



RESTORE
AMERICA'S
ESTUARIES

JOBS AND DOLLARS

BIG RETURNS from Coastal Habitat Restoration

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**RESTORE
AMERICA'S
ESTUARIES**

Restore America's Estuaries is dedicated to the protection and restoration of bays and estuaries as essential resources for our nation.



President's Message

I'm honored to share this important report with you—one that highlights something we care deeply about: the incredible value of our nation's estuaries. These vibrant places may only make up 4% of America's land area, but they are home to 40% of our population. That's no coincidence—people are drawn to estuaries because they are rich in life, opportunity, and connection.

At Restore America's Estuaries, we've seen firsthand how estuaries sustain our coastal economies in ways both seen and unseen. They serve as critical hubs for commerce, tourism, and fisheries—generating billions of dollars annually and supporting millions of American jobs. From bustling ports to family-owned oyster farms, countless livelihoods depend on the productivity and health of our estuarine systems.

Beyond economics, estuaries are natural protectors. They act as buffers during storms, absorbing floodwaters and reducing the impact of storm surges on coastal communities. As climate change drives more frequent and intense weather events, estuaries are among our most effective—and cost-effective—defenses.

They are also playgrounds for the soul. Estuaries provide unmatched recreational opportunities, drawing boaters, birdwatchers, anglers, and beachgoers alike. These activities not only enrich our lives but also bolster local businesses and economies that rely on tourism and outdoor recreation.

Our nation's estuaries are engines of economic activity, bastions of biodiversity, and buffers against a changing climate. They are too valuable to neglect and too integral to ignore. The findings in this report underscore why continued investment in estuarine conservation and restoration is not just an environmental imperative—it's an economic one.

If you'd like to read more about the economics of estuaries, please visit our 2021 report - *Economic Value of America's Estuaries*. The report can be found at: www.estuaries.org/economics/

Thank you for your continued support of our work to protect these essential places—for people, for nature, and for our future.

Daniel Hayden
President and CEO
Restore America's Estuaries



Why are estuaries important?

The US economy depends on our coasts

Coastal counties of the U.S. are home to 131 million people, or over 30 percent of the nation's total population. Within this narrow band are estuaries—vibrant coastal areas where two bodies of water merge to create some of the most productive ecosystems on the planet. Estuaries provide food and refuge for diverse fish, birds, and mammals. They are environmental treasures, and their productivity is vital to our nation's economy, supplying important natural resources and millions of jobs.

Our US coastal regions are economic engines

- Supply key habitat for over 75% of our nation's commercial fish catch and 80-90% of the recreational fish catch
- Provide 40% of US employment
- Support more than 69 million jobs
- Generate half the nation's Gross Domestic Product
- Protect almost \$2 trillion in trade each year.
- Provide \$214 billion annually in leisure and hospitality jobs.

Economics of Estuaries, Restore America's Estuaries, 2021

Estuaries protect our coastal communities

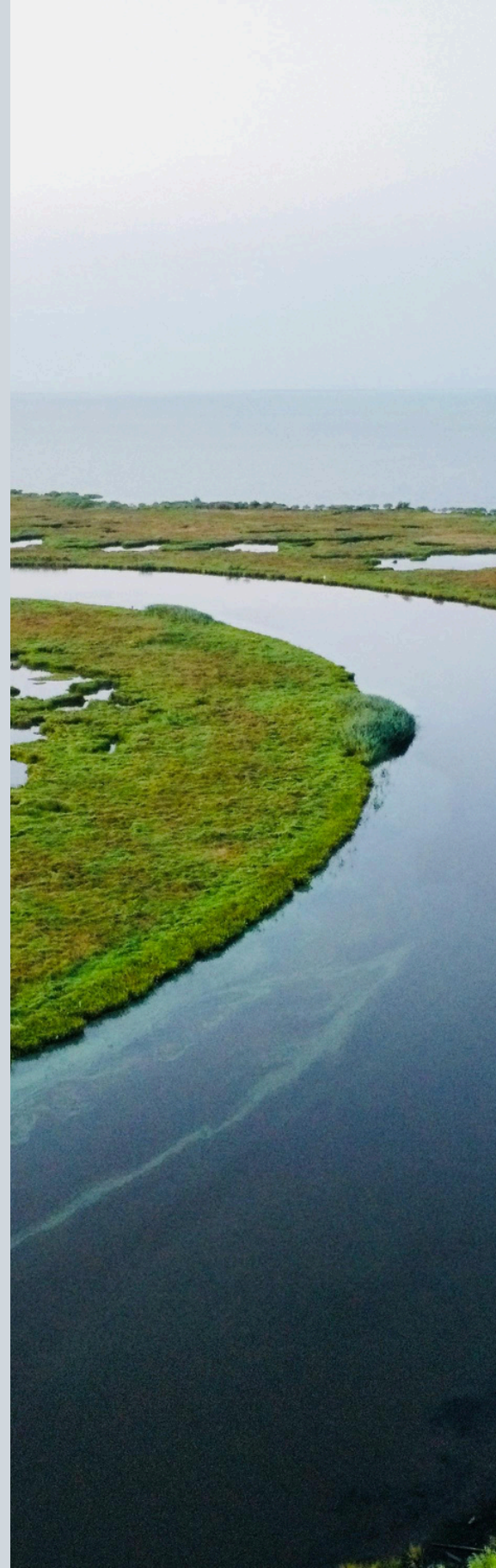
Estuaries and their surrounding wetlands are buffer zones. They stabilize shorelines and protect coastal areas, inland habitats, and human communities from floods and storm surges from hurricanes. When flooding does occur, estuaries often act like huge sponges, soaking up the excess water. Estuarine habitats also protect streams, river channels, and coastal shores from excessive erosion caused by wind, water, and ice.

