorelines

Beaches and dunes fronting the Gulf of America support herbaceous plants like sea oats, salt-tolerant grasses and herbs, and maritime forests, which together provide nesting habitat for the Alabama beach mouse, sea turtles, and a variety of resident and migratory shorebirds. Beaches and dunes provide the first line of defense against tropical storm surge and wave action. Natural estuarine shorelines, like salt marshes, provide critical edge habitat between uplands and waters and provide food and refuge for aquatic and land species. Loss of this habitat is largely attributable to shoreline armoring, or installation of bulkheads or revetments, to protect waterfront properties from erosion. Deflection of wave energy off bulkheads causes scouring that eliminates productive edge habitat and intensifies erosion on neighboring, unarmored properties.

Open Water

More downstream waters in Alabama's estuarine system include the open waters of lower Mobile Bay, Mississippi Sound, and the nearshore Gulf of America. Along the predominantly featureless sand and

muddy bottom landscape, Alabama's artificial reef program has added habitat complexity and increased connectivity between inshore, nearshore, and offshore habitats. Through a cooperative agreement between the U.S. Army Corps of Engineers (USACE) and the Alabama Marine Resources Division (MRD), and partners, ecologically productive reefs have been created using decommissioned bridge spans, oil/gas platform jackets, limestone aggregate, pre-fabricated reef modules, army tanks, re-purposed concrete culverts/manholes/pipes, ships, dry docks, barges, and other "materials of opportunity." Oil and gas platforms, artificial reefs, and nearshore sand bars provide highly productive fish habitat and serve as key destinations for red drum, sheepshead, gray snapper, and Gulf flounder, which migrate as juveniles from rivers, bayous, bays, and other inshore waters.

2. A Look Back: Respect the Connect Successes

2013-2023 CCMP: Highlights of Status and Trends

Over the past decade, *Respect the Connect: A Comprehensive Conservation Management Plan for Alabama's Estuaries and Coast* has guided science-based resource management and coordinated conservation. Implementation has improved monitoring data, providing a stronger foundation for assessing ecosystem health and guiding adaptive management. A watershed-based approach now links uplands, rivers, estuaries, and the Gulf of America, ensuring local actions support system-wide resilience. Efforts have also built local government capacity to integrate conservation into planning and decision-making, while expanding citizen engagement through volunteer water quality monitoring. [A Comprehensive Review of how Respect the Connect CCMP was implemented](#) over the past ten years demonstrates measurable progress in protecting and sustaining Alabama's estuaries and coast.

Accomplishment Highlights include:

Sediment Studies

Over the past decade, MBNEP and its partners have completed a series of pre-restoration watershed assessments across Mobile County, the Mobile-Tensaw Delta, and Baldwin County, building a system-wide baseline of condition. These studies provide consistent data on hydrology, sediment dynamics, water quality, and land-use change, creating a foundation for prioritizing projects, guiding restoration, and tracking ecological recovery.

- Dog River Watershed Pre-Restoration Assessment (2012)
 - Fowl River Watershed Sedimentation and Water Quality Assessment (2015)
 - Bayou La Batre Watershed Sedimentation and Water Quality Assessment (2016)
 - Fish River Watershed Assessment, Pre-Restoration (2016)
 - West Fowl River Watershed Pre-Restoration Assessment (2017)
 - Mobile-Tensaw Delta Watershed Sedimentation and Water Quality Assessment (2020)
 - Deer River Watershed Pre-Restoration Assessment (2021)
 - Eastern Shore Watershed Pre-Restoration Assessment (2021)
 - Little Lagoon Watershed Pre-Restoration Assessment (2022)
 - Bay Minette Creek Pre-Restoration Watershed Assessment (2024)
 - Perdido Bay Pre-Restoration Watershed Assessment (2024)
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- Pre-Restoration Assessments for the Spring Branch System, LFRW Restoration (2022)
 - Pre-Restoration Stream Assessment for Magnolia Bluffs (2024)
 - Pre-Restoration Stream Assessment for Schoolhouse Branch (2024)

Hydrologic Models

Hydrologic modeling has become a critical decision-support tool for watershed management in Coastal Alabama, enabling managers to simulate rainfall, runoff, sediment transport, and land-use change to predict impacts on water quality and flooding. The first models, developed prior to the last CCMP,

focused on the **Fish and Magnolia Rivers** (2011) and **D'Olive Creek** (2014) in Baldwin County. These early efforts demonstrated how modeling could be used to run development scenarios and project potential watershed impacts. Since then, the program has expanded significantly, adding models in **Mobile County** and the **Mobile-Tensaw Delta** to build a coast-wide framework for evaluating management alternatives, prioritizing restoration, and planning for resilience. Together, these studies now provide comprehensive hydrologic coverage of the major estuarine drainage basins across Mobile County, the Delta, and Baldwin County, creating a unified, coast-wide decision-support system for restoration, management, and long-term resilience planning.

- Fish River & Magnolia River Hydrologic Modeling (2011)
- D'Olive Creek Hydrologic Modeling (2014)
- Fowl River Hydrologic Report (2017)
- Twelve Mile Creek Hydrologic Analysis Report (2019)
- Twelve Mile Creek Hydrologic Study (2020)
- Bayou La Batre Watershed Hydrologic Modeling (2020)
- Dog River Watershed Hydrologic Modeling (2020)
- West Fowl River Watershed Hydrologic Modeling (2020)
- Tensaw East Watershed Hydrologic Modeling (2020)
- Tensaw West Watershed Hydrologic Modeling (2020)
- Bon Secour River Watershed Hydrologic Modeling (2020)
- Wolf Bay Watershed Hydrologic Modeling (2020)
- Dog River Watershed Trash Abatement Program Hydrologic and Land Use GIS Analysis to Identify Trash Concentrations (2021)

Nutrient and Hydrogeologic Studies

At the request of local watershed stakeholders and our GNC, two focused scientific studies were completed to provide critical information for decision makers related to pollution sources and fate in the Gulf Frontal and Mobile Tensaw Apalache watersheds.

