HABITAT HOTLINE Atlantic

2024 Issue

HEALTHY FISHERIES NEED HEALTHY HABITAT

A Sneak Peek at State Shell Recycling Programs

As the outgoing Chair of the Atlantic States Marine Fisheries Commission (ASMFC) Habitat Committee, it is my pleasure to present the 2024 issue of *Habitat Hotline Atlantic*. I would also like to welcome Kate Wilke (The Nature Conservancy) and Eric Schneider (Rhode Island Department of Environmental Management) as the new Chair and Vice-Chair of the committee, respectively. This year's issue covers several recently completed projects and offers a preview of our plans for 2025.

The Habitat Committee had a very productive year in 2024. Among its key accomplishments was the development of a document designating "Fish Habitat of Concern" for many of the Commission's managed species. This document is designed to support state-level resource managers in permitting and protection efforts by highlighting habitats critical to specific life stages of these species.

The Committee also finalized the 17th issue of the Habitat Management Series (HMS), which summarizes the impacts of anthropogenic noise on fishes managed by the Commission. The report explores the vital role of sound in marine ecosystems, the effects of human-generated noise, and the characteristics of natural soundscapes. We are confident that these two resources will serve as valuable tools for coastal resource managers along the Atlantic coast.

Looking ahead to 2025, the Committee will focus on the growing importance of shell recycling programs among member states. As shell resources – essential for oyster reef enhancement and restoration work – become increasingly scarce, recycling from seafood restaurants is quickly emerging as a go-to practice that offers significant environmental, economic, and social benefits. To support these efforts, the Committee will develop a new HMS document featuring detailed descriptions of program components, including best practices, state-by-state summaries, lessons learned, and strategies to ensure these programs remain both effective and environmentally sustainable.

This edition of *Habitat Hotline Atlantic* offers an inside look at several successful shell recycling programs along the coast. On behalf of the Habitat Committee, I hope you find this issue both informative and inspiring as we continue working together to protect and enhance our coastal habitats.

Russ Babb, *Habitat Committee Chair*

In This Issue

ASMFC Designates Fish Habitat of Concern for Commission-Managed Species

by Kate Wilke

The Commission recognizes that habitat conservation is a critical component of fisheries management, and thriving habitats produce abundant fish populations. Therefore, habitat descriptions are included in each Commission fishery management plan.

In January 2024, the Commission adopted new "Fish Habitat of Concern" (FHOC) designations for 20 Commission-managed species. Designations can be found here or on the Habitat page of the Commission's website: Habitat Program Overview - Atlantic States Marine Fisheries Commission.

FHOC is a subset of a species' habitat, defined by one or more of the following criteria (borrowed from federal Habitat Area of Particular Concern (HAPC) designations):

(i) the importance of the ecological function provided by the habitat,

(ii) the extent to which the habitat is sensitive to human-induced environmental degradation,

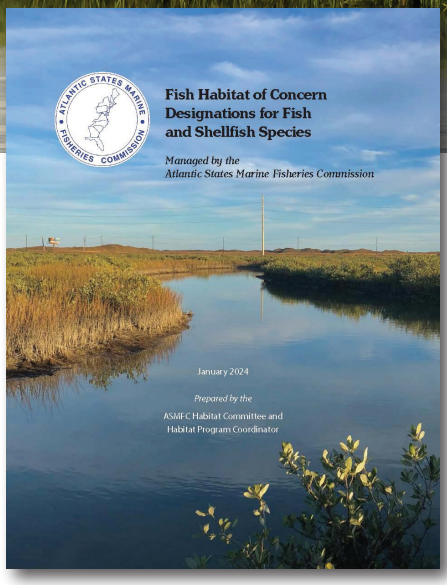
(iii) whether, and to what extent, development activities are, or will be, stressing the habitat type, or

(iv) the rarity of the habitat type.

The designation of FHOC is intended to focus conservation efforts on specific habitats that are ecologically important, vulnerable, and/or necessary to support each life stage of a species. These designations may inform project development, permitting consultations, and other regulatory review processes conducted by the National Marine Fisheries Service and state agencies.

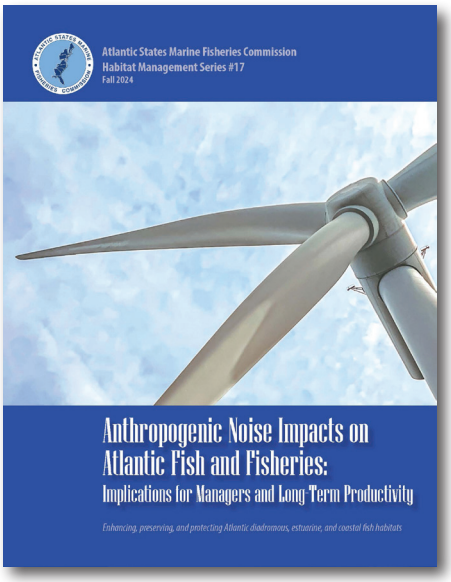
For example, NOAA Fisheries develops project-specific conservation recommendations for diverse nearshore and offshore activities that may impact fish habitats. FHOC designations will help agencies justify the need for conservation actions that will benefit trust resources.

As fishery management plans are updated over time, FHOC descriptions will be revised or incorporated into the plans as needed.



ASMFC Releases Latest Issue of the Habitat Management Series

by Simen Kaalstad



In November 2024, ASMFC released the 17th report in its Habitat Management Series, *Anthropogenic Noise Impacts on Atlantic Fish and Fisheries: Implications for Managers and Long-Term Productivity*. This report addresses a pressing concern: how human-generated noise affects the health, behavior, and habitats of fish and other marine organisms.

- **Understanding the Natural Soundscape:** Sound is a vital sensory mechanism for many marine species, aiding in navigation, communication, and reproduction. However, the natural soundscape of the ocean is increasingly disrupted by human activities such as shipping, offshore wind construction, and seismic surveys.

- **Impacts on Marine Life:** Anthropogenic noise can interfere with critical life processes in fish, including spawning, habitat selection, and predator avoidance. Fish detect sound through pressure and particle motion, with sensitivity varying by species and life

stage (e.g., larval, juvenile, or adult). Chronic noise exposure may cause physiological stress, behavioral changes, and potentially lead to population-level impacts by reducing reproductive success. For example, studies indicate that pile driving during offshore wind construction and the use of seismic air guns for resource exploration generate noise that alters fish movement patterns and decreases catch rates in nearby areas. Seismic air gun blasts have also been linked to increased zooplankton mortality, which can indirectly affect planktivorous fish species that rely on zooplankton as a primary food source.

- **Mitigation Strategies:** The report highlights innovative strategies to reduce noise impacts, including sound-dampening technologies, bubble curtains, and alternative construction methods. Enhancements in marine spatial planning and seasonal restrictions are also recommended to safeguard sensitive habitats and species during critical life stages.

- **Research Needs:** Key knowledge gaps are also identified in this report, including species-specific responses to noise and the cumulative effects of overlapping noise sources. It calls for additional studies to better inform management practices and support the long-term sustainability of Atlantic fisheries.

ASMFC's Anthropogenic Noise Impacts on Atlantic Fish and Fisheries report serves as a valuable resource for policymakers, scientists, and stakeholders, emphasizing the importance of balancing human activities with the health of marine ecosystems.

To learn more, visit the ASMFC Habitat Program page or explore other hot topics, including previous issues of the Habitat Management Series, here: Hot Topics - Atlantic States Marine Fisheries Commission.

For questions regarding the Habitat Program, please contact Simen Kaalstad, Habitat Coordinator, at *skaalstad@asmfc.org*.

Introducing the Next Issue of the Habitat Management Series: Atlantic State Shell Recycling Programs

Russ Babb

Oysters are a keystone species in our coastal estuaries, and the reefs they form are critical ecosystems that enhance biodiversity, improve water quality, protect shorelines, and support important recreational and commercial fisheries. Along the Atlantic coast, many oyster reefs have been severely impacted by disease, pollution, overharvesting, and habitat loss, limiting the range of ecosystem services these reefs provide. Shells, a vital resource for reef restoration, have become increasingly scarce due to ecological and logistical challenges associated with changes in oyster fisheries. As a result, the demand for shells in restoration projects often exceeds the available supply.

To address this shortage, many states have implemented oyster shell recycling programs, partnering with local restaurants and eateries to reclaim shells. Recycling oyster shells serves several essential environmental, ecological, and economic purposes, with the overarching goal of sustaining marine restoration efforts, including oyster reef restoration and shoreline protection projects. Effective and consistent management of shell recycling programs is crucial in order to maximize the use of recycled shells in restoration projects and ensure positive environmental outcomes.

In 2025, the Habitat Committee will begin developing the next issue of the Habitat Management Series (HMS) that will focus on shell recycling as a resource for states and practitioners along the Atlantic coast. This HMS document will highlight shell recycling programs across member states and offer recommendations for best management practices, including lessons learned, strategies to minimize the risk of disease introduction, and a variety of useful links and contacts. We hope this upcoming issue of the HMS will equip managers with the tools and guidance necessary to support the continued conservation of healthy coastal fish habitats.

Atlantic State Shell Recycling Programs

MAINE

Robert Atwood, New Hampshire Fish & Game Department

A two-year pilot project funded by the EPA's Climate Ready Estuaries Program explored the feasibility of establishing an oyster shell collection program in Maine. The project aimed to develop a collection plan with Portland restaurants, investigate potential uses for the collected shells, conduct an experiment testing the use of oyster shells as a buffer against ocean acidification, and create opportunities for youth engagement. Led by the Maine Coastal Program in collaboration with the Casco Bay Estuary Partnership, the project began collecting shells in the summer of 2019.

Since its inception, the program has generated a great deal of interest from stakeholders, including the aquaculture industry, environmental nonprofits, and local community members. Ten Portland restaurants participated in the program, with the Maine Coastal Program collecting shells and curing them in bins to eliminate pathogens and invasive species. In less than six months, the program amassed enough shells to fill two forty-yard roll-off dumpsters. However, the collection of shell from Portland restaurants faced some challenges, such as limited space for collection containers, unpleasant odors, and an abundance of pests (e.g., bees and wasps) attracted to the containers, which inconvenienced restaurant patrons.

Zach Gordon and Libby Davis of the Maine Coastal Program lift a barrel of oyster shells to dump into a container at Ecomaine in Portland, ME. The Casco Bay Estuary Project and Maine Coastal Program have been collecting oyster shells from Portland restaurants to reduce acidification in Maine's oceans. Photo (c) Shawn Patrick Ouellette/Staff Photographer.