Shore Bets: Investing in Nature for Lasting Protection

Investing in nature based solutions such as living shorelines reduce pollution in water, restore habitat, and lessen damage from storms and floods - all at a much lower upfront cost than traditional infrastructure such as bulkheads or seawalls. Nature based solutions also require less maintenance over time making them environmentally and economically smart choices.

Getting out on the water

Estuaries and coasts are a favorite destination for American travelers with more than 189 million people visiting the coasts each year. Tourism and recreation alone contribute \$143 billion to the national economy, according to NOAA. Whether you prefer fishing, sailing, bird watching, or bike riding—estuaries have something to offer everyone, and each visit contributes dollars to local restaurants, lodging, and small businesses.



Healthy Estuaries, Healthy Economies

The health of our economy and our estuaries are directly connected.

A hurricane hits New York City, and the New York Stock Exchange can't open.

Sunny day flooding on roads in Virginia halts daily operations at a nearby naval base and hampers our Armed Forces' ability to defend us.

A loss of wetland in Louisiana affects water quality, impairing fish hatcheries.

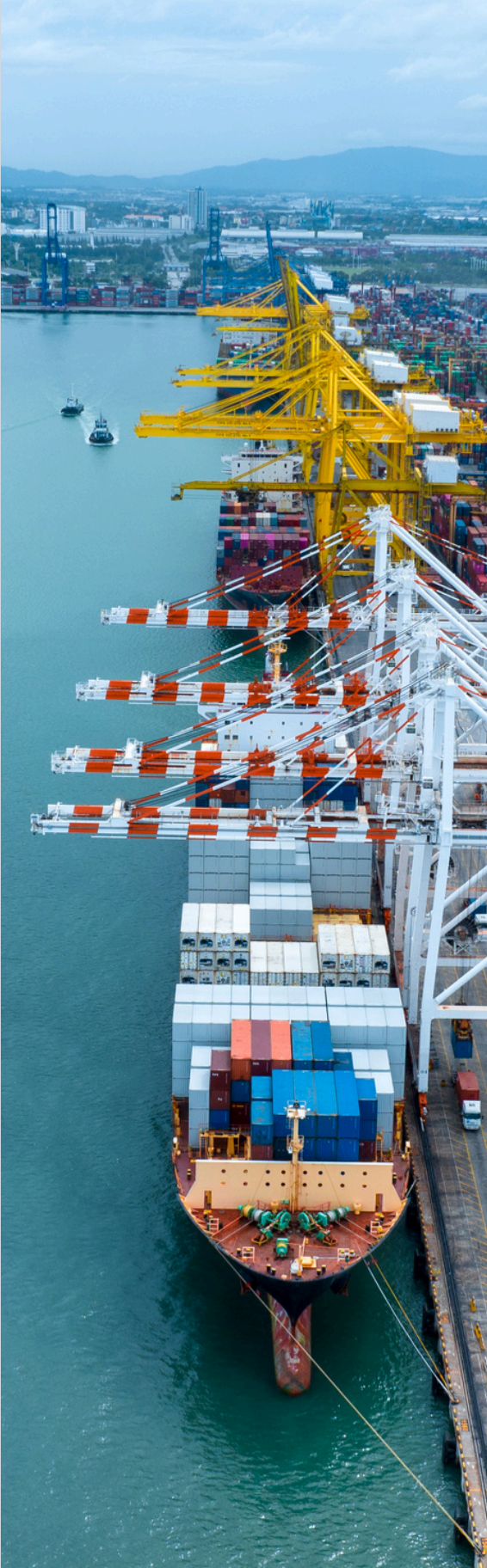
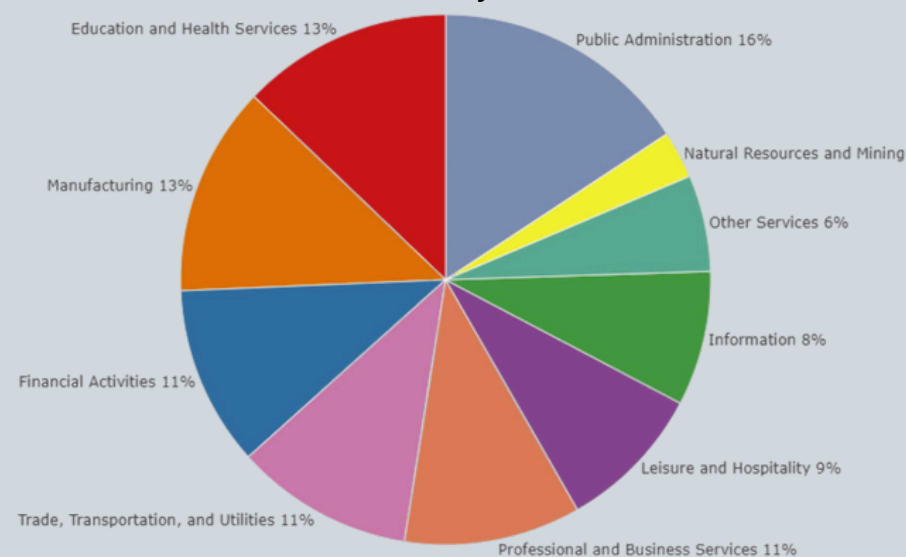
Our estuaries are economic engines that provide resources, housing, and transportation for some of America's largest industries. In 2022, there were 53 million jobs in coastal counties, 37% of the total U.S. employment.