- Completed a nutrient source tracking study in Little Lagoon .
- Conducted a hydrogeologic assessment related to the closure of the Barry Steam Plant coal ash pond near the Mobile River.

Water Quality Monitoring Programs

- Established a Baldwin County Water Quality Monitoring Program with Infrastructure Investment and Jobs Act (IIJA) funding to track pollutant loads in the Bon Secour, Western Perdido, Tensaw Apalachee, Gulf Frontal, and Eastern Shore watersheds.
- Reestablished a U.S. Geological Survey stream gauge (02470805) in the Western Delta Watershed under the Mobile County Water Quality Monitoring Program.
- Enhanced the Alabama Real-Time Coastal Observing System to measure water temperature, salinity, dissolved oxygen, turbidity, pH, chlorophyll, and other parameters to track other changing trends.

Volunteer Engagement and Citizen Science

- Partnered with Alabama Water Watch (AWW) to expand training and support for coastal monitoring programs. Since 2018, coastal monitors have earned 11 statewide awards, including *Trainer of the Year* (five consecutive years), *Monitor of the Year*, two *Lifetime Achievement Awards*, the *Confluence Partnership Award*, the *Water Spirit Award*, and the *Biodiversity Guardian Award*. Provided technical assistance to the Fowl River Area Community Association by training and equipping volunteers, establishing 10 monitoring sites, and generating nearly 1,000 records of water chemistry and bacteria data to track restoration progress.

Watershed Condition Framework

- In 2019, to standardize monitoring efforts within and across watersheds, MBNEP led the development of a [Watershed Condition Framework \(WCF\)](#) using the D'Olive Bay Watershed as a model that could later serve as a template for assessing project implementation in other watersheds. The WCF can be used to track results and measure the success of management and restoration activities undertaken to improve the environmental condition of a watershed. The WCF classification system has three condition levels. A watershed in good condition is characterized as one which is functioning in a manner similar to natural conditions (Class 1). Class 2 (Functioning at Risk) and Class 3 (Impaired Function) describe watersheds with impairments in natural function.
- The WCF initially was applied across three D'Olive sub-watersheds – Joes Branch, D'Olive Creek, and Tiawasee Creek – and generally validated improvements to stream habitat quality due to restoration activities.
- The WCF classification for Joes Branch was shown to have improved from Class 3 (Impaired Function) to Class 2 (Functioning at Risk), resulting from improved stormwater management which reduced stream erosion and sedimentation. The WCF was also applied in the Weeks Bay Complex to monitor stream restoration projects in Lower Fish River and Magnolia River at Marlow and Schoolhouse Branch.

Fowl River Marsh Health Study

In addition to using monitoring results to guide adaptive management, MBNEP applied monitoring outputs to inform and direct the Fowl River Spits restoration project. Through the **Fowl River Marsh Study**, a comprehensive interdisciplinary marsh characterization, MBNEP identified core stressors including sea level rise, limited accretion, and boat wakes, and provided this information to the engineering and design team to ensure the most effective mitigation techniques were incorporated into the restoration plan. The **Fowl River Marsh Health Study** was designed as a comprehensive assessment to guide restoration planning. Its key components included:

- **Hydrology and Elevation** – Measuring water levels, tidal exchange, and marsh elevation to evaluate resilience to sea level rise.
- **Sediment Dynamics** – Assessing accretion and erosion rates to determine whether marshes are keeping pace with rising water levels.

- **Vegetation Characterization** – Mapping plant communities and monitoring vegetation health to identify shifts in marsh structure and function.
- **Shoreline and Wave Energy** – Studying boat wake impacts and shoreline change to understand physical stressors driving erosion.
- **Water Quality and Biogeochemistry** – Tracking salinity, nutrients, and dissolved oxygen to evaluate conditions that influence marsh growth and habitat quality.
- **Wildlife and Habitat Use** – Documenting habitat use by fish, birds, and other species as indicators of ecological function.

Together, these components provided an integrated picture of marsh condition and stressors, ensuring that engineering and design teams could incorporate targeted, science-based mitigation strategies into the Fowl River Spits restoration plan.

A Decadal Study of Mobile Bay Watershed Impacts on Key Fisheries

In 2019, the RESTORE Act Science Program launched the Decadal Study, a 10-year project examining how the larger Mobile Bay Watershed drives population changes in oysters, blue crabs, and spotted seatrout. Led by regional universities and the Dauphin Island Sea Lab, the study explores how rising sea levels and temperatures, watershed land use, hydrology, and water quality affect these fisheries. Researchers are linking population shifts to environmental stressors and assessing how those changes influence ecosystem services, economic value, and management decisions. Early findings underscore the importance of river discharge, water quality, and local land use in shaping estuarine health. By synthesizing long-term data and modeling, the project is equipping agencies with stronger tools for conservation and restoration.