The collected oyster shells were used in studies for coastal acidification remediation, living shoreline creation, and oyster habitat expansion. These efforts highlighted the ecological importance of a shell recycling program. Despite its success, the pilot ended in 2020 due to the conclusion of funding, disruptions caused by COVID-19, and the difficulties of managing a large project with limited staff resources. Discussions are ongoing about establishing a more permanent shell collection program, contingent on identifying additional partners to provide staffing and management support.

For more information, visit Maine Coastal Program | Department of Marine Resources, or check out Oyster shell recycling aimed at reducing Casco Bay acidification.

NEW HAMPSHIRE

Robert Atwood, New Hampshire Fish & Game Department

The Coastal Conservation Association of New Hampshire (CCA-NH) has operated its Oyster Shell Recycling Program since 2008, collaborating with local restaurants and supporters to reclaim oyster shells destined for the waste stream. These recycled shells are used in restoration projects to benefit the health of the Great Bay ecosystem, while the program also serves as a platform to raise public awareness about issues affecting the Great Bay estuary.

With the help of dedicated volunteers, weekly "shell runs" are made to collect shells from local dining establishments. Volunteers retrieve the shells in 20-gallon buckets and transport them on a small trailer pulled by their own personal vehicles. The collected shells are then emptied into roll-off containers provided by program supporters. Once a container is full, the shells are "aged" for at least six months to ensure they are safe for use, after which they are deployed into the bay by partners like The Nature Conservancy, the University of New Hampshire, and

NH Fish and Game. Through the recycling process, along with outreach, fundraising, and educational efforts, CCA-NH aims to improve the bay's health and raise public awareness about estuarine conservation.

Massachusetts Oyster Project Shell Collection Bucket. Photo (c) Cory Silken.

a commitment to environmental stewardship, the program is poised to grow and achieve even greater success in the years ahead.

More information on the program can be found at *ccanh.org*.

Challenges

The program has encountered several challenges that continuously change and evolve over time, including:

- Odor Issues: The smell of "fresh" shells awaiting pick-up or during storage can deter participation by restaurants.
- Restaurant Participation: Improperly secured bucket covers exacerbate odor issues, prompting property owners to prohibit some high-volume restaurants from participating in the program.
- Volunteer Retention: Maintaining a consistent roster of volunteers to manage collections and operations can be difficult.

Measuring Success

CCA-NH evaluates the success of the Oyster Shell Recycling Program through the volume of shell collected and the level of public exposure. This fluctuates over time, but the program strives to maintain a core group of participating restaurants while also using it as an outreach tool to raise awareness and increase community involvement in Great Bay conservation efforts.

Future Plans

The CCA-NH Oyster Shell Recycling Program will have a new base of operations in 2025 at the New Hampshire Port Authority. This new location, with its multi-year arrangement and close proximity to local eateries, provides room for growth and opportunities to expand operations. Additionally, the Port Authority offers increased visibility, creating joint outreach opportunities that will enhance public awareness of the program's mission and impact.

The CCA-NH Oyster Shell Recycling Program continues to play a vital role in Great Bay restoration efforts. Through innovative partnerships, community involvement, and

MASSACHUSETTS

Mark Rousseau, Massachusetts Division of Marine Fisheries

The Massachusetts oyster aquaculture industry generates $30 million annually, making it the state's third-highest-value seafood product, behind only lobster and sea scallop. Shell recycling has been practiced in Massachusetts for decades, with several Cape Cod municipalities (e.g., Yarmouth, Nantucket, Tisbury, and others) maintaining recycling centers where residents can dispose of shells and reduce landfill waste. Stockpiled shells are cured and then used in municipal oyster propagation efforts.

Since 2018, the Massachusetts Oyster Project (MOP), a volunteer nonprofit dedicated to restoring native shellfish populations in coastal estuaries, has coordinated a shell recycling program on Cape Cod. The program collects recycled shells from partner restaurants and provides designated locations for storing, cleaning and curing the shells. MOP also collaborates with community groups to maintain oyster upwellers at various sites across the state, supporting local restoration and propagation initiatives. In 2023, their shell recycling program collected 55,000 pounds of oyster shells from restaurant partners, doubling its recycling volume over the past two years.

The MOP's shell recycling program continues to expand through new restaurant partnerships, public shell disposal locations, and the development of guidance materials on oyster shell recycling for municipalities and the public. However, limited funding and capacity remain significant challenges, constraining the program's ability to expand beyond Cape Cod. The program relies on grants and fundraising to sustain its efforts in the region.

A key goal of the MOP is to create and enhance oyster habitats using recycled oyster shells, thereby improving

coastal water quality and resilience. In 2024, MOP hosted an Oyster Restoration Symposium at the New England Aquarium in Boston, bringing together practitioners, scientists, government agencies, and funders to identify best practices and next steps for advancing oyster restoration in Massachusetts.

For additional information about the Massachusetts Oyster Project, please contact Mark Rousseau, *mark.rousseau@mass.gov*.

Shellfish farmers raise and harvest oysters and clams to be sold to restaurants and festivals. Photo credit: CORR-CT.

Restaurants serve fresh oysters and clams where customers discard shells into tabletop recycling pails labeled with program logo and information. Photo (c) CORR-CT.

RHODE ISLAND

Eric Schneider and J.A. MacFarlan, PhD
Rhode Island Dept. of Environmental Management, Division of Marine Fisheries

Over the last two decades, the State of Rhode Island (RI) Department of Environmental Management (DEM) Division of Marine Fisheries (DMF), in partnership with the RI Chapter of The Nature Conservancy (TNC), have supported several small-scale oyster shell recycling programs designed to support oyster restoration and research, as well as inform the development of a future, large-scale oyster shell recycling program. As part of this partnership, TNC coordinated and implemented volunteer-based programs that focused on capturing shell from restaurants in Newport and South Kingstown, RI, as well as seafood festivals across the state. To support this work, a shell recycling center was constructed on RI DEM property to weather (i.e., cure) and store shell. Shell recycled by these programs were used to create experimental oyster reefs for restoration and research projects (e.g., Humphries et al. 2016, Ayvazian et al. 2020, Davenport et al. 2023, Hanley et al. 2023, Barrett et al. 2024, Schneider et al. (in review)) conducted by RI DMF, TNC, Northeastern University, and the EPA from 2009 through 2023.

During the spring of 2023, Rhode Island initiated the development of a Shellfish Restoration and Enhancement Plan (SREP). Interest generated through the SREP led to the creation of an ad-hoc shell recycling working group to identify potential solutions to existing challenges experienced by the volunteer-based shell recycling programs in the state. Recent staffing and funding challenges have caused shell recycling activities to be temporarily paused. However, RI DEM and partners, including TNC, RI Natural Resource Conservation Service, and RI Sea Grant, aim to use approaches and lessons learned from other states, described in the upcoming ASMFC Management Series focused on shell recycling, to inform future activities aimed at achieving the long-standing goal of developing a sustainable shell recycling program in Rhode Island.

For more information visit Rhode Island Department of Environmental Management or contact Eric Schneider at *eric.schneider@dem.ri.gov*.

CONNECTICUT

Ben Connor

Signed into law in Connecticut on June 7, 2021, Public Act No. 21-24 authorized the Department of Agriculture to acquire or purchase oyster shells for deposition on state shellfish beds (see written testimony of the Commissioner of Agriculture). Placing shells back in the ocean creates more abundant habitat, enabling oyster populations to grow at a faster rate. Free-swimming oyster larvae thrive when they

Left: Shuckers and servers deposit shells into durable screw top buckets for weekly pickup when full. Clean, empty buckets are left behind for more shells. Right: Shells are stored and cured at a designated site for a minimum of 6 months. Photo (c) CORR-CT.

can attach to shells. Encouraging oyster growth provides numerous environmental benefits, including mitigating storm surges, filtering toxins from the water, creating habitats for marine species like fish and invertebrates, and even capturing carbon dioxide from the atmosphere. Since its inception in 2023, the program has recycled over 186,377 pounds of oyster shells in Connecticut.

Historically, most oyster shells consumed in the United States were not recycled. Instead, they were discarded in landfills or sold for alternative uses, such as in cosmetic products, chicken feed, or construction materials. Recently, however, this trend has begun to change. States like South Carolina, Maryland, and Virginia have initiated programs to purchase and recycle oyster shells to restore reefs, creating new competition for what was once waste material.

To recycle these shells, the Connecticut Department of Agriculture collaborates with nonprofit organizations, private businesses, and local shellfish commissions. Collective Oyster Recycling & Restoration (CORR), a nonprofit organization, received a grant from the Department to lead many on-the-ground recycling efforts. CORR partners with wholesale oyster purchasers, event hosts, and groups like the Connecticut Restaurant Association to expand the program to towns like Greenwich, Rowayton, Norwalk, Westport, Fairfield, Bridgeport, West Haven, New Haven, Hartford, Plantsville, and Bethel. Connecticut Sea Grant, a university network focused on education and research, works alongside CORR to evaluate the program's success in boosting oyster populations. Michael Gilman, an Assistant Extension Educator for CT Sea Grant, serves as the state's shell recycling coordinator, assisting towns interested in participating.

Cured shells are returned to Long Island Sound to grow more oysters for harvest or restoration projects. Photo (c) CORR-CT.

The recycling process itself is straightforward. Shellfish farmers harvest oysters and sell them to restaurants, where customers enjoy the oysters and place the shells in tabletop pails labeled with information about CORR and shell recycling. Restaurants then transfer the shells into five-gallon buckets for weekly collection by CORR. The collected shells are taken to curing sites, where they are exposed to air and wind for at least six months to remove any remaining organic material or food waste.

Additional Shell Recycling Links:
Shell Recycling Initiative Being Introduced in Connecticut
Shell Recycling | Collective Oyster Recycling & Restoration - CORR
Shell-Recycling-Update
Shell Recycling | Connecticut Sea Grant

NEW YORK

Alexa Fournier, New York State Department of Environmental Conservation

New York, once renowned as the oyster harvest capital of the world, was home to extensive natural reefs that provided abundant food, economic value, and vital ecological services. By the early 20th century, however, overharvesting and deteriorating water quality led to the collapse of oyster beds in New York City waters and a significant decline in Long Island's bays. While water quality improved after federal and state clean water regulations in the 1970s, restoration efforts faced a critical

obstacle: the absence of hard bottom habitats. Oysters require a hard substrate, such as other oyster shells, for larvae to settle and grow; otherwise, they risk being smothered on soft, silty bottoms. Recognizing this need, various organizations launched shell recycling programs to provide the necessary substrate for restoration.