Spending money on estuary restoration is a strong return on investment because it delivers long-term economic, environmental, and social benefits that far outweigh the initial costs. Restoration projects create jobs in construction, science, and engineering while boosting industries like fisheries and tourism that rely on healthy ecosystems. Every dollar spent on restoration can generate multiple dollars in economic activity by supporting coastal businesses, increasing property values, and reducing damage from storms and flooding.

From 2009-2018, employment and Gross Domestic Product (GDP) grew faster in estuary regions than in the U.S. as a whole, while population and housing rates grew at a similar pace, indicating that the primary driver of change was economic rather than demographic growth.

Economics of Estuaries, Restore America's Estuaries, 2021

Coastal County GDP, 2022



Creating Jobs

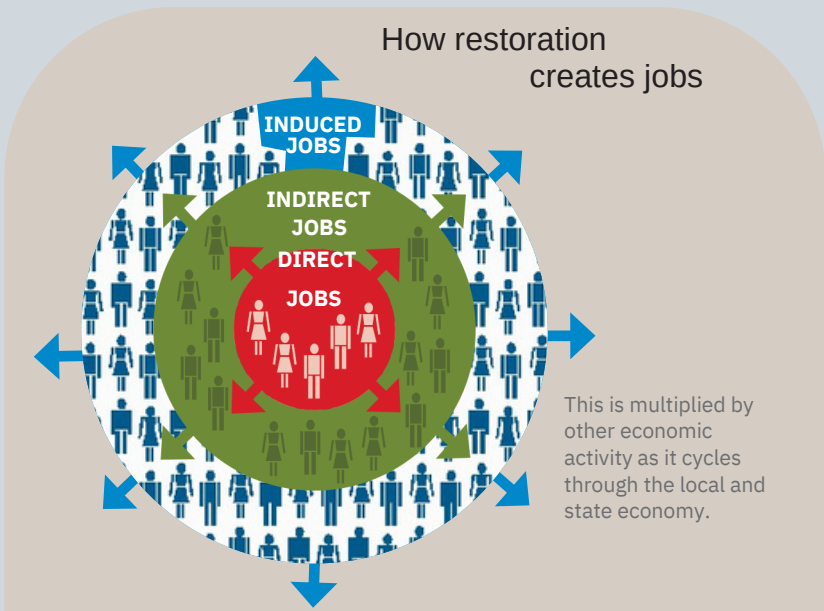
Estuaries play a crucial role in supporting jobs and economic vitality in coastal communities across the United States. These dynamic ecosystems provide for American jobs across multiple sectors, including:

- Construction
- Shipping
- Fishing
- Farming
- Aquaculture
- Dining and Entertainment
- Recreation/ Tourism
- Public Health
- Scientific Research
- Power Generation
- Conservation
- Wastewater Management

Coastal economies in the U.S. are vibrant, diverse, and vital to the nation’s overall economic health. Spanning over 30 states and territories with ocean or Great Lakes coastlines, these regions generate trillions in economic activity annually and support nearly 40% of the U.S. population.

Coastal counties account for 34% of the entire US GDP, or \$7.01 trillion, driven by bustling ports, thriving waterfront communities, and a high concentration of infrastructure development, while making up only 4% of the landmass in the United States.

Investments in our coasts are investments in the livelihoods of millions of Americans who call these regions home.