2013-2023 CCMP: Highlights of Ecosystem Restoration

Watershed Plans

Watershed planning provides the foundation for coordinated conservation and restoration in coastal Alabama by assessing water quality, habitat, land use, and community priorities to guide science-based actions. Collectively, Watershed Management Plans (WMPs) advance resource management by engaging communities, identifying restoration and protection opportunities, prioritizing actions with the greatest return on investment, providing tools for local governments, justifying projects for funders, and supporting National Flood Insurance Program discounts. To date, **17 WMPs** covering **36 HUC-12 watersheds** have been completed, with **two more underway** addressing **five additional watersheds**, creating a roadmap for improving water and habitat quality across the region.

Watershed Management Plan	12-Digit HUCs	Status	Major Concerns
Eight Mile Creek	1	Completed 2011, Update in progress	Failing septic and sewer infrastructure; stormwater runoff
Three Mile Creek	1	Completed 2014	Urban runoff, lack of access, streambank erosion, sedimentation, invasive species, sea level rise
Fowl River	1	Completed 2016	Shoreline erosion, marsh protection, stormwater runoff/litter, development pressure, sea level rise
Bon Secour River	3	Completed 2017	Streambank erosion, stormwater runoff/litter, development in headwaters, wetland and coastal marsh protection, sea level rise.
Dog River	3	Completed 2017	Stormwater runoff/litter, streambank erosion, sedimentation, lack of access, sea level rise
Weeks Bay	4	Completed 2017	Rapid development, stormwater runoff, flooding, habitat/wetlands loss, erosion and sedimentation, water quality, sea level rise
Bayou La Batre	1	Completed 2018	Community resilience, stormwater runoff, water quality, sea level rise
West Fowl River	1	Completed 2019	Water quality (pathogens), fisheries habitat, access, shoreline erosion, community resilience, sea level rise
Wolf Bay	3	Completed 2021	Recreational access, development pressure, erosion and sedimentation
D'Olive	1	Updated 2022	Streambank erosion and sedimentation
Dauphin Island	1	Completed 2023	Beach erosion, development pressure, sea level rise
Eastern Shore	2	Completed 2023	Development pressure, stormwater runoff/litter, water quality, habitat loss, shoreline erosion/ sedimentation, sea level rise, resilience
Gulf Frontal-Perdido	2	Completed 2023	Development pressure, water quality, invasive/ exotic species, fisheries habitat loss, sea level rise, coastal erosion
Mobile-Tensaw Apalachee	6	Completed 2023	Altered hydrology, water quality, land use and management
Western Shore	3	Completed 2023	Coastal erosion, flooding/ sea level rise, fisheries habitat loss, water quality, historic preservation
Western Perdido Bay	2	Completed 2024	Development pressure, limited water quality data, nutrient loading from agriculture, coastal erosion, sea level rise, fisheries habitat loss
Eastern Delta	4	Completed 2025	Water quality and lack of water quality data, erosion/sedimentation, invasive/exotic species, development, lack of access, preservation of heritage and culture
Grand Bay Swamp	1	Ongoing	Shoreline erosion, marsh protection, stormwater runoff/litter, development pressure, sea level rise
Western Delta	4	Ongoing	Water quality and lack of water quality data, erosion/sedimentation, invasive/exotic species, development, lack of access, preservation of heritage and culture

Figure 1 Watershed Plan Development Status

D'Olive Bay Watershed - Status

# of Linear Feet of Stream Stabilized	14,898
# of Acres of Flood Plain Reconnected	80
# of Linear Feet of Shoreline Stabilized	0
# of Stream Segments Removed from Alabama 303(d) List of Impaired Waters	1
# of Communities with Improved Regulations	3
# of directly impacted Landowners	80

The D'Olive Watershed has been MBNEP's **most ambitious demonstration of a comprehensive watershed approach**, uniting local governments, community leaders, and

partners in coordinated action. It showed how stormwater infrastructure can be managed in ways that protect the environment by using **in-stream stormwater facilities reintroducing ecological function**. This approach provided proof of concept for moving beyond traditional gray infrastructure, integrating conservation and restoration into broader infrastructure programs. The effort produced measurable results, including the **2020 delisting of Joes Branch**, once the largest sediment source in the watershed, making it the first coastal stream in Alabama removed from the State's 303(d) List of impaired waters due to restoration. Today, D'Olive continues to serve as a **showcase of nature-based stormwater management and ecological restoration**, setting the model for communities across coastal Alabama.

Fowl River Watershed - Status

# of Linear Feet of Stream Stabilized	0
# of Acres of Marsh Enhanced	34
# of Linear Feet of Shoreline Protected	8,140
# of Stream Segments Removed from Alabama 303(d) List of Impaired Waters	0
# of Communities with Improved Regulations	0
# of directly impacted Landowners	12

Fowl River is one of coastal Alabama's most ecologically and culturally important watersheds, yet it faces growing pressures from siltation, shoreline erosion, marsh subsidence, and declining water quality.

To address these challenges, the **Fowl River Watershed Management Plan** laid the foundation for a comprehensive implementation program, uniting MBNEP, the State of Alabama, the U.S. Army Corps of Engineers, the Alabama Port Authority, and local partners. Together, they are using Fowl River to **demonstrate innovative restoration practices**, including one of the first thin-layer placement projects in coastal Alabama. Both wet slurry and dry material have been applied to raise marsh elevation, restore ecological function, and strengthen shoreline resilience. Supported by extensive scientific study, unprecedented collaboration and resource-sharing agreements, the program shows how science, partnerships, and innovation can deliver solutions with broad application across the coast.