Localized Shell Recycling Efforts

Unlike states with centralized shell recycling programs, New York relies on regional initiatives to promote shell reuse. Key programs include:

- **Billion Oyster Project (NYC):** Founded in 2014, this program collects shells from city restaurants and has gathered 2.5 million pounds to date. The cured shells are used for restoration at 17 locations across NYC, including Jamaica Bay, Coney Island Creek, and the Living Breakwaters project off Staten Island. These efforts have established oyster reef habitats and supported the breeding population of oysters.
- **Half Shells for Habitat (Long Island):** Established in 2018, this program partners with municipalities, restaurants, and festivals to recycle shells. Since its inception, it has collected over 100,000 pounds of shell and returned nearly 50,000 pounds to Long Island's bays for oyster restoration and reef-building projects.

Other notable efforts include programs by the Center Island Oyster Reef, the Town of Oyster Bay, the Town of Hempstead, and the Shinnecock Bay Restoration Program, all contributing to regional restoration projects.

Future Challenges and Opportunities

The demand for recycled shells is expected to grow as more shellfish restoration and living shoreline projects are developed. The New York Shellfish Restoration Council, in partnership with Pew Charitable Trusts, is crafting a comprehensive restoration plan to revive shellfish populations and expand ecosystem services. However, meeting the need for clean shell remains a challenge.

Opportunities to support shell recycling include tax incentives for participating restaurants, such as those proposed in Senate Bill S8436, and funding from the Environmental Bond Act of 2022, which allocates $100 million for coastal rehabilitation and shoreline restoration. New "Living Shoreline" legislation and public awareness campaigns are also expected to bolster support for shell recycling as a critical component of sustainable coastal management.

With its rich history of oyster abundance and a growing network of restoration programs, New York is poised to reclaim its legacy as a leader in shellfish conservation, one recycled shell at a time.

NEW JERSEY

Russ Babb, New Jersey Department of Environmental Protection

Eastern oyster (*Crassostrea virginica*) larvae need a hard surface to attach to and grow early in their life cycle. However, when oysters are harvested, their shells – which serve as vital habitat for future generations – are removed as well. Without this hard substrate for larval settlement, oyster populations struggle to sustain themselves. To address this, shell recycling has emerged as an effective solution nationwide, helping to support oyster populations by planting discarded shells back onto local reefs. Given that shell is a limited resource often diverted for other uses, shell recycling ensures that this critical habitat remains available for new oyster growth.

NJDEP Fish and Wildlife's Shell Recycling Program

New Jersey Fish and Wildlife's Marine Resources Administration (MRA) is responsible for managing the

state's marine habitats and resources, as well as supporting commercial and recreational fishing industries. In 2019, MRA partnered with the Jetty Rock Foundation, Rutgers Cooperative Extension, and Stockton University to launch a pilot shell recycling program. This initiative helps sustain local oyster reefs by repurposing shell material that would otherwise end up in landfills. The Hard Rock Hotel and Casino showed early interest, and collections began soon after.

Recycling shells for natural reef enhancement provides a unique opportunity to promote environmental stewardship and encourage public engagement in supporting healthy local ecosystems. However, logistical challenges related to equipment, storage, and transportation emerged shortly after the program's inception. To address these challenges, MRA assumed a leadership role and dedicated staff, time, and resources to the project. To date, the program has collected over 400 tons of recycled shell from the greater Atlantic City area through weekly collections using specialized equipment. Once collected, the shell is taken to and stored at the Nacote Creek Research Station for a minimum six-month curing (i.e., sun-drying) process to ensure it is disease-free and safe for local reefs. The cured shell is then used to restore oyster reefs along New Jersey's coastline, primarily within the Mullica River reef system—one of the last self-sustaining oyster populations on the Atlantic coast of New Jersey. These reefs have proven to be resilient, overcoming freshwater floods, disease outbreaks, and climate change impacts, making them ideal candidates for enhancement and expansion.

Each summer, timed with oyster spawning, cured shell is loaded onto barges and transported to the reefs, where high-pressure water cannons efficiently disperse the shell across the plant site, maximizing clean shell coverage for oyster larvae to settle upon. The reefs are then monitored monthly to assess recruitment success. This past summer, 10,000 bushels (~240 tons) were planted on a two-acre site within these reefs, with initial monitoring showing an average of 1,550 spat per bushel, compared to fewer than 100 spat per bushel on non-planted control sites.

While shell collection has steadily increased, the MRA still relies on both recycled and purchased shell to meet enhancement goals. Since 2021, the MRA has planted just under 600 tons of shell (recycled and purchased) on the oyster reefs. The program currently serves twelve restaurant partners, most of which are in Atlantic City. Through a recent grant award through NOAA's Coastal Zone Management Program, the MRA intends to expand the program further, using a three-pronged approach: 1) Increasing shell collection by increasing restaurant partners, establishment of public drop-off locations, and purchasing additional shell; 2) increased shell planting efforts within the Mullica River oyster reefs; 3) developing

Top: Recycled shell containers are dumped into a recycling trailer at an Atlantic City restaurant. Bottom left: NJ Fish and Wildlife staff preparing to plant recycled oyster shell onto local oyster reef. Bottom right: Fisheries biologists use water cannons to plant recycled oyster shells onto oyster reefs in the Mullica River. Photo (c) NJ Fish and Wildlife Shell Recycling Program.

Left: Clump of oysters collected from a restoration site planted with recycled oyster shells. Photo credit: NJ Fish and Wildlife Shell Recycling Program. Right: Bags of recycled oyster shells are set around Spartina marsh to protect against erosion. Photo (c) Long Beach Township Shell Recycling Program.

a marine-focused educational program within Atlantic City schools. The purpose of the education program is to directly engage students from a traditionally underserved community by providing exposure to the marine sciences at an early age and fostering a sense of environmental stewardship and maybe an interest in marine and environmental sciences field.

To support this initiative, MRA plans to hire local marine science graduates as Program Ambassadors. These Ambassadors will receive hands-on training in lab analysis, field sampling, data collection, and other scientific techniques, while also assisting with school visits and outreach events. These opportunities will enrich students' learning experiences and equip Ambassadors with valuable skills for future professional success. Over the next three years, MRA expects to double shell collection by expanding beyond Atlantic City to Atlantic and Cape May counties. Increased restaurant partnerships and shell purchasing capacity will enable an estimated 700 tons of shell to be planted annually through 2027.

As the MRA Shell Recycling Program grows, it not only strengthens local oyster reefs but also fosters public appreciation for coastal ecosystems. By uniting local restaurants, resource professionals, educators, students, and local communities across southern New Jersey, the program fosters a more sustainable and resilient coastal environment. For more information, visit NJDEP Shell Recycling Program.

Long Beach Township's Shell Recycling Program

Long Beach Township, the largest of six towns on Long Beach Island in Ocean County, NJ, spans 12 noncontiguous miles of the 18-mile island. In 2017, township staff began collecting post-consumer oyster and clam shells from about 12 area restaurants to meet the demand for shell in emerging oyster reef restoration and bay island stabilization projects in the Barnegat Bay/Little Egg Harbor Bay estuary. This initiative also aimed to divert shell from landfills, as the emerging popularity of oyster bars and "buck a shuck" events had increased shell waste. Township staff collect shell using a designated truck, and Ocean County provides a mainland location to cure it. For more information, visit Long Beach Township Shell Recycling.

American Littoral Society's "Shuck It, Don't Chuck It" Shell Recycling Program

In Monmouth County, NJ, the American Littoral Society leads shell recycling efforts through its "Shuck It, Don't Chuck It" program, collecting oyster shell from local restaurants to prevent it from ending up in landfills. These shells are returned to New Jersey's bays to support oyster growth and help protect the coastline from

ALS community recycled shell drop-off site located at the Rumson Municipal Boat Ramp, Rumson, NJ. Photo credit: American Littoral Society.

erosion. Partnering with local restaurants, the program also aids shoreline restoration projects statewide, using volunteer-bagged shell from its Sandy Hook shell pile. They also offer educational opportunities for students and community members through the Operation Oyster program and events like Sip N' Shuck, where participants learn to shuck oysters, explore oyster conservation, and shop locally from participating restaurants and farmers. In addition to restaurant collections, the Society maintains two community drop-off locations. This year, the American Littoral Society has collected over 71,000 lbs. of shell. For more information on the "Shuck It, Don't Chuck It" shell recycling program, visit: American Littoral Society Shell Recycling.

DELAWARE

Leah Morgan & Jecy Klinkam, Partnership for the Delaware Estuary
Nivette M. Perez-Perez & Meghan N. Fellows, Center for the Inland Bays

Delaware's oyster shell recycling programs play a crucial role in maintaining healthy marine ecosystems, enhancing water quality, and restoring vital habitats in the Delaware Estuary and Inland Bays. Two organizations lead these initiatives: the Partnership for the Delaware Estuary (PDE) and the Delaware Center for the Inland Bays, each employing unique approaches to tackle the critical shortage of natural oyster shells for restoration projects.

Partnership for the Delaware Estuary

The Partnership for the Delaware Estuary (PDE) leads collaborative, science-based efforts to improve the Delaware River and Bay, which covers portions of Delaware, New Jersey, and Pennsylvania. As a part of that mission, PDE began an Oyster Shell Recycling Program in 2017 focused on reclaiming post-consumer oyster shells to support ecological restoration. Initially focused on restaurant collections in New Castle County, Delaware, the program expanded in 2022 to include businesses in Philadelphia, Pennsylvania. Participation is free, and participating establishments receive educational and promotional materials to inform staff and patrons about PDE's mission and the benefits of shell recycling. Today, over a dozen restaurants and seafood markets participate across the two states, contributing to the collection of an estimated 125,000 pounds of shell in 2024 alone.

Recycled shells are primarily used for restoration projects and ecosystem service enhancement in the Delaware Estuary, where they create critical substrate for oyster reef establishment, provide habitat for marine life, and help combat shoreline erosion through sediment accretion. PDE has also explored the use of shells in freshwater tidal zones for shoreline protection, demonstrating the versatility of this natural resource.

The program is managed by Leah Morgan, Assistant Manager of Estuary Science, alongside Assistant Restoration Coordinator Jecy Klinkam. Ken Williamson, PDE's Restoration Specialist, oversees shell pick-ups across program locations. Participating businesses receive free collection services along with educational materials to engage staff and patrons in understanding the importance of shell recycling. For more information, please visit: Shell Recycling Program - Partnership for the Delaware Estuary.

Delaware Center for the Inland Bays

The Delaware Center for the Inland Bays addresses the ongoing shortage of natural oyster shells through partnerships with local restaurants and businesses. Since its inception, the program has collected an average of 6,000 bushels of shell annually, which are integral to restoring oyster populations in the Inland Bays.