Restoration improves coastal habitats and helps local economies by supporting jobs. Three different types of jobs are created: direct, indirect, and induced.

DIRECT JOBS: People using their skills to restore damaged wetlands, shellfish beds, coral reefs and fish passages.

INDIRECT JOBS: Jobs in industries that supply materials for restoration projects, such as lumber, concrete and nursery plants.

INDUCED JOBS: Jobs in businesses that provide local goods and services, such as clothing and food, to people working on restoration projects.

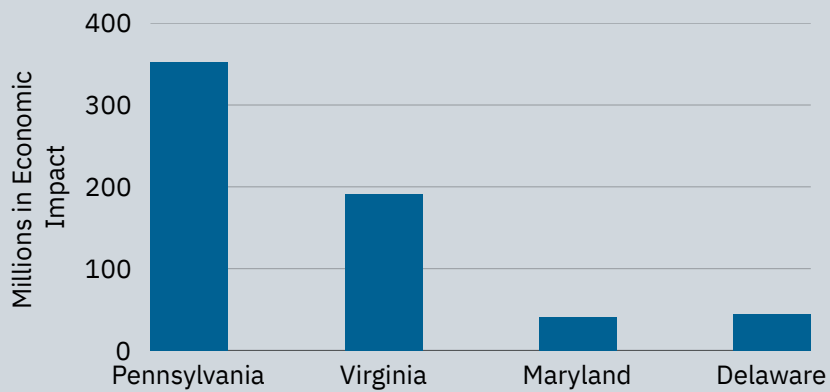


Creating Jobs- Agriculture

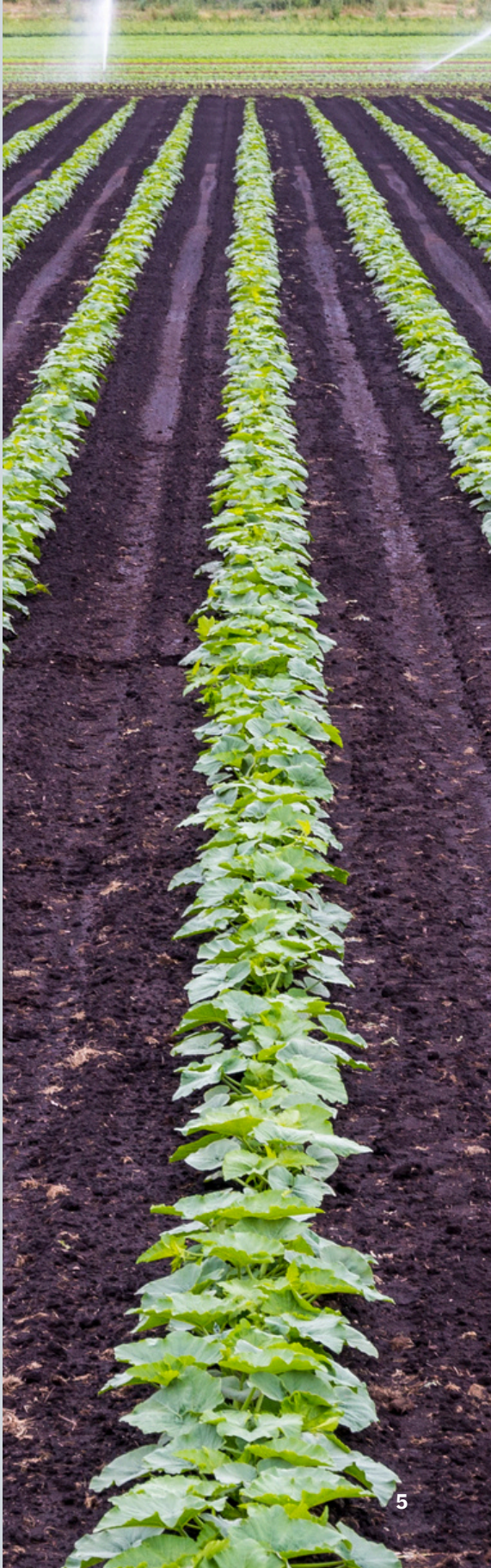
An economic assessment by the Chesapeake Bay Foundation in 2022 found that implementing the agricultural conservation practices would provide an additional \$655.2 million annually in total output (sales of goods and services) for local businesses and workers— including \$268.9 million in earnings—and support 6,673 jobs each year in the Chesapeake Bay watershed. It also found:

Every **\$1** spent on further conservation practices in the watershed would, on average, return an estimated **\$1.75**, including increased sales of goods and services and increased earnings for businesses and workers. Depending on the practice, location, and level of investment, the return ranges from \$1.39 to \$1.82.