Three Mile Creek Watershed - Status

# of Linear Feet of Stream Stabilized	9,570
# of Acres of Flood Plain Reconnected	3
# of Linear Feet of Shoreline Stabilized	0
Miles of greenway completed / Under construction / Funded	1.01 / 1.49 / 2.6
# of Stream Segments Removed from Alabama 303(d) List of Impaired Waters	0
# of Communities with Improved Regulations	2
# of directly impacted Landowners	15

The **Three Mile Creek Watershed Program** demonstrates how environmental protection can be integrated into community development in coastal Alabama. Once a neglected urban watershed it is now showing that with planning, institutional

support, community engagement, and investment, even highly impaired waterways can be restored.

Partnerships among the **City of Mobile, Mobile County, Mobile Area Water and Sewer System, the University of South Alabama, the Village of Spring Hill, and MBNEP**, along with other collaborators, are transforming Three Mile Creek from an environmental liability into an ecological and economic asset. These efforts have spurred restoration of streams and riparian buffers, stormwater and sewer upgrades, and the creation of greenways and recreational corridors reconnecting neighborhoods to the creek. The results are cleaner water, expanded access, stronger community stewardship, and a more resilient watershed enhancing quality of life across the region.

Weeks Bay Watershed - Status

# of Linear Feet of Stream Stabilized	8,044
# of Acres of Marsh Enhanced	0
# of Linear Feet of Shoreline Protected	0
# of Stream Segments Removed from Alabama 303(d) List of Impaired Waters	0
# of Communities with Improved Regulations	9
# of directly impacted Landowners	18

Draining areas as far north as Interstate 10, including portions of Loxley, Robertsdale, Fairhope, and Foley, the **Weeks Bay Watershed** encompasses the Fish and Magnolia River watersheds and is the

largest intertidal complex in Baldwin County. It is also part of the National Estuarine Research Reserve system, a network of 30 coastal sites across the country designed to protect and study estuarine systems.

With its large size and central location in Baldwin County, the watershed has not been immune to pressures associated with land development and agriculture, resulting in increased runoff, erosion, and nonpoint source pollution. However, a coordinated effort among the many watershed municipalities led to the establishment of Plan Lower Alabama Now (PLAN).

Figure 5 Weeks Bay Watershed All Years

2013-2023 CCMP: Highlights of Capacity Building

Osprey Initiative and the Litter Gitter

Osprey Initiative is a strong example of how local business capacity can grow to support ecosystem protection and restoration. The effort began after a tactical litter cleanup organized by MBNEP, Partners for Environmental Progress, and Thompson Engineering. Inspired by the event, participant Don Bates designed and built the “**Litter Gitter**,” a low-cost, low-maintenance floating device to capture and store waterborne litter.

With funding from a 2017 EPA Trash Free Waters grant, the prototype was installed and tested successfully, leading Bates to establish Osprey Initiative as a litter abatement company. MBNEP supported the launch through a 2018 Gulf of America Division Grant funding the installation of Litter Gitters in the Three Mile Creek Watershed. Since then, Osprey Initiative has expanded, deploying devices in the Dog River, D’Olive, and Bon Secour watersheds in Alabama and extending operations into ten other states.

South Alabama Coastal Regulatory Review

MBNEP completed the ***South Alabama Stormwater Regulatory Review in 2018*** to evaluate laws, regulations, permits, and ordinances related to stormwater runoff, water quality, and the protection of wetlands, streams, and shorelines in Mobile and Baldwin counties.

The Review was **updated in 2021** to reflect changes between 2019 and 2021, including more jurisdictions adopting post-construction stormwater management requirements, advancing wetland and stream protection initiatives, and incorporating low impact development practices. The update also added a matrix of regulations addressing trash, litter, and recycling enforcement. Together, these Reviews provide a **practical tool for local governments**, offering examples of effective ordinances useful for guiding stronger regulation and improved environmental outcomes.

2013-2023 CCMP: Highlights of Citizen Involvement

Clean Water Future

The *Create a Clean Water Future* (CCWF) campaign is a long-term public outreach initiative facilitated by MBNEP and developed by a coalition of grassroots groups, local governments, and business representatives to inspire action for healthier waterways. More than a campaign, CCWF is a collaborative branding and open-source tool that allows local governments to coordinate messaging on stormwater runoff and other water quality issues.

The campaign raises awareness about everyday pollution sources—such as litter, yard waste, fertilizers, and oil—that wash into streams, rivers, and bays, while offering practical solutions for residents and businesses. The CCWF website serves as a clearinghouse for outreach materials, videos, and model

ordinances, providing communities with the resources needed to promote stewardship and strengthen local water quality protections.

Bays and Bayous Symposium

The **Bays and Bayous Symposium** is a regional forum that brings together more than 400 scientists, resource managers, educators, students, and community leaders every two years to share knowledge and strengthen partnerships across the northern Gulf of America. Organized by MBNEP and the Mississippi-Alabama Sea Grant Consortium, the symposium has grown since its start in 1995 into one of the Gulf Coast's premier gatherings on coastal science and management.

Through oral presentations, posters, panel discussions, and networking, participants exchange the latest research, restoration practices, and educational initiatives aimed at improving the resilience of coastal ecosystems and communities. Rotating between host cities in Alabama and Mississippi, Bays and Bayous Symposium fosters collaboration across state and sector boundaries, ensuring science and management remain connected to the needs of the region's people and environment.