Shells are collected by a part-time Center employee on a weekly or semi-weekly basis and transported to a curing facility at Delaware Seashore State Park's Fresh Pond Tract, where they are aged to eliminate harmful bacteria. Once cured, the shells are used in living shoreline projects, oyster reef restoration, and to support the Delaware Department of Natural Resources and Environmental Control (DNREC) restoration efforts in the Inland Bays.

The program is funded through a combination of private donations, DNREC, and EPA operating grants. Public engagement is a key component, highlighted by the Don't Chuck Your Shucks (DCYS) campaign, which educates a wide variety of restaurant patrons and staff about the importance of oyster restoration. DCYS also hosts volunteer "bagging events" to prepare the shells for use

in restoration projects. For more information, please visit: DCYS Factsheet (inlandbays.org).

MARYLAND

Ward Slacum, Oyster Recovery Partnership

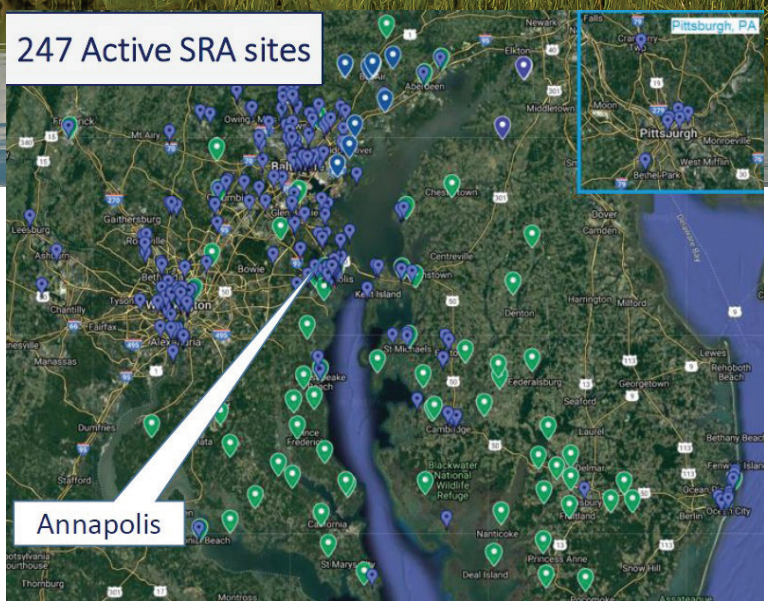
The Oyster Recovery Partnership (ORP) has been dedicated to restoring oyster habitats in Maryland's Chesapeake Bay for over 30 years. Central to this effort is the Shell Recycling Alliance (SRA), which ORP launched as a pilot program in 2010. The SRA addresses the critical shortage of oyster shells which are essential for oyster reef restoration, as shells provide the necessary surface for young oysters, or "spat," to grow. Since its inception, the program has successfully recycled over 330,000 bushels of shell that would have otherwise been discarded in landfills.

Shells from high volume sites are collected in 32-gallon Rubbermaid bins. Photo (c) Oyster Recovery Partnership.

Origins and Development of the Shell Recycling Alliance

The SRA began as a pilot program serving the Baltimore, Annapolis, and Washington, D.C. areas. ORP partnered with 32 restaurants and six public drop-off sites, using a repurposed Ford F250 and 5-gallon buckets for shell collection. Over time, the program expanded its resources to include 32-gallon Rubbermaid containers and 10-yard dumpsters at aggregation points. By 2024, the SRA had grown to include 166-member pickup sites, 81 drop-off locations, and 18 volunteer-operated sites across Maryland, Pittsburgh and Northern Virginia.

ORP's logistical operations are extensive, involving 8 different shell collection routes that service both high- and low-volume shell generators. These include 4 bi-weekly "day trips" and four longer routes requiring large-capacity vehicles for hook-and-go pickups. Partnerships with wholesale seafood distributors and contributions from seasonal events help the SRA provide approximately 30% of the shell needed for ORP's annual restoration projects.



Map showing active shell collection sites in Annapolis and Pittsburgh. Photo (c) Oyster Recovery Partnership.

Shell Collection and Transport Logistics

The day-to-day operations of SRA are carefully coordinated to optimize shell collection and transport. Routes vary from frequent pickups in the Washington, D.C. area to long-distance hauls, ensuring all participating locations are serviced. High-volume sites in D.C. are visited up to two times a week, while additional pickups cover Maryland suburbs and Northern Virginia.

To maintain efficiency, ORP adjusts the traveled routes based on historic patterns of shell volume and input from participating restaurants. The organization also ensures compliance with Department of Transportation regulations and keeps its vehicles and equipment in peak condition. To address concerns about odor, ORP uses food-grade sealable barrels sourced from other industries, improving storage conditions for participating restaurants.

Growth and Success of the Shell Recycling Alliance

Several key strategies have facilitated SRA's growth and ongoing success:

1. **Establishing Cost-Effectiveness Metrics:** ORP tracks the cost per bushel of collected shell, allowing for transparent evaluations of the program's financial sustainability.
2. **Tailoring Approaches to Sites and Partners:** Recognizing the unique needs of each restaurant or pickup location, high volume restaurants are prioritized with collection schedules optimized to

maximize shell volume with each trip.

3. **Building Relationships with Participants:** ORP engages with restaurant staff, conducts regular site visits, and recognizes top contributors to enhance retention and promote environmental conservation.
4. **Data and Technology:** ORP uses an internal SRA database to track shell collection volumes and analyze program trends. This database helps the team plan effective logistics and measure progress toward shell recycling goals.
5. **Key Partnerships for Shell Storage:** Storing and aging shell before re-use is a vital step in the recycling process. Collaborations with state and county agencies have established aggregation sites where shell is deposited and allowed to age and cure naturally. All recycled shell ends up at ORP's facility located on the University of Maryland Center for Environmental Science (UMCES) Horn Point lab to be used for Maryland's large-scale oyster restoration.

Challenges and Solutions

The SRA faces several challenges, including managing odors, retaining participants, and ensuring long-term funding. ORP addresses these issues through sealable barrels, tailored support for restaurant partners, and policy advocacy.

The organization has also advocated for policy incentives, such as Maryland's Shell Recycling Tax Credit, which provides financial relief to participants. A new state grant program – coming in 2025 – will expand funding to further support shell recycling initiatives, allowing ORP to sustain and grow the SRA's impact.

The Impact and Future of Maryland's Shell Recycling Efforts

Maryland's oyster population is heavily reliant on shell recycling, as the state's natural shell resources fall short of the demand. The Maryland Department of Natural Resources estimates that 6.6 to 11.1 million bushels of shell are needed over the next decade to sustain Maryland's commercial harvest, restoration, and aquaculture efforts. The SRA's contribution of 330,000 bushels since 2010 demonstrates the scale of its impact, with each bushel contributing significantly to the health of the Chesapeake Bay's oyster reefs.

Looking ahead, ORP plans to expand the SRA, identify new collection sites, and deepen collaborations with public and private partners. ORP is also working with other partners to evaluate the feasibility of a national

Left: Shell pile at ORP's Horn Point facility in Cambridge, MD used for sanctuary restoration plantings. Right: ORP and the SRA have found success in prioritizing large volume restaurants to minimize effort and maximize return. Photo (c) Oyster Recovery Partnership.

Close up of "spat on shell" - multiple juvenile oysters attached to other, larger oyster shells. Photo (c) Oyster Recovery Partnership.

shell recycling strategy and explore alternative materials to supplement natural shell, hopefully serving as a model for other coastal states. Additionally, ORP continues to advance research into the ecological benefits of oysters, including their role in enhancing water quality and promoting biodiversity.

The Oyster Recovery Partnership's Shell Recycling Alliance stands as a model of effective environmental collaboration, blending grassroots support, public incentives, and logistical innovation to recycle a precious natural resource. Through ongoing efforts and strategic partnerships, Maryland's shell recycling program is a vital pillar in the restoration and preservation of Chesapeake Bay's oyster habitats.

For more information, please visit Oyster Recovery Partnership | Chesapeake Bay Restoration | MD or contact Ward Slacum, Executive Director, *wslacum@oysterrecovery.org*.

NORTH CAROLINA

Erin Fleckenstein, Wilson Laney, and Jimmy Johnson, North Carolina Coastal Federation

Oyster shell recycling in North Carolina is a partnership-driven initiative led by the North Carolina Coastal Federation (Federation) alongside the North Carolina Department of Environmental Quality's Division of Marine Fisheries (NCDMF), the Albemarle Pamlico National Estuary Partnership (APNEP), and many other partner organizations.

Shell recycling in North Carolina was originally run by NCDMF, from 2003 to 2013, using funds provided by the state legislature. From 2013 to 2018, NCDMF ran a scaled-down program with limited grant funding that provided drop-off locations for collecting the shell. While operating, the program provided 6-15 percent of the needed material for restoration activities. Unfortunately, due to funding cuts and staff reductions, the state program was ultimately discontinued in 2018 and all state-run oyster shell recycling centers were removed. However, the North Carolina Coastal Federation relaunched efforts in 2020, aiming to provide 5% of the shell material needed to support oyster restoration. To get the material that is needed to build reefs, shells are often bought from shucking houses and delivered to project sites for a fee (in 2024 it typically costs $3 per bushel plus transportation for shells in North Carolina). A recycling program thus provides a critical alternative for shells often discarded in landfills and gives both restaurants and consumers a chance to return their shells to the water and contribute to sustaining oyster populations.

Recycled shells are used to build reefs that serve as habitats for future oyster generations, with mature oysters becoming harvestable within a few years. These reefs also improve water quality, bolster coastal resilience, and support a variety of recreationally and commercially important fisheries. Primary destinations for recycled shell include estuarine reefs, with a goal of restoring 20 acres in the southern region and 5 acres in the north. Additional goals of the Federation-led program include collaborating with the Managed Areas Workgroup to prioritize growing areas for reef restoration; developing a list of sites, goals, and design recommendations for restoration projects in each area; and seeking grants and other funding sources to support project implementation and subsequent monitoring efforts.

In 2023, the Federation recycled 9,434 bushels of shell, built 25.22 acres of new reef, and monitored 350 million oysters in sanctuaries – all in collaboration with multiple partners including but not limited to: Audubon North Carolina, Coastal Conservation Association, City of

Jacksonville, NCDMF, the North Carolina State University Center for Marine Science and Technology, TNC, the University of North Carolina Chapel Hill Institute of Marine Science, and the University of North Carolina Wilmington.