- Implementing agricultural conservation practices in Pennsylvania would result in an estimated **\$352.5 million in economic impacts**. That includes the benefit of \$145.1 million in annual earnings for businesses and workers and the support of 3,457 jobs each year.
- In Virginia, investment in agricultural conservation practices would result in an estimated **\$191.2 million in economic impacts**, including the benefit of \$78.6 million in annual earnings for businesses and workers and the support of 2,067 jobs each year.
- Implementing the agricultural conservation practices in Maryland’s plan would result in **\$41.2 million in economic impacts**, including the benefit of \$16.5 million in annual earnings for businesses and workers and the support of 423 jobs each year.
- Delaware, New York, and West Virginia would also see significant economic effects from investing in the agricultural conservation practices outlined in their plans, with additional economic impacts estimated at **\$44.6 million, \$18.2 million, and \$7.5 million** annually, respectively.



Conservative agricultural practices play a vital role in protecting estuarine health by reducing nutrient runoff, sedimentation, and pesticide contamination. Techniques like cover cropping, buffer strips, and reduced tillage help protect our estuaries while also increasing profits for farmers. Even a small change can have an exponential benefit throughout the watershed, by providing agricultural and coastal economies with clean water.



Creating Jobs- Restoration

Long Island Sound Community Impact Fund

The Long Island Sound Community Impact Fund (LISCIF), managed by Restore America’s Estuaries, is a grant program funded by the US Environmental Protection Agency that funds restoration projects in the Long Island Sound. These projects build capacity for organizations located in communities affected by disproportionate environmental and human health risks by funding projects, jobs, and resources whose results ripple out into the community.

Project Spotlight

Collective Oyster Recycling & Restoration Foundation, Inc.

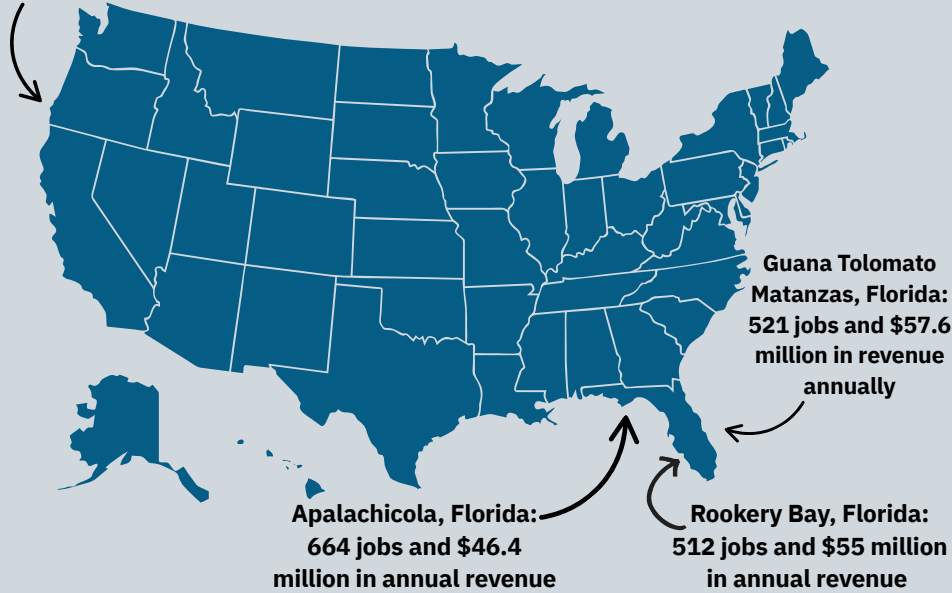
This project supports coastal Connecticut’s economy by recycling 250,000 pounds of shells from local restaurants and events to restore oyster reefs in Long Island Sound. By creating a shell supply chain, it boosts the shellfish industry, improves water quality, and protects shoreline infrastructure, generating long-term economic and environmental benefits for communities in Bridgeport, Stratford, and Branford.

National Estuarine Research Reserve System

The National Estuarine Research Reserve System (NERRS) is a network of 30 protected coastal sites across the United States designated for long-term research, education, stewardship, and coastal management. Established through a partnership between NOAA and coastal states, the reserves protect estuarine ecosystems while serving as living laboratories for scientists and classrooms for educators.

In 2021, a report was published on the economic impact of just four reserves, representing a fraction of the overall reserves’ impact.