3. *The Waters We Share: Setting the Stage 2025-2035*

Evaluating Implementation Progress of the CCMP: Respect the Connect

The development of a new CCMP begins with an evaluation of how effectively the recommendations of the previous plan were implemented. The [Evaluation of Implementing Respect the Connect, 2013-2021](#) (October 2023) was prepared to document accomplishments of implementing the current CCMP and to provide recommendations for advancing collective impact over the next decade. The review highlights the breadth of the 2018–2023 CCMP, which guided work through **18 goals, 39 objectives, and 158 suggested activities**. These numbers reflect the comprehensiveness of the Program and the wide range of actions undertaken across technical assistance, status and trends, restoration and protection, and education and engagement. This confirms strong progress, particularly in addressing land use change and rising seas and temperatures as key stressors, while underscoring the need to refine goals and objectives to focus more precisely on how to address these challenges. As the Management Conference transitions into the next CCMP cycle, the Evaluation provides both validation of past success and a roadmap for sharpening collective efforts: directing resources and partnerships toward mitigating land use impacts, enhancing climate resilience, and ensuring that future growth protects the health of estuaries, shorelines, and communities.

The Science Advisory Committee Stressor Evaluation Update

As part of preparations for the 2025 CCMP rewrite, MBNEP’s Science Advisory Committee updated the **Stressor Matrix Evaluation Report**, which was last completed in 2012. This assessment gathered expert and stakeholder input to identify the habitats, ecosystem services, and stressors most at risk in coastal Alabama. It ranked habitats by level of concern, highlighted the ecosystem services most vulnerable to loss or degradation, and identified the stressors exerting the greatest pressures on coastal systems. The Evaluation is important because it provides a scientific foundation for prioritizing management strategies, directing restoration investments, and ensuring that limited resources are focused on the most pressing challenges to the long-term health and resilience of Alabama’s estuaries and coast.

Top Stressed Habitat	Top Stressed Ecosystem Services	Top Stressors
Intertidal Marshes and Flats (Respondents = 17)	Storm Buffering/Hazard Protection (6) Water Quality Enhancement (6) Biodiversity (5) Sediment and Nutrient Retention (5) Wildlife Habitat (5)	Land Use Change (10) Sea Level Rise (10) Climate Variability (10) Dredging/Filling (7)
Beaches and Dunes (Respondents = 17)	Nesting Habitat for Birds and Turtles (5) Biodiversity (4) Storm Buffering/Hazard Protection (4) Wildlife Habitat (4)	Land Use Change (8) Sea Level Rise (6) Climate Variability (6)
Pine Savannas (Respondents = 6)	Biodiversity (5) Wildlife Habitat (5)	Land Use Change (10) Fragmentation (8) Climate Variability (6)
Streams and Rivers (Respondents = 16)	Biodiversity (5) Fisheries Habitat (4) Water Quality Enhancement (4)	Land Use Change (7) Sedimentation (5)
Freshwater Wetlands (Respondents = 18)	Water Quality Enhancement (5) Biodiversity (5); Flood Control (5) Storm Buffering/Hazard Protection (4)	Land Use Change (8) Fragmentation (7) Dredging/Filling (5)
Longleaf Pine Habitat (Respondents = 6)	Biodiversity (5) Nesting Habitat for Birds and Turtles (4) Wildlife Habitat (4)	Land Use Change (8) Fragmentation (7)

Figure 6 SAC Stressor Evaluation Matrix Summary

The updated Evaluation (2021–2023) revealed strong continuity with the 2012 findings while also capturing new areas of concern. **Streams and Rivers, Intertidal Marshes and Flats, and Freshwater Wetlands** remain among the most threatened habitats, reflecting long-standing pressures. By 2023, however, **Beaches and Dunes, Pine Savannas, and Longleaf Pine** had also emerged as priority habitats, highlighting growing risks to terrestrial systems. For ecosystem services, **Biodiversity, Water Quality Enhancement, and Wildlife Habitat** continued to rank as most vulnerable, with **Sediment and Nutrient Retention** and **Fisheries Habitat** added in the most recent analysis. Stressors identified in 2012 such as **Land Use Change, Climate Variability, Fragmentation, and Sedimentation** remain dominant, now joined by **Sea Level Rise and Dredging/Filling** as added concerns. Taken together, these results underscore how rapid development, shifting land use, and accelerating sea level rise are intensifying vulnerabilities, broadening the range of habitats and ecosystem services at risk across Coastal Alabama.

Synthesis of Watershed Management Plans Across the Coast

To translate locally based watershed plans into a broader understanding of conditions and needs across coastal Alabama, MBNEP published the ***Synthesizing Comprehensive Watershed Management Plan Across the Alabama Coast*** report. Released in 2023, this assessment reviews progress in addressing major concerns affecting water quality and habitat health and highlights shared priorities across watersheds.

Across coastal Alabama watersheds, the most persistent challenges involve **sediment, nutrient, and pathogen inputs, litter, habitat loss, degraded streams, invasive species, and shoreline erosion**. Patterns vary by watershed, but several trends emerge. **Dog River, Western Shore, and Fowl River** exhibit the widest range of impairments, with issues spanning water quality, habitat degradation, and shoreline stability. **D'Olive, Bon Secour, Weeks Bay, Bayou La Batre, and Wolf Bay** also show multiple overlapping stressors, particularly nutrient enrichment, litter, and invasive species. Smaller systems such as **Dauphin Island and Western Perdido Bay** experience fewer documented problems but still face concerns with pathogens, litter, and habitat degradation. Collectively, the synthesis highlights sedimentation, nutrient loading, and shoreline erosion as the most widespread threats, underscoring the need for integrated watershed management strategies that address both water quality and habitat condition.