Challenges and Solutions

North Carolina's vast geography complicates shell collection and transport. While large metropolitan areas like Raleigh, Charlotte, and Durham generate significant shell volumes, logistics make transporting them to the coast challenging. Current recycling efforts are concentrated in three coastal regions: the Outer Banks, Morehead City, and Wilmington. The Federation works with contractors to stockpile shells near urban centers and transport them to coastal sites when volumes justify hiring tractor-trailers.

Funding is another ongoing challenge. The state-run program (i.e., NCDMF), active from 2003 to 2018, was ultimately discontinued due to budget cuts and shifting priorities. Under the current Federation-run program, funding relies on grants and program fees, which can be inconsistent. Grants are often unpredictable and focused on program initiation rather than maintenance. Currently, three part-time staff (0.25 FTE each) oversee coastal shell recycling. Expanding to urban areas will require additional personnel and financial resources, thus a cost-effectiveness analysis is needed to balance participant fees with sustainable program management. While grant funding has been instrumental in launching efforts, securing long-term financial stability remains critical to expanding the program's reach.

Community Engagement

Building community awareness is essential for the program's sustainability and success. The Federation has created educational materials, including social media toolkits, videos, and infographics, to highlight the importance of shell recycling. Engaging restaurants and seafood markets by offering reliable and convenient collection services is essential. These efforts aim to simplify participation and build long-term partnerships. North Carolina's oyster shell recycling program is a collaborative solution to restore vital habitats and support coastal ecosystems. Despite logistical and funding challenges, the program's progress in recycling shells, restoring reefs, and fostering community involvement underscores its potential for long-term impact. Program success is measured by bushels of shell collected, acres of reef established, and the number of oysters monitored. The 2023 milestones demonstrate the program's impact, but the Federation and its partners continue to seek innovative solutions to expand shell recycling and restore more oyster reefs across North Carolina's estuarine waters. Through collaboration, education, and resourceful planning, the state's oyster shell recycling program is laying the foundation for healthier marine ecosystems.

Contact information for the Federation's Regional Shell Recycling Coordinators may be found here: Oyster Shell Recycling | North Carolina Coastal Federation. Contact Erin Fleckenstein, Oyster Program Director, *erinf@nccoast.org*, with any questions about the NC Oyster Steering Committee or to get involved in this coastwide effort.
For more detailed information and citations: Oyster Restoration and Protection Plan for North Carolina: A Blueprint for Action 2021-2025 (Full Report & Summary).

SOUTH CAROLINA

Holly K. Sommers, South Carolina Department of Natural Resources

Oysters are a cornerstone of South Carolina's coastal identity and the state has long recognized the ecological, economic, and cultural importance of its oyster populations. The South Carolina Department of Natural Resources (SCDNR), tasked with managing the state's shellfish resources since 1986, oversees this invaluable resource. Approximately 95% of South Carolina's oyster populations inhabit the intertidal zone, making them easily accessible to commercial and recreational harvesters. The state's oyster industry is the fourth most economically important fishery, and the top three—shrimp, crab, and finfish—all depend on oyster reefs at some point during their life cycles. Each year, approximately 100,000 bushels of oysters are commercially harvested in South Carolina, while recreational harvests add another 35,000 bushels. With an additional 100,000 bushels imported

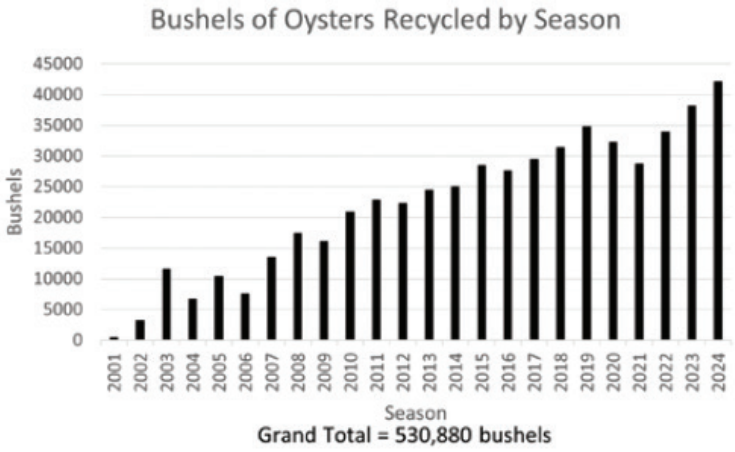
annually, nearly 235,000 bushels of shell are available for potential recycling, yet only 12–13% historically have been reclaimed. To meet restoration needs, SCDNR often supplements its supply with shell sourced from out-of-state shucking houses.

Oysters are more than a commercial commodity—they are "ecosystem engineers," creating complex, three-dimensional reefs that provide critical benefits. These reefs enhance water quality, offer habitat for finfish and crustaceans, and protect shorelines from erosion. By stabilizing the salt marsh ecosystem, they help maintain one of South Carolina's most iconic natural landscapes. However, these ecological services are only possible when oyster reefs and the surrounding salt marsh remain intact.

The South Carolina Oyster Recycling and Enhancement (SCORE) Program

SCDNR launched its Shell Recycling Program in 1999, beginning with the collection of shells from community roasts and local restaurants in the Charleston area. In 2001, the program evolved into the South Carolina Oyster Restoration and Enhancement (SCORE) initiative, later rebranded in 2018 to reflect its broader focus on Recycling. Based at SCDNR's Marine Resources Division in Charleston, SCORE engages communities statewide, educating the public about the critical role oysters play in coastal ecosystems and providing hands-on opportunities for participation in restoration activities.

Today, SCDNR SCORE and its partners provide free shell recycling services to 90 restaurants and maintain 34 public drop-off sites across eight counties. SCDNR works with various municipalities and entities to host the public drop-off sites on non-SCDNR properties. These locations are conveniently located throughout the state and provide most of the shell recycled annually (see figure below). Recycling bins and dump trailers are also delivered to catered events during the oyster roast season, which typically runs from October through May. These efforts are bolstered by annual outreach campaigns and marketing materials distributed at seafood markets and local businesses, ensuring widespread awareness and participation. As a result, the program has steadily grown,



recycling over 40,000 bushels of shell in 2024 alone, compared to just a few hundred in its first year. Recycled oyster shells are used to restore state-managed habitats, with 35,000–50,000 bushels deployed annually to mitigate the impacts of harvesting. Shell is also deployed strictly for the ecosystem services they provide with the community restoration team using volunteers. Since 2001, more than 800,000 bushels have been used to create new reefs and enhance existing ones. These efforts have built approximately 7.2 acres of oyster habitat, with community involvement playing a central role. Over 48,000 volunteers have contributed more than 109,000 hours to restoration activities, reflecting the strong conservation ethic fostered by the SCORE program.

Challenges and Solutions

Despite its success, the SCORE program faces logistical challenges, particularly in areas outside Charleston, where all SCDNR staff are based. Volunteer-staffed satellite programs have successfully recycled shells for years, yet managing these teams is difficult due to staff turnover and the distance from Charleston. A dedicated volunteer and restaurant coordinator in satellite locations is essential to sustaining these efforts.

Partnerships play a critical role in addressing these challenges. The Outside Foundation, a nonprofit focused on environmental stewardship and outdoor education for children, collaborates annually with SCDNR to enhance shell recycling and restoration efforts in Hilton Head and Bluffton. With grant funding, the Foundation partners with I2 Recycling to manage local shell collection which

Shell recycling center at Champney River Boat Ramp in McIntosh County. Photo (c) Georgia Department of Natural Resources.

has greatly improved the program's efficiency and impact in the southern coastal region of the state.

Funding limitations remain a challenge, as the program primarily relies on sales of the Saltwater Recreational Fishing License, which can make acquiring equipment and hiring additional staff difficult. Fortunately, the Coastal Conservation Association – South Carolina (CCA-SC) have been a longtime supporter of the SCORE Program by donating equipment, including dump trucks, hydraulic trailers, vessels, and materials for new public drop-off bins.

Public awareness and participation are also critical to the program's success but remain a barrier. Surveys reveal that many people do not recycle shells because they are unaware of drop-off locations or the importance of recycling. To address this, SCDNR launched a targeted marketing campaign in 2019 and continues to update and distribute educational materials annually. These materials emphasize the value of recycling and provide clear information about drop-off locations to make participation more accessible.

Looking Ahead

Expanding shell recycling and oyster restoration to the northern coast of the state has been a long-term goal. The program is steadily working to raise awareness, engage with the restoration community, and develop grassroots initiatives to support expansion. Constructing new public drop-off locations to make recycling more convenient remains a priority. In 2025, the program will receive a new dump truck to improve the transport of large shell quantities from drop-off locations to holding facilities.

Measuring Success

The program tracks progress by documenting the volume of shell (in bushels) collected during each pickup from restaurants, roasts, and public drop-off bins. Under South Carolina law, bushels are defined as eight dry gallons, 21.7 bushels per cubic yard, or 50 pounds. Oyster restoration areas created with recycled shells are continuously monitored for recruitment, growth, and footprint changes over a three-year period.

South Carolina's comprehensive and community-driven approach to shell recycling demonstrates the power of collaboration and innovation in achieving sustainable conservation outcomes.

GEORGIA

Cameron Brinton, Georgia Department of Natural Resources

Georgia's shell recycling program, "We Recycle Shell," plays a vital role in restoring oyster reefs along the state's coast. Established in 2004 and originally called Generating Enhanced Oyster Reefs in Georgia's Inshore Area (G.E.O.R.G.I.A.), the program focuses on diverting oyster shells from landfills and returning them to estuaries as a foundation for natural reef restoration. Currently, the program collects shells from 33 restaurants, six public recycling centers, and large community oyster roasts upon request.

Oyster populations in Georgia have faced significant challenges since their peak in the early 1900s when the state led the nation in oyster harvesting, producing about eight million pounds of meat annually. Overharvesting and declining environmental health caused a collapse in oyster populations by the 1930s. Today, the recovery of Georgia's oyster reefs is hindered by a lack of suitable substrate for

A year and a half of oyster shell curing at the GADNR Coastal Regional Headquarters, recycled primarily from Glynn and McIntosh counties. Photo (c) Georgia Department of Natural Resources.

larval oysters to settle on, making shell recycling critical for restoration efforts.

"We Recycle Shell" is a collaborative, statewide initiative managed by the Georgia Department of Natural Resources (DNR), the University of Georgia Marine Extension and Georgia Sea Grant, and the nonprofit Shell to Shore. Together, these partners oversee staff, volunteers, and equipment to ensure effective collection and distribution of recycled shells across the state. Shells collected through the program are used for restoration projects in areas closed to harvest, recreational shellfish harvest areas, and academic research to support reef restoration and sustainable commercial harvesting practices.