South Slough, Oregon:
65 jobs and \$6.1 million
in annual revenue



Storm Damage Mitigation

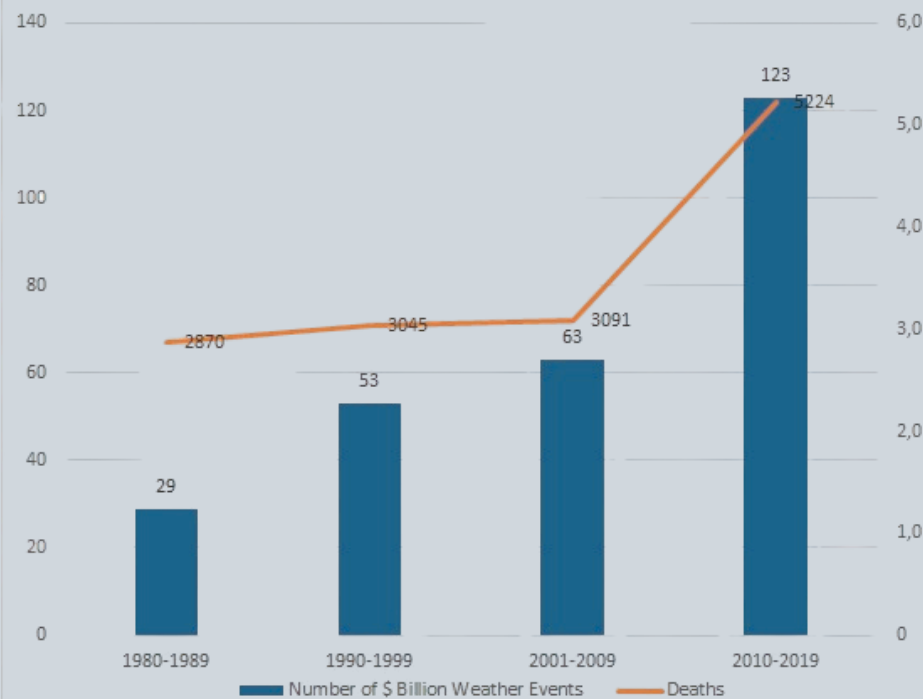
Estuaries play a vital role in preventing storm damage by acting as natural buffers between land and sea. Their wetlands, marshes, and mangroves absorb and slow down storm surges, reducing the height and power of water reaching inland areas during hurricanes and coastal storms. The shallow waters and dense vegetation help disperse wave energy, while the estuary’s ability to store excess water mitigates flooding risks.

Altogether, estuaries help protect communities, infrastructure, and ecosystems from the devastating impacts of storms, making them a key part of storm-planning strategies for states, municipalities, and even individuals.

As hurricanes in the United States become more intense and increasingly threatening to coastal communities. Warmer ocean temperatures are fueling stronger storms, leading to higher wind speeds, heavier rainfall, and more severe storm surges. At the same time, rising sea levels are worsening flooding impacts, especially in low-lying and densely populated areas.

As more people move to the coast, the number of individuals and properties at risk continues to grow. These compounding factors make each hurricane season more dangerous, putting greater pressure on emergency management systems, infrastructure, and efforts to build coastal resilience.

Rising Number of Severe Storms and Deaths



Economics of Estuaries, Restore America’s Estuaries, 2021



Storm Damage Mitigation

Coastal wetlands shield vulnerable communities from extreme weather by absorbing storm surges that would otherwise devastate homes, businesses, and livelihoods.

In certain coastal states — particularly Florida and Louisiana — private insurers are fleeing areas at high risk from storm damage. Florida has approximately 2.9 million homes and \$580 billion at risk of a potential hit by a catastrophic Category 5 hurricane.

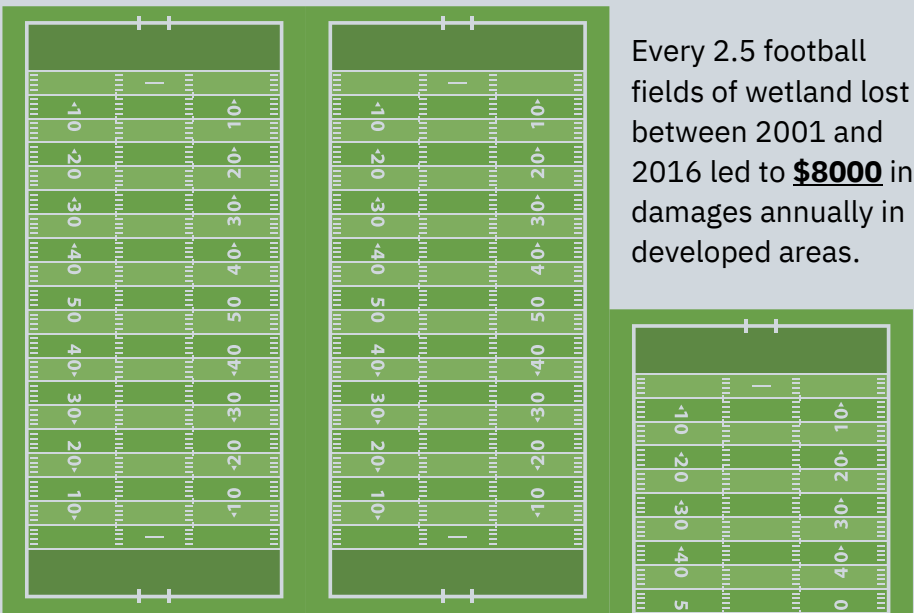
As a result, some residents in Florida have seen increases as much as 274% in premiums while others have seen their insurance options disappear as insurers leave the state.