PRIORITY WATERSHED IMPAIRMENTS AND ISSUES								
Watershed	Water Quality Impairments				Habitat Degradation Issues			
	Sediments	Nutrients	Pathogens	Litter	Habitat Loss	Degraded Streams	Invasive Species	Shoreline Erosion
D'Olive	P	√	P	√	√	P	√	√
Three Mile Creek	√	P	P	P		√	√	
Bon Secour	P	√	P	√	√		√	P
Dog River	P	P	P	P	√	√	√	√
Fowl River	√	P	P	√	P	√	√	√
Weeks Bay	P	√	P		√	P	√	√
Bayou La Batre	P	√	P	√		P	√	√
West Fowl River			P	P		√	√	P
Wolf Bay	P	√	P	√	√	P	P	√
Western Shore	√	√	√	√	√	√	√	P
Gulf Frontal	√	P	P	√	√		√	P
Mobile Tensaw Delta	√	P		√	P	√	P	P
Dauphin Island			√	√	P	√	√	P
Eastern Shore	P		P		√	√	√	P
Western Perdido Bay		√	P		P		√	P

NOTE: P = Identified as priority issue in watershed management plan (WMP)

Figure 7 Priority watershed concerns documented in Synthesis Report

Community Input: Community Values

Over the last quarter century, since the inception of the MBNEP, one thing has remained constant for coastal Alabama residents: **nothing is more important than water**. Whether to drink, fish, earn a living, swim, play, or simply enjoy the view, residents deeply value the waters defining their quality of life. To successfully restore, protect, and sustain this way of life, it is essential to stay connected to the priorities identified by the community.

Through an extensive citizen-input process first conducted for the 2013 CCMP and revalidated in over the past two years of preparing for the next CCMP, six common values continue to be very important to those living in coastal Alabama. Residents, business owners, and local leaders consistently emphasized protecting natural resources, preserving cultural traditions, ensuring safe access to the water, and supporting clean water, healthy fisheries, and resilient shorelines. These values reflect a deep connection to place and provide the foundation for the goals and actions outlined in this plan.

Access

Coastal Alabama's waters define the character of the region, offering places to play, explore, and connect with nature. Whether paddling through quiet bayous, fishing from the shore, or simply enjoying the view, residents and visitors alike cherish the ability to access and experience these waters. Stakeholders stressed safe, barrier-free access as essential, with a vision combining practical improvements like signage, ADA-compliant infrastructure, and gateway points with amenities to make the waterfront more welcoming, such as shaded seating and educational features. Key needs and suggestions included:

- Ensuring access to clean water and bountiful seafood
- Expanding kayak and canoe launches, as well as small boat ramps
- Increasing public access beyond marinas, including shoreline parks
- Developing ADA-accessible waterfront trails and launch sites
- Adding educational signage at boat launches and crossings
- Addressing invasive shoreline overgrowth blocking entry points
- Improving safety where shorelines are eroded or overgrown
- Creating urban waterfront greenways to connect neighborhoods to the Bay
- Providing additional public docks in underserved areas
- Installing shaded seating and viewing areas along the water's edge

Beaches and Shorelines

Beaches, dunes, and shorelines are treasured for their scenic beauty, recreational opportunities, and economic value, but respondents voiced strong concern that unchecked erosion, hard armoring, and overdevelopment could undermine their health and resilience. Protecting dunes, controlling erosion, and supporting community-driven renourishment emerged as top priorities, alongside efforts to balance tourism with long-term ecological sustainability. Key concerns and recommendations included:

- Chronic beach and dune erosion, especially following major storms
- Litter on beaches, with calls for regular cleanups and stricter enforcement
- Loss of dunes from high tides, with strong support for living shorelines and dune stabilization
- Limiting hard armoring such as bulkheads in favor of nature-based buffers
- Organizing volunteer dune restoration days to replant native grasses
- Expanding public beach monitoring programs to track shoreline change
- Addressing sediment disturbance from ship-channel dredging
- Balancing tourism with ecological health and long-term protection
- Installing protective dune fencing and elevated boardwalks to reduce trampling
- Advancing community-driven beach nourishment and renourishment projects

Fish and Wildlife

Protecting the diversity of fish, shellfish, and wildlife habitats, including marshes, oyster reefs, and seagrass beds, emerged as a clear and urgent community priority. Residents emphasized the importance of restoring ecological infrastructure through native plantings, invasive species control, and habitat

restoration, while also recognizing the cultural and economic value of healthy seafood harvests. Key concerns and recommendations included:

- Reduced oyster and crab populations along with litter, with calls for targeted cleanups
- Protection of local fish stocks through seasonal harvest closures
- Support for large scale oyster reef restoration as nursery habitat
- Native marsh plantings along shorelines to strengthen wildlife populations
- Concerns about invasive species displacing native fauna
- Monitoring and mitigation of fish kills following heavy rains
- Expansion of fish passage structures to reconnect waterways
- Restoration of bayou corridors to improve habitat connectivity
- Protection of submerged aquatic vegetation essential for juvenile fish
- Controls on noise and light pollution affecting nesting shorebirds

Heritage and Culture

Coastal Alabama’s maritime heritage is woven into daily life, reflected in shrimp boats on the horizon at dawn, family cookouts along the shore, and traditions of fishing and waterfront festivals which have endured for generations. Respondents emphasized the importance of keeping these cultural treasures alive through education, interpretive signage, and intergenerational outreach, ensuring the stories and practices of the coast continue to thrive. Key themes and recommendations included:

- Pride in coastal Alabama’s heritage and local seafood traditions
- Support for family-run marinas and time-honored fishing practices
- Concern that historic docks and shipyards are being paved over
- Calls for interpretive markers at sites of historic oystering and boatbuilding
- Youth aren’t connecting to the land—desire for school outreach programs
- Celebration of annual maritime festivals and waterfront cookouts
- Preservation of landmarks in shrinking coastal communities
- Emphasis on intergenerational stewardship, passing on elders’ knowledge
- Requests for cultural preservation zones around waterfront districts
- Desire to document and share oral histories of fishing families

Resiliency

From hurricane surge to sea level rise, the community views resilient shorelines and adaptable infrastructure as essential for protecting lives, property, and ecosystems. Citizen input called for nature-based defenses, stronger emergency planning, and improved floodplain management. Key concerns and recommendations included:

- Concern over increased storm surge and erosion driven by development
- Anxiety about airborne contaminants released during extreme weather
- Support for living shorelines such as marsh sill breakwaters and reef structures
- Restoration of tidal marsh islands to buffer wave energy
- Use of beneficially placed dredged materials to elevate habitats

- Coordination with utility companies to secure infrastructure before storms
- Replanting native vegetation to improve flood protection
- Community led resilience planning workshops and demonstration projects
- Mapping of evacuation routes and emergency shelter locations
- Advocacy for stricter floodplain management and updated zoning regulations

Water Quality

Clean, healthy water free of pollution, harmful bacteria, and excess nutrients was universally recognized as fundamental to public health, wildlife habitat, and the local economy. Citizen feedback raised concerns about runoff, septic systems, and sediment loads, along with calls for more transparent testing and reporting. Key issues and recommendations included:

- Trash on roadways leading to illegal dumping into waterways
- Failing septic systems contaminating groundwater and creeks
- Need for real time water testing and public advisory notifications
- Monitoring harmful algae blooms to prevent toxic outbreaks
- Stricter inspections of oil and gas infrastructure to prevent leakage
- Regular volunteer cleanups to reduce plastics and debris
- Upgrades to stormwater treatment to reduce sediment and nutrient runoff
- Transparent reporting of dredging operations and contaminant release
- Controls on lawn fertilizers and pesticides to limit nutrient loading
- Public education campaigns on proper waste disposal and spill response

4. Bringing It All Together: The Strategies

Overview of the CCMP Development Process

Drawing from the CCMP evaluation, the stressor assessment, the watershed plan synthesis, and broad community input, a clear picture has emerged to guide the next decade of action. From this comprehensive effort, the most pressing drivers of ecosystem decline were identified as **land use change** and **climate variability**. These stressors are shaping the trajectory of estuarine health and have framed the overarching goals of the new CCMP: improving growth management, improving sediment management, and improving waste management. Together, these goals reflect both science and community vision for conserving and restoring the natural resources most vital to coastal Alabama's resilience.

Goals of *The Waters We Share* CCMP 2025–2035

Improve Growth Management

Population growth and development create stress on natural systems through increased stormwater runoff, habitat loss, and ecosystem degradation. The goal of improving growth management is to protect water quality, sustain biodiversity, and increase coastal resilience. Achieving this goal will help ensure communities continue to enjoy the benefits of natural shorelines, clean waters, abundant fish and wildlife, cultural heritage, and unique coastal resources.

Improve Sediment Management

Excess sediment can smother habitats and degrade water quality, while sediment deficits can accelerate shoreline loss. Factors such as habitat alteration, port expansion, sea level rise, stormwater runoff, dredging, and storms all influence sediment levels and distribution in our estuaries. The goal of improving sediment management is to stabilize ecosystems by protecting water quality, sustaining biodiversity, and strengthening coastal resilience.

Improve Waste Management

Waste in waterways harms wildlife, clogs storm drains, impacts human health, and reduces quality of life. Growth across Coastal Alabama has increased waste streams, including sewage, fertilizer runoff, industrial discharges, and litter. The goal of improving waste management is to reduce these impacts, thereby improving water quality, sustaining biodiversity, and supporting resilient, healthy communities and a competitive coastal economy.

To support development of the new CCMP, two structured meetings of the Management Conference were convened to initiate the preparation of Action Plans for each committee. These meetings provided formal venues for reviewing the findings of the *CCMP Implementation Review* (October 2023), the stressor evaluation, and the watershed plan synthesis. They also served as collaborative forums where ideas were generated and wide stakeholder input was gathered, ensuring each committee's Action Plan reflects both scientific understanding and community priorities.

CCMP Summit #1

On October 24, 2024, MBNEP engaged 97 participants, representing about 1/3 of the entire Management Conference, in a workshop looking forward to the next CCMP. In a nod to achieving greater community collective impact, the seven committees (Science Advisory, Project Implementation, Business Resources, Community Action, Finance, Government Networks, and Executive) were scrambled into diverse small groups with representatives from each. Each small group was facilitated to focus on one of the CCMP's focus areas of sediment, waste, or growth management and entertained six similar questions that resulted in the generation of more than 1,000 ideas for leading to action plans in the next CCMP.