One notable project, planned for 2025, is the restoration of Teakettle Creek. This effort will use 594,000 lbs. (appx. 360 cubic yards) of both recycled and purchased shell, making it Georgia's largest oyster restoration project to date. The project site is located within a recreational shellfish harvest area in McIntosh County that primarily services underserved local communities.

Challenges and Successes

"We Recycle Shell" faces three main challenges: funding, distance, and restaurant participation. The program relies heavily on federal grants, resulting in significant fluctuations in its operating budget. Adding to these financial constraints, many participating restaurants are located a great distance from the coast, making shell transportation both difficult and expensive. For example, the program collects shells from a restaurant on the northwest side of Atlanta, approximately 280 miles from the coast. Since participation in the program is voluntary many restaurants closer to the coast choose not to participate, further complicating collection efforts.

Success of the "We Recycle Shell" program is measured by tracking the pounds of shell collected, either estimated by volume or weighed on scales at truck stops. Like many states, Georgia experienced a decline in shell collection during and immediately after the COVID-19 pandemic due to widespread restaurant closures. However, collection rates have been steadily increasing. In 2023, the program collected 143,190 lbs. of shell, enough

Left: Volunteers build gabions filled with oyster shell as part of an upcoming project projected to be the largest oyster restoration in Georgia's history in Teakettle Creek. Right: Staff of the Georgia Department of Natural Resources Coastal Resources Division and volunteer students from Georgia Southern University restore the bank of the North Newport River as part of a carbon sequestration study. Photo (c) Georgia Department of Natural Resources.

to restore approximately 780 feet of oyster reef along Georgia's shoreline.

In 2024, "We Recycle Shell" experienced rapid growth, adding new restaurants and recycling centers with the support of a NOAA grant. This funding also enabled the hiring of an Oyster Shell Recycling Program Coordinator and the purchase of essential equipment and supplies. Over the next year, the program plans to launch an outreach campaign to build public support for shell recycling and encourage consumers to support participating restaurants.

For more information, please visit We Recycle Shell, or contact the Georgia oyster shell recycling collective at *werecycleshell@gmail.com*

FLORIDA

Kent Smith, Florida Fish & Wildlife Conservation Commission

Unlike some Atlantic states, Florida lacks a state-sponsored oyster shell recycling program, but its history highlights the critical role of shell in estuarine restoration. Historically, oyster shells from regional shucking houses replenished commercially harvested reefs in areas like Apalachicola Bay. These shells, used as substrate for oyster spat settlement, maintained reef height and structural complexity. However, with the shift toward whole oysters for the half-shell market, shells are now dispersed widely across restaurants and markets, making collection for restoration more challenging.

Recognizing the value of oyster shells for spat settlement and growth, Florida's NGOs, universities, and partnerships, like the Marine Discovery Center and the Coastal Conservation Association, have established localized shell recycling programs. These efforts focus on collecting shells from restaurants and waste management partners, curing them outdoors for at least 90 days to ensure safety, and then providing them to restoration partners at minimal or no cost. Key players include the Marine Discovery Center (MDC), Florida Chapter of the Coastal Conservation Association (Florida CCA), and the Pensacola and Perdido Bay Estuary Program (PPBEP). While Florida lacks a centralized, state-sponsored recycling program, this network of programs plays a vital role in enhancing ecological services, supporting living shorelines, and restoring oyster reefs across the state.

Primary Uses of Recycled Shell

Shell recycling in Florida focuses on habitat restoration and enhancing ecosystem services, particularly in living shoreline and intertidal reef construction. Using recycled shells to construct living shorelines helps to mitigate erosion and create coastal resilience. For restoring intertidal and subtidal oyster reefs, recycled shells provide essential substrate for oyster larvae to settle and grow. Historically, shell relay efforts in areas like Apalachicola

Image of Florida Coastal Conservation Association sign.

Shuck and Share Collection Bucket. Photo (c) Shuck and Share.

Bay aimed to replenish materials for subtidal oyster reefs, but many shells were lost to out-of-state commercial markets. Today, most recycled shell is used on a smaller scale to build intertidal reefs. Large-scale restoration projects often rely on lime rock or other substrates, which are more durable and better suited to Florida's variable reef dynamics.

Marine Discovery Center "Shuck & Share" Program

The Marine Discovery Center's "Shuck & Share" program, established in 2014 in New Smyrna Beach, has become a cornerstone of habitat restoration in the Indian River Lagoon and beyond. Operating across nine Florida counties, the program has engaged over 6,630 volunteers, recycled more than 1 million pounds of oyster shells, and restored over 22,000 feet of shoreline and six acres of oyster reef. Shuck & Share addresses two key challenges: reducing waste and creating a sustainable source of oyster shells for habitat restoration, all while fostering community engagement and environmental stewardship.

Shuck & Share partners with restaurants, providing sealed 5-gallon buckets or larger toters for shell collection, which WastePro, a regional waste management service, transports weekly as an in-kind contribution. The collected shells are cured for at least six months following NOAA protocols to ensure safety before being used in restoration projects. Supported by grants from organizations like the Indian River Lagoon National Estuary Program and the Florida Fish and Wildlife Conservation Commission, the program relies on strong partnerships with entities such as the Coastal Conservation Association and the Brevard Zoo. With a commitment to innovation, Shuck & Share has transitioned to biodegradable restoration materials like jute fiber and bio-starch-based BESE mats. Through collaborative efforts, the program not only enhances estuarine health but also educates and inspires the community, proving the lasting impact of conservation, one oyster at a time. Shuck and Share operates with MDC in the lead, but with numerous partners assisting including, FWC, CCA, Brevard Zoo, Florida Department of Environmental Protection-Parks and Recreation, St. Johns River Water Management District, WastePro and the University of Central Florida among others. A full description of this extensive partner effort can be found at: Shuck & Share | Marine Discovery Center

Coastal Conservation Association (CCA) Florida

CCA has an oyster recycling program that started in 2017. They set up an agreement with Lake County to use a portion of their property near their landfill in Tavares, Florida for this program. More recently, CCA opened a second location at the Duke Mariculture Center in Crystal River and are working on opening other locations including in Okaloosa County. They have deployed over 80 tons of recycled shell back into the water in Florida estuaries and have well over 100 tons on hand currently. As with other oyster shell curing processes, CCA dries all shell out for a minimum of 6 months before donating it to partners in estuarine restoration. There is no charge for the shell and

Volunteers use shovels, custom-built tubes, and buckets to fill oyster bags. Photo credit: Shuck and Share.

CCA delivers anywhere in the state free. Three-ton dump trailers are used for collection and transport, but 5-gallon buckets with lids and larger rolling trash cans with lids are used where dump-trailers are not feasible. CCA donations have also been part of several grant in-kind match efforts, including the upcoming Manatee River Oyster Restoration project in Manatee County with the Florida Fish and Wildlife Conservation Commission (FWC) and others. Further inquiry may be made at: 2020 Habitat Update - CCA Florida.

Pensacola and Perdido Bay Estuary Program

Pensacola and Perdido Bay Estuary Program (PPBEP) is focusing efforts to restore large-scale oyster reefs in Pensacola Bay, including up to 1500 acres of subtidal oyster reefs. In August, 2024 they launched a full-scale oyster recycling program covering the Pensacola and Perdido Bay systems by engaging with area restaurants to collect shucked oyster shells and keep them out of area landfills. This effort was initially funded by a $351,000 NOAA grant. The PPBEP partners with OysterCorps led by Franklin's Promise Coalition, which provides the person-power through engagement with local youth in coastal restoration workforce training efforts. Shucked shell is picked up regularly from area restaurants and transported to curing locations, where partners can obtain properly cured shell for restoration and resilience projects. In the short time this program has been in existence, over 25 tons (or about the same weight of a fully loaded semi-truck) of oyster shell has been recovered and is curing. For more information, please see: Pensacola & Perdido Bays Estuary Program

Future Plans

Florida's oyster recycling programs aim to expand their reach through additional partnerships, regional franchising, and innovative restoration techniques. Shuck & Share plans to continue introducing biodegradable materials and scaling restoration efforts statewide. PPBEP aspires to restore up to 1,500 acres of subtidal oyster reefs in Pensacola Bay. CCA Florida is working towards opening new recycling centers and supporting more large-scale projects like the Manatee River Oyster Restoration initiative. Florida's shell recycling initiatives demonstrate the power of community-driven conservation. By combining science, education, and collaboration, these programs not only restore vital oyster habitats but also foster resilience in Florida's coastal ecosystems for future generations.

Oyster shell piles marked by month to assist with tracking of the curing process. Photo (c) Shuck and Share.

Updates from the Atlantic Coastal Fish Habitat Partnership

On the Ground Conservation

Simen Kaalstad, ACFHP Director

The Atlantic Coastal Fish Habitat Partnership (ACFHP) partnered with the US Fish and Wildlife Service (USFWS) for the 14th and 15th consecutive years to fund five new restoration projects in 2023 and 2024 through the National Fish Habitat Partnership (NFHP). For more information about previously funded and endorsed restoration projects, please visit: On the Ground Projects – Atlantic Coastal Fish Habitat Partnership.

Paulina Dam Removal, Paulins Kill, NJ

TNC, with ACFHP support in 2022 and 2023, led efforts to remove the Paulina Dam, the furthest downstream barrier on the Paulins Kill, New Jersey's third-largest Delaware River tributary. Built in 1895, the 13-foot-high, 207-foot-long dam was classified as a Class II Significant Hazard due to its proximity to Blairstown and blocked passage for species such as American shad, American eel, and sea lamprey. Its removal in fall 2024, along with prior ACFHP-funded removals of the Columbia and County Line Dams, opened 45 miles of mainstem and tributary habitat for migratory and resident fish. In 2025, construction crews will implement an Adaptive Management Plan to grade streambanks.

Top to bottom: Lower E.R. Collins Dam; Upper E.R. Collins Dam, Maryland Coastal Bays Salt Marsh Restoration

Salt Marsh Restoration and Donor Marsh Project, NC

Led by the North Carolina Coastal Federation at the North River Wetlands Preserve, this project, funded by ACFHP in 2023, will transform one acre of former farmland into a salt marsh "donor" site. The donor marsh will supply thousands of native saltmarsh plants for future restoration and improve water quality in Ward Creek and nearby coastal waters. This project is a key step in restoring 6,000 acres of wetland habitat within the preserve. Its broader objectives include returning farmland to forested, freshwater, and tidal wetlands, improving estuary water quality by treating agricultural runoff, restoring watershed hydrology, and reducing sediment, bacteria, and nutrient loads.