As more people move to our coasts, development has resulted in the loss of approximately 250,000 acres of estuarine surface area during the last 35 years, putting more people at risk of damage from storms.

Reinsurers defend against rising tide of natural catastrophe losses, for now, Moody's (2023)

Our Gulf Coast has been hit the hardest with Florida leading the U.S. in total cumulative costs (~\$450 billion) from billion-dollar disasters since 1980 largely due to the impact of hurricanes followed closely behind by Texas(~\$436 billion) and Louisiana (~\$314 billion).

NOAA National Centers for Environmental Information (NCEI) U.S. Billion-Dollar Weather and Climate Disasters (2025)



Wetlands, Flooding, and the Clean Water Act, 2021

With coastal regions becoming more popular, communities are struggling to find a balance of managed growth and protecting their residents. Estuary and coastal restoration, when effectively conducted, provides a cost-effective option for protecting homes, businesses, and people from the threat of worsening storms while preserving the natural beauty that continues to draw people to our coasts.



Coasts Fuel Outdoor Recreation

The number of people in the U.S. engaged in outdoor recreation has never been higher, with outdoor participation growing 4.1% in 2024 to a record 175.8 million participants.

For the first time ever, more than half of American women are participating in outdoor recreation: The female participation rate reached 51.9% in 2023, up from 50% in 2022.

Boating, fishing, hunting, kayaking, paddle boarding, and birding are all major economic drivers and represent the unique ways to interact with estuaries. Boating and fishing combined was the largest recreational activity for the nation in 2024, coming in at \$36.8 billion in current-dollar value added and was the largest recreational activity in 34 states and the District of Columbia.

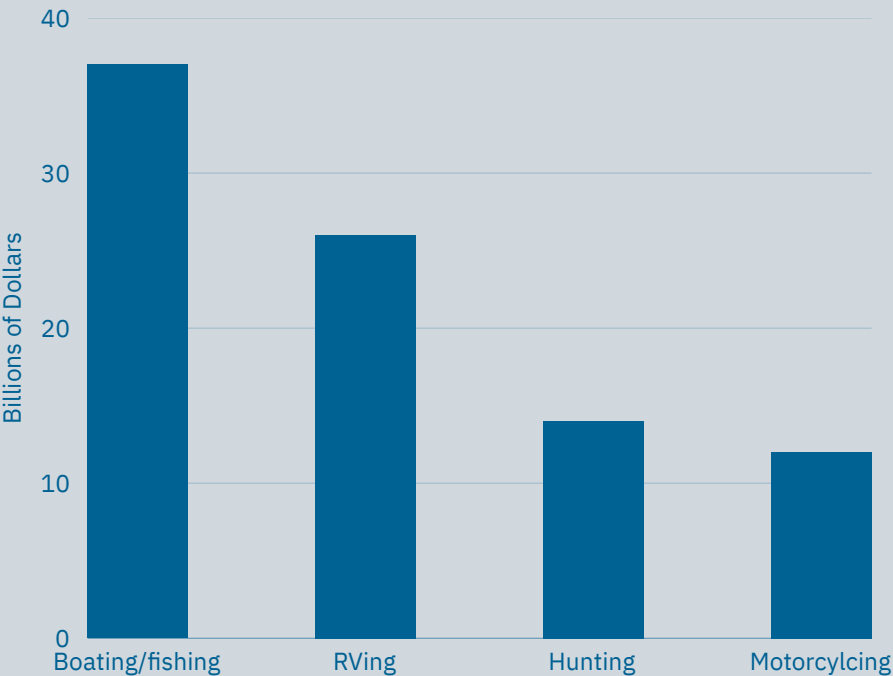
In 2024, the marine economy accounted for \$476.2 billion, or 1.8 percent, of current-dollar U.S. gross domestic product (GDP) in 2022, an increase from \$424.2 billion, or 1.8 percent, in 2021. The marine economy accounted for 1.7 percent, or \$776.9 billion, of current-dollar gross output.

*2024 Outdoor Participation Trends Report, Outdoor Industry Association, 2024
Marine Economy Satellite Account, 2022*

The U.S. Outdoor Recreation Industry, 2024:

- **Nominal Gross Output: \$1.2 trillion, up 5% from 2022**
- **36% growth in Real Gross Output since 2012**
- **5 million jobs, 3.1% of Employment**

2024 Outdoor Participation Trends Report



Outdoor Recreation Satellite Account, U.S. and States, 2023



Big Catches, Bigger Impact

Pamlico Sound is the largest sound, or saltwater lagoon, on the East Coast of North America. Fed by the waters of the Tar-Pamlico and Neuse watersheds and bordered by Albemarle Sound in the North, Pamlico Sound is one of the most thriving near shore fisheries in the United States.