A sample of the ideas generated:

- Sediment Management
- 3D Printing of structures with dredge
- Monetizing construction of containment and fill
- Innovative Dredge Reuse Solutions competition at Innovation Portal
- Growth Management
- Design art inspired SW systems that could also connect with cultures/heritage
- Green infrastructure & smart growth competitions to showcase innovative solutions
- Pop-Up Design Labs in neighborhoods to conceptualize LID and nature-based solutions
- Waste Management
- Floating wetland mats in confined waters for nutrient uptake
- Recruit businesses specializing in reusing waste streams to fuel other industries
- Design demonstration native gardens in residential areas focused on nutrient uptake

MBNEP staff then took those 1,000 plus ideas and further synthesized them into like groupings before presenting them to the committees at their next round of quarterly meetings, where they were prioritized via individual polling.

CCMP Summit #2

At a second Conference-wide workshop on June 24, 2025, 85 representatives from committees reconvened to review the top priority Action Plan concepts and were challenged to put details to the Plans, answering the “What, Why, Where, Who, How Much, and When” questions necessary for implementation. Those detailed draft Action Plans were then compiled and reviewed by the entire Conference in a session celebrating their work.

From Goals to Action Plans

In considering recommendations related to land use change and climate variability, the Management Conference aligned committee responsibilities with the overarching goals of the Program. Each committee evaluated its goals, identified priority areas for refinement, and translated them into targeted Action Plans to guide implementation over the next decade. The following sections present these Action

Plans, reflecting the collective deliberations of the Management Conference committees and a shared commitment to addressing the most critical stressors facing coastal Alabama.

Management Conference Action Plan Overview

Each Action Plan contains goals, objectives, suggested activities, potential lead entity, timeline estimates, funding estimates, and suggested performance measures. The committee Action Plans are organized by CCMP Goal, CCMP Pillar, and CCMP Objective.

Color Coding of Activities

Activities are color-coded to indicate which CCMP goal they address:

- Growth Management (green)
- Sediment Management (orange)
- Waste Management (gray)

CCMP Pillars

The Action Plans are structured around four core pillars:

- EST – Estuary Status and Trends
Includes data development, communication of status and trends, research, and modeling.
- ERP – Estuary Restoration and Protection
Includes planning, engineering and design, professional training through lessons learned, invasive species management, shoreline management, and access enhancements.
- TAC – Technical Assistance and Capacity Building
Includes direct assistance, development of decision support tools, and catalyzing new business opportunities to improve environmental management.
- EPI – Education and Public Involvement
Includes outreach, engagement, awareness campaigns, and interpretive signage.

Timeline for Implementation

Activities are organized into three ranges to reflect estimated initiation time:

- 1–3 years: Short term
- 4–6 years: Medium term
- 7–10 years: Long term

Funding Sources

Suggested funding sources are based on staff knowledge and are expected to change depending on the funding environment at the time of implementation. The range is as follows:

\$	<\$10k
\$\$	\$10k–100k
\$\$\$	\$100k–1M
\$\$\$\$	\$1M–10M
\$\$\$\$\$	\$10M–100M

Performance Measures

Performance measures provide indicators to determine the effectiveness of each activity in achieving its related goals and objectives.

Management Conference Committee Guiding Principles

Effective management of our coastal resources requires more than good intentions; it demands clear principles to guide action, align diverse stakeholders, and deliver measurable results. Each committee plays a strategic role in advancing this mission, ensuring science, policy, business, and community voices are integrated into decision-making. These guiding principles distill the focus of each group into actionable priorities, designed to foster innovation, strengthen resilience, and create lasting value for both ecosystems and economies.

Science Advisory Committee (SAC)

- **Lead with Evidence** – Ground decisions in rigorous, peer-reviewed science and transparent data.
- **Adapt with Purpose** – Evolve strategies as new knowledge and conditions emerge.
- **Connect the Sciences** – Integrate physical, biological, and social research for system-wide understanding.
- **Empower with Knowledge** – Share tools and training so science informs communities and decision-makers.

Project Implementation Committee (PIC)

- **Ground Every Project in Science** – Use sound research and monitoring to guide and measure results.
- **Restore and Strengthen Nature** – Rebuild ecological functions to protect against growth and climate pressures.
- **Resilient Shores, Thriving Communities** – Safeguard shorelines while ensuring access to water and open spaces.
- **Work Together for Lasting Change** – Unite governments, partners, and communities to multiply impact.

Business Resources Committee (BRC)

- **Turn Conservation into a Competitive Edge** – Showcase how protecting nature strengthens business success and community trust.
- **Lead with Innovation and Action** – Equip businesses with tools, training, and new technologies to build resilience.
- **Partner for Greater Impact** – Collaborate across sectors and leverage incentives that reward sustainable leadership.
- **Celebrate Measurable Success** – Track progress and shine a light on business-driven conservation achievements.

Citizen Action Committee (CAC)

- **Empower Local Leaders** – Build the capacity of grassroots groups and citizen champions for healthier estuaries.

- **Inspire Connection and Stewardship** – Deepen cultural and personal ties to water through education, storytelling, and service.
- **Science in the Hands of Citizens** – Expand volunteer science to make knowledge transparent and inclusive.
- **Strengthen Local Governance** – Equip municipalities with the tools and training to protect natural resources.

Government Networks Committee (GNC)

- **Lead with Resilience** – Advance nature-based solutions, forward-looking codes, and model ordinances.
- **Unite Across Boundaries** – Align local, county, and regional action to tackle shared challenges at scale.
- **Science-Driven Governance** – Ensure the best data and monitoring directly shape planning and decisions.
- **Measure and Adapt** – Track progress, enforce commitments, and refine strategies for continuous improvement.