E.R. Collins Dam Removals, Pequest River, NJ

Continuing fish passage improvements in the Delaware River watershed, TNC partnered with the New Jersey Department of Environmental Protection (NJDEP), USFWS, private landowners, and the Statewide Dam Removal Partnership to remove the Lower and Upper E.R. Collins Dams on the Pequest River. ACFHP helped fund the removal of the lower dam in 2023 and the upper dam in 2024. These dams, located on a high-priority fish passage stream in the National Oceanic and Atmospheric Administration (NOAA) Restoration Center's Northeast Region, restricted fish passage for species such as American shad, blueback herring, alewife, American eel, and sea lamprey. The dam removals reconnected three miles of habitat and restored access to spawning grounds. Additionally, FEMA flood modeling indicates these removals will reduce flooding by up to three feet for 10-, 50-, and 100-year events.

Maryland Coastal Bays Salt Marsh Restoration

Led by the Delmarva Resource & Conservation Network, this project will restore 114 acres of degraded salt marsh in Maryland's coastal bays. Restoration efforts include sediment addition to nourish marshes impacted by grid-ditching, filling man-made ditches, creating meandering drainage channels, and planting marsh grasses. The project aims to enhance fish habitat, improve water quality, and bolster coastal resilience. As the first initiative of its kind in the Coastal Bays, it will serve as a model for future marsh restoration efforts.

For more information, contact Simen Kaalstad, ACFHP Director, at *skaalstad@asmfc.org*.

The Melissa Laser Fish Habitat Conservation Award

ANDREW BUTTON – 2023

Head of the Virginia Marine Resources Commission (VMRC) Shellfish Management Division

Pictured left to right: Chris Moore, Andrew Button, Kent Smith and Simen Kaalstad. Photo (c) ASMFC.

Andrew Button, the Shellfish Management Division Head of the Virginia Marine Resources Commission (VMRC), was presented the ACFHP Melissa Laser Fish Habitat Conservation Award on October 16, 2023 at ASMFC's 81st Annual Meeting in Beaufort, North Carolina.

Andrew Button is a consummate professional held in the highest regard by partners in the oyster restoration field in Virginia, Maryland, and globally. Over the past decade, Andrew has led the largest oyster reef construction project in the world in the Piankatank River, Virginia and has been key to the successful implementation of oyster restoration, fishery management, and aquaculture initiatives.

His successes in the Piankatank include construction of over 100 acres of reefs funded through federal, state, and non-profit organizations. Visitors to the newly constructed reefs include several recreationally and commercially important fish species such as gray snapper, sandbar sharks, striped bass, cobia, bluefish, and summer flounder. He has also helped restore an additional 24 acres of reefs in the Great Wicomico River. Andrew, through the habitat restoration work led by VMRC, has partnered with TNC, The US Army Corps of Engineers, NOAA, local watermen, and the oyster industry to successfully establish more than 400 acres of new oyster habitat in Virginia's waters. Reefs constructed by VMRC under Andrew's leadership are managed as sanctuaries with some constructed for managed harvests. Enhancement efforts of this scale will benefit the entire ecosystem of the lower Piankatank River and into the Chesapeake Bay. Andrew Button is far and away the most positive, collaborative, and dedicated practitioner, pursuing his passion and love for oyster restoration and management with a smile and an encouraging spirit of cooperation toward large-scale system-level success.

For more information on the Melissa Laser Award, please visit: *https://www.atlanticfishhabitat.org/melissa-laser-fish-habitat-conservation-award/*

The Melissa Laser Fish Habitat Conservation Award

SCOTT CUPPETT – 2024

Program Manager at Cornell University's Water Resources Institute and the New York State Department of Environmental Conservation's (NYSDEC) Hudson River Estuary Program

Scott Cuppett and Jessica Coakley. Photo credit: ASMFC.

Scott Cuppett, Program Manager at Cornell University's Water Resources Institute and the Hudson River Estuary Program with the New York State Department of Environmental Conservation (NYSDEC), was awarded ACFHP's prestigious Melissa Laser Fish Habitat Conservation Award on October 21, 2024, at ASMFC's 82nd Annual Meeting in Annapolis, Maryland. Scott's 25-year career reflects an enduring commitment to conserving Atlantic coastal and estuarine habitats. Known for his vision, dedication, and exceptional leadership, Scott has developed and led several cornerstone initiatives across New York State that continue to safeguard fish habitats. His pioneering work on the "Trees for Tribs" program has provided free trees and shrubs to streamside landowners, mobilizing volunteers to protect the Hudson River's tributaries while educating communities on the value of riparian buffers. This program has connected countless individuals with conservation efforts and strengthened communities throughout the region.

Scott also played a key role in establishing the Hudson River Watershed Alliance (HRWA), which fosters collaboration between watershed groups and government agencies in stream conservation. Since its inception, the HRWA has grown to support over 20 watershed groups, providing essential technical support and fostering a shared commitment to preserving aquatic habitats.

As a staunch advocate for improving fish passage, Scott has influenced habitat restoration policies across New York by championing dam removals and culvert enhancements to improve aquatic connectivity. Under his guidance, the Hudson River Estuary Program and its partners have assessed over 60% of road-stream crossings in the estuary watershed, developed 23 municipal road-stream crossing management plans, and supported projects that led to the removal of five dams and the restoration of eight culverts.

Nominations for the 2025 Melisssa Laser Fish Award can be submitted to *skaalstad@asmfc.org*. See sidebar on next page for information and nomination guidance.

New England Fishery Management Council Joins ACFHP

ACFHP is excited to welcome the New England Fishery Management Council (NEFMC) as its newest partner. NEFMC brings extensive expertise in fishery management, habitat conservation, and stakeholder engagement from its work in federal and state waters across the Atlantic coast.

As an ACFHP partner, NEFMC will contribute valuable knowledge on essential fish habitats, regional seabed data, and the impacts of activities such as offshore wind projects on marine environments. Their participation will strengthen ACFHP's efforts to conserve coastal, estuarine, and diadromous fish habitats and further support the Partnership's mission of collaborative conservation.

We look forward to working together to enhance, preserve, and protect the health of vital fish habitats along the Atlantic coast. Welcome aboard, NEFMC!

Fishing Gear Effects on Marine Habitats: A National Database of Research Publications and Online Application

The Fishing Gear Effects on Marine Habitats Database is an advanced tool designed to assist stakeholders, researchers, and NOAA staff in evaluating and managing the impacts of fishing gear on aquatic habitats. Originally developed for the Greater Atlantic Region, the database has been significantly expanded to include research relevant to all U.S. regions and territories, as well as international studies.

The updated database encompasses a broader range of gear and habitat types, including tropical habitats, deep-sea corals, and seagrasses. It integrates both peer-reviewed

ACFHP Seeks Nominations for 2025 Melissa Laser Fish Habitat Conservation Award

The Melissa Laser Fish Habitat Conservation Award is bestowed by the Atlantic Coastal Fish Habitat Partnership upon individuals deemed to further the conservation, protection, restoration, and enhancement of habitat for native Atlantic coastal, estuarine-dependent, and diadromous fishes in a unique or extraordinary manner.

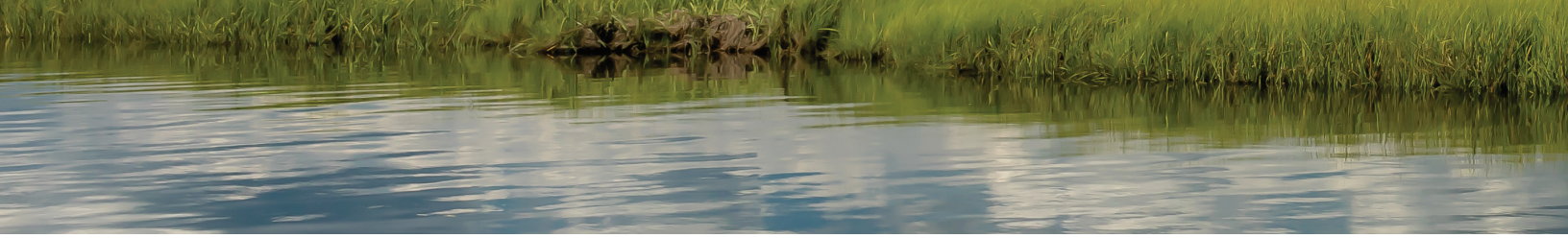
The award was established in memory of Dr. Melissa Laser who passed away unexpectedly on April 27, 2010. Melissa was a biologist with the Maine Department of Marine Resources where she worked tirelessly to protect, improve, and restore aquatic ecosystems in Maine and along the entire Atlantic coast.

As an astute strategic thinker and leader, Melissa edited and coordinated the Strategic and Operational Plan for the Restoration of Diadromous and Resident Fishes to the Penobscot River. She coordinated fish passage projects, managed and oversaw the biological field staff for the Maine Western Region, and was the Bureau of Sea Run Fisheries and Habitat Program lead for habitat restoration studies and projects. She was also an effective champion for Atlantic salmon, directing and coordinating Endangered Species Act-related actions pertaining to the species.

Melissa brought her smiling dedication and enthusiasm to the ASMFC's Habitat Committee and Atlantic Coastal Fish Habitat Partnership's Steering Committee, catalyzed by the Commission in 2006. Her contributions to these committees and to her home state were tremendous. She is deeply missed.

View the instructions on how to submit a 2025 nomination, or to see a list of past award recipients, visit: *https://www.atlanticfishhabitat.org/melissa-laser-fish-habitat-conservation-award/*

Please send nominations to Simen Kaalstad, ACFHP Director *(SKaalstad@asmfc.org)*, by **August 1, 2025.** We plan to present the 2025 award at the Atlantic States Marine Fisheries Commission Annual Meeting this fall.



and non-peer-reviewed publications, modeling studies, and additional data elements to provide a more holistic perspective on fishing gear impacts. Enhanced accessibility is achieved through a user-friendly online application hosted on an R-Shiny platform that features interactive maps and allows users to explore data and download reference materials.

The project, supported by NOAA's Office of Habitat Conservation, the Mid-Atlantic, New England, and North Pacific Fishery Management Councils, emphasizes methods, study design, and physical contexts rather than results. It captures 18 key data elements across 57 fields to ensure comprehensive coverage of fishing gear impacts.

Future plans include integrating the database into the Council Coordination Committee (CCC) Habitat Work Group's agenda for long-term maintenance and updates, with continued hosting by MAFMC for the near term. This initiative highlights the collaborative effort to protect marine ecosystems through informed, data-driven decisions.