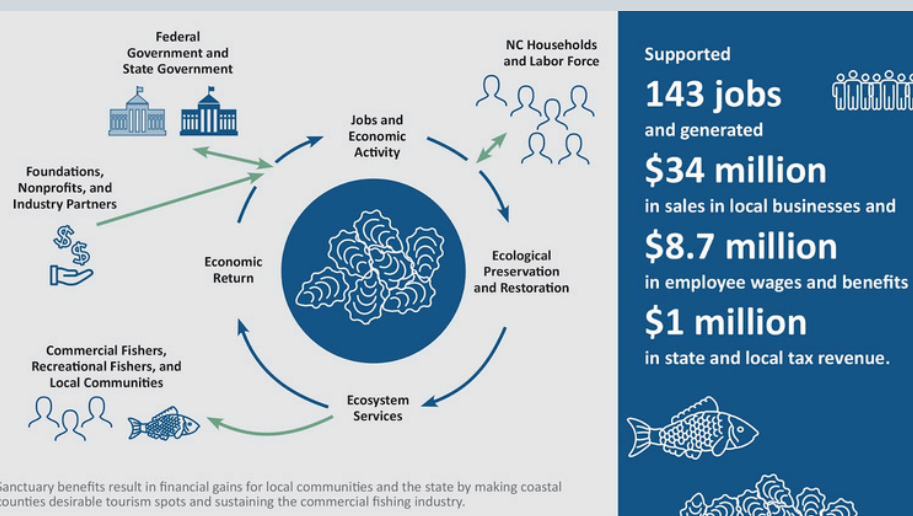
In 2016, commercial fisheries had a \$180 million impact on the economy, and in 2019, commercial fishermen landed more than 10 million lbs. of seafood valued at more than \$15 million in and around Pamlico Sound. Together with recreational fishing, over 17,000 jobs were created to support this industry.

The economic impact of tourism in 2012 by the Albemarle-Pamlico's four oceanside counties - Dare, Carteret, Currituck, and Hyde - exceeded \$1.37 billion. Just four years later, recreational fisheries alone would account for over a \$1 billion impact on North Carolina's economy.

Oyster Sanctuary Network

Between 2013 and 2023, communities, nonprofits, industry leaders, state, and federal governments came together to revitalize North Carolina's 400-acre Oyster Sanctuary Network in Pamlico Sound. The project reinvigorated the coastal economy with huge returns on investment.

For every **\$1 spent** on oyster reef restoration, the state saw **\$1.70** in return demonstrating the far-reaching impact of these funds.



For Pamlico Sound, [natural infrastructure] benefits can range from \$48.8 million to \$109.9 million over a 30-year period for a flood that historically would occur once in 100 years. Climate change may double the risk of a severe flood occurring, in which case the benefits would increase to between \$97.7 million and \$219.8 million.

Economics of Estuaries, Restore America's Estuaries, 2021



Protecting our Communities

The Pointe-au-Chien Indian Tribe Living Shoreline Creation and Trenasse Closure is a project completed in southeast Louisiana in an area experiencing some of the fastest rates of land loss in the world. The living shoreline, built by volunteers with the Coalition to Restore Coastal Louisiana in partnership with the Pointe-au-Chien Indian Tribe and funded through the US Environmental Protection Agency, is made of oysters recycled by New Orleans and Baton Rouge restaurants. Oyster reefs built by the organization and tribe at Pointe-au-Chien have been shown to slow the rate of land loss up to 50%, and they have withstood numerous hurricanes, including Ida in 2021.

These reefs minimize the amount of storm surge during hurricanes and tropical storms and tend to weaken the storms, protecting communities far inland.

The reefs are designed to slow land loss, but they also support Louisiana's seafood industry, creating more habitat for oysters to set spat and therefore resulting in more oyster larvae in the water column, with the result being more harvestable oysters in Louisiana waters. The project also benefits the seafood industry and restaurant industry by promoting their involvement in coastal restoration.

*Louisiana's seafood industry has a direct economic impact of over **\$2.4 billion per year.***

The Economy of Seafood, Louisiana Seafood

The site of the living shoreline is close to Port Fourchon, a major energy and commerce hub for the state and nation that describes itself as "a shining example of how industry and environment can coexist successfully," and to many oil and gas businesses in Houma area.

Protection from tropical weather benefits the port and these industries, and by minimizing damage from hurricanes and other storms, it also benefits municipalities and industries far inland. The energy industry provided about 250,000 jobs in the state in 2019, contributing more than \$70 billion to Louisiana's GDP. Because of the importance of industries to the state's budget and the nation's energy supplies and commerce, the project's benefits extend far beyond Pointe-au-Chien.

Economic Impact, Louisiana Mid-Continent Oil and Gas Association



Not only do Living Shorelines defend land against destructive waves, but they also provide crucial habitat for fish and wildlife.





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