For more information or to access the database, visit: Fishing Effects Database.

National Fish Habitat Partnership: 2024 Updates

The National Fish Habitat Partnership (NFHP) achieved key milestones in 2024 with the launch of a redesigned website and a new Projects and Accomplishments Dashboard. These tools enhance public access to NFHP's extensive conservation efforts and highlight its commitment to protecting and restoring aquatic habitats nationwide.

Redesigned Website

The revamped fishhabitat.org improves accessibility to the National Fish Habitat Action Plans and other resources through a user-friendly interface and enhanced navigation. Key features include an interactive map offering detailed information about individual projects and regional summaries of NFHP's achievements. Users can filter data by project year, type, location, or species focus to explore areas of interest.

The website also provides streamlined access to resources on NFHP's 20 regional Fish Habitat Partnerships, which lead conservation efforts across the US. Additional features include previous fish habitat assessments, program documents, updates from the National Fish Habitat Board, and improved newsletter sign-up options. Links to Beyond the Pond, a 501(c)(3) nonprofit supporting NFHP, and donation pages for each partnership further facilitate public engagement.

Projects and Accomplishments Dashboard

Complementing the website, NFHP's new Projects and Accomplishments Dashboard provides a publicly accessible, interactive tool to explore Fish Habitat Partnership (e.g., ACFHP) projects. Users can view detailed project summaries and filter data by criteria such as year, location, species, or habitat focus. Project types include habitat restoration, species assessments, and partner coordination.

Robert Boyles, Chair of the National Fish Habitat Board, emphasized the dashboard's role in showcasing NFHP's impact:

"The data shared in the Projects and Accomplishments Dashboard are extremely important for telling our story of protecting, restoring, and enhancing fish habitats across the U.S. The hundreds of projects included are a testament to the value of teamwork among many conservation partners."

The dashboard highlights NFHP's substantial achievements, including the conservation of over 8,500 miles of river and coastal habitats and nearly 95,000 acres of aquatic habitats including rivers, lakes, wetlands, estuaries, and uplands. These efforts have involved collaboration with more than 1,600 organizations and leveraged $380 million in funding, with $61 million directly invested in conservation projects.

Jimmy Johnson

By Kent Smith and Wilson Laney, ACFHP co-founders and members of the ASMFC Habitat Committee

For those of us fortunate enough to work with him over the years, Jimmy Johnson brought an exceptional, unique, and multifaceted perspective to conservation in North Carolina's estuarine and marine environments. With a career spanning diverse roles, Jimmy owned and operated a commercial blue crab enterprise, called the Washington Crab Company, in Washington, NC, for 15 years, chaired the North Carolina Marine Fisheries Commission from 1998 to 2005, and served on the staff of the Albemarle-Pamlico National Estuary Partnership (APNEP). In his role as APNEP Coastal Habitats Coordinator, Jimmy championed North Carolina's Coastal Habitat Protection Plan (CHPP), guiding it to its most recent iteration (see Coastal Habitat Protection Plan | NC DEQ). Given his expertise, it is no surprise that he was selected as North Carolina's representative on both the Atlantic States Marine Fisheries Commission's (ASMFC) Habitat Committee and the ACFHP Steering Committee.

As Jimmy embarks on new adventures in his well-earned retirement, we both want to celebrate his remarkable contributions to the ACFHP and the ASMFC Habitat Committee and wish him all the best in this next chapter.

Jimmy was a founding partner in the development of ACFHP in 2009, dedicating countless hours to workshops and thoughtful collaboration. As North Carolina's representative on the Habitat Committee, he ensured that the wide range of aquatic habitat concerns were addressed in the Committee's work. Respected by his peers, Jimmy served as vice chair and chair of the Habitat Committee from 2019 to 2022, guiding the Committee with steady leadership through the challenges of the COVID-19 pandemic and beyond. His learned perspective and thoughtful insights were also invaluable in reviewing and ranking ACFHP's annual project proposals for habitat restoration projects.

Always quick with a smile and warmly embracing the opportunity to establish new friendships, Jimmy played a key role in welcoming new partners to both the Habitat Committee and ACFHP. His experience, humility, kindness and friendship will be deeply missed by all.

As we say goodbye to a valued colleague, we are excited to see what lies ahead for Jimmy and wish him all the best spending time with his new grandchild and family.

Good on ya' Jimmy. Fair winds and smooth seas ahead!

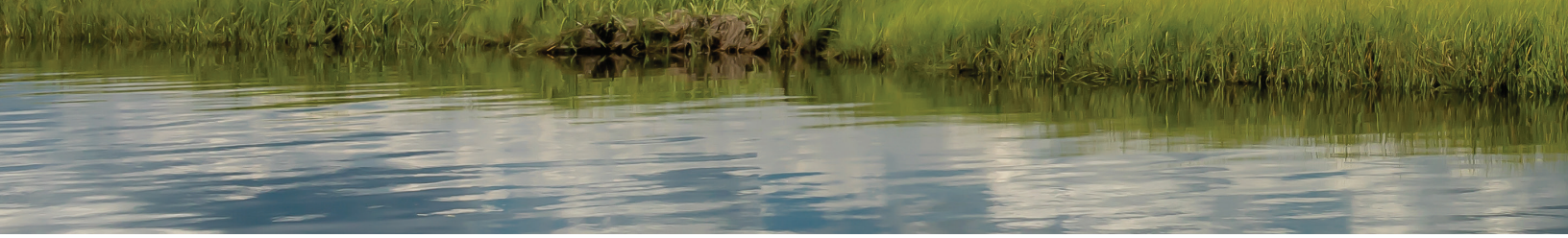
ACFHP Welcomes New Chair and Vice-Chair

During ASMFC's 82nd Annual Meeting in Annapolis, MD, the ACFHP Steering Committee unanimously elected Jessica Coakley of the Mid-Atlantic Fishery Management Council as Chair and Chris Moore of the Chesapeake Bay Foundation as Vice-Chair. This leadership transition brings a wealth of expertise and dedication to advancing the Partnership's mission of conserving coastal fish habitats along the Atlantic coast.

Jessica Coakley: A Seasoned Leader in Fisheries Management

Jessica has been an active member of the ACFHP Steering Committee since 2018, serving as Vice-Chair alongside former Chair Kent Smith (Florida Fish and Wildlife Conservation Commission) for the past two years. With over 20 years of experience in state and federal fishery management and science, Jessica brings a deep understanding of fisheries and habitat conservation. She is responsible for the Atlantic surfclam and ocean quahog fishery management plan and leads the Council's habitat initiatives, including aspects of its Ecosystem Approach to Fisheries Management. Jessica holds a BS from Rutgers University and an MS from the University of Maryland - Chesapeake Biological Laboratory. Prior to joining the Mid-Atlantic Fishery Management Council, she worked for the states of Delaware and Maryland, further enhancing her broad fisheries expertise.

--see CHAIR and VICE CHAIR on page 28



CHAIR and VICE CHAIR continued from page 27

Chris Moore: A Champion for the Chesapeake Bay

Chris Moore, the Virginia Executive Director of the Chesapeake Bay Foundation (CBF), has spent his career promoting sustainable fisheries and restoring the Chesapeake Bay ecosystem. Formerly the Senior Regional Ecosystem Scientist at CBF, Chris has played a pivotal role in policy development and technical support for fisheries management, habitat restoration, and water quality enhancement. His efforts have spanned critical species such as blue crab, striped bass, and Atlantic menhaden, along with several oyster restoration initiatives. Chris also leads water quality improvement projects and collaborates with elected officials across all levels of government to support legislative actions benefiting the Chesapeake Bay watershed. As a US Coast Guard Licensed Captain, Chris conducts educational and restoration boat trips, engaging volunteers, media, and policymakers in hands-on conservation efforts.

ACFHP is excited to welcome Jessica and Chris to their new roles. Their leadership, experience, and passion for habitat conservation will undoubtedly strengthen the Partnership's work to protect and restore vital fish habitats along the Atlantic coast.

Updates from Capitol Hill: America's Conservation Enhancement Act

On December 19, 2024, the US Senate unanimously passed the America's Conservation Enhancement Reauthorization (ACE) Act (S. 3791), a bipartisan bill aimed at bolstering fish, wildlife, and habitat conservation while supporting recreational opportunities for anglers. First enacted in 2020, the ACE Act includes critical programs like the National Fish Habitat Partnership (NFHP) and the North American Wetlands Conservation Act (NAWCA).

Before the Senate's approval, the Congressional Sportsmen's Foundation (CSF) played a key role in building bipartisan support for reauthorization through initiatives such as House floor alerts and co-sponsorship campaigns, ultimately advancing the legislation to the President's desk. CSF's Senior Director of Fisheries Policy serves on the Congressionally authorized NFHP Board, which guides the regional fish habitat partnerships and facilitates funding for on-the-ground conservation projects.

Key updates in the ACE Act include streamlined funding processes, expanded board representation, and greater flexibility in project timelines. The legislation highlights the importance of collaborative, science-based conservation across the U.S. and now awaits the President's signature to become law.

ACKNOWLEDGEMENTS

HABITAT PROGRAM MISSION

To work through the Commission, in cooperation with appropriate agencies and organizations, to enhance and cooperatively manage vital fish habitat for conservation, restoration, and protection, and to support the cooperative management of Commission managed species.

REPRODUCTIONS

Any portion of this newsletter may be reproduced locally with credit given to the ASMFC Habitat Program.

PUBLICATION 2024

This publication of Habitat Hotline Atlantic was made possible by the contributions of many, but the Habitat Committee would like to specifically acknowledge the efforts of the 2024 Editors:

Tina Berger (ASMFC)
Simen Kaalstad (ASMFC)
Madeline Musante (ASMFC)

PARTNER CONTRIBUTORS:

Ben Connor, Erin Fleckenstein, Meghan N. Fellows, Jecy Klinkam J.A. MacFarlan, Leah Morgan Nivette M. Perez-Perez, Ward Slacum, Holly K. Sommers

HABITAT COMMITTEE MEMBER CONTRIBUTORS:

Robert Atwood, Russ Babb, Cameron Brinton, Jessica Coakley, Alexa Fournier, Jimmy Johnson, Robert LaFrance, R. Wilson Laney, Mark Rousseau, Eric Schneider, Kent Smith, Kate Wilke

The views expressed in the Habitat Hotline Atlantic are those of the authors and do not necessarily reflect the views of the Atlantic States Marine Fisheries Commission.

Funding provided by Sport Fish Restoration

Banner photo: salt marsh, Manahawkin, New Jersey Photo (c) Shutterstock/Anthony Tucci