



NORTH CAROLINA OYSTER
BLUEPRINT
An Action Plan for Restoration and Protection



Highlights and Overview: 2021-2025

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NC Oyster Restoration Efforts

- 1915: NC DMF started cultch plantings
 - 1915-2020 ~22 million bushels of cultch material planted
- 1947: Shellfish Rehabilitation Program began
- 1995: Blue Ribbon Advisory Council on Oysters
- 1996: Oyster sanctuary program initiated
- 1997: Fisheries Reform Act
- 2001: Oyster Fishery Management Plan
- 2003: NGOs & research institutions ramp up efforts
- 2004: Coastal Habitat Protection Plan

Oyster Restoration and Protection Plan for North Carolina: A Blueprint For Action

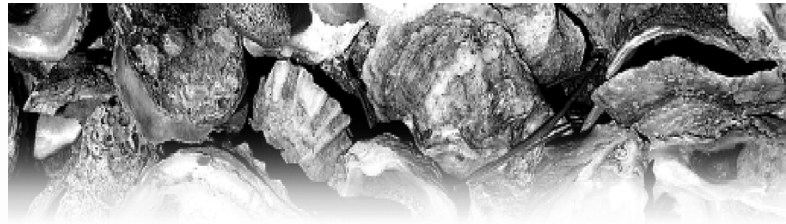
- 2003 Oyster Forum yielded compilation of suggested actions
- Incorporated recommendations from:
 - Blue Ribbon Advisory Council on Oysters
 - Fisheries Reform Act
 - Oyster Fishery Management Plan
 - Coastal Habitat Protection Plan
 - Basinwide Water Quality Plans
- Drafted into comprehensive, concerted & bold effort to take place over five years
 - 2003-2008; 2008-2012; 2015-2020
- Steering Committee and Regional Workgroups engaged

Oyster Restoration and Protection Plan for North Carolina: A Blueprint for Action

Three Previous Editions

OYSTER RESTORATION & PROTECTION PLAN FOR NORTH CAROLINA

**A Blueprint for Action
2003-2008**



**Oyster Restoration and Protection Plan for
North Carolina: A Blueprint For Action - Second
Edition
2008 – 2012**



Oyster Restoration and
Protection Plan for North Carolina:

A Blueprint for Action 2015-2020



Prepared by: N.C. Coastal Federation

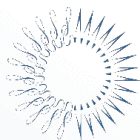
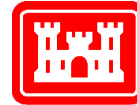
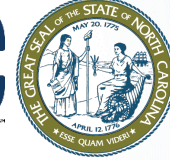
Major Accomplishments

- North Carolina joined NOAA's National Shellfish Initiative
- Government, private agencies and other shellfish stakeholders coordinated habitat, water quality and fisheries management activities.
- Funding for oyster related programs increased by a factor of ten from 2003-2013.
- Annual oyster harvest increased from low of 34,500 bushels.
- Built ~400 acres of harvestable reef.

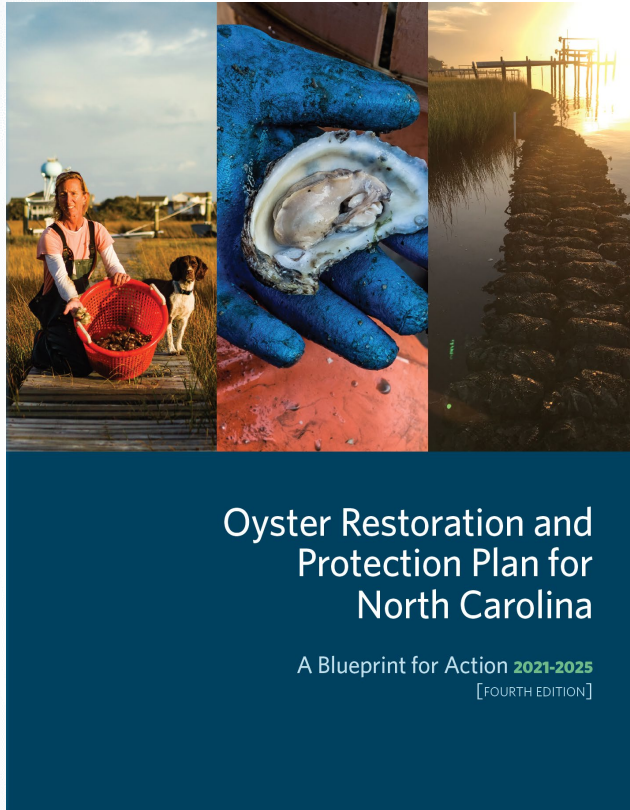


- Oyster Restoration and Growing are good for both the economy and environment- \$1 invested = \$4.05 in benefits
- Developed Strategic Mariculture Plan
- Shellfish aquaculture grew from \$1 million to nearly \$5 million industry
- Built ~50 acres of reef through oyster sanctuaries, living shorelines and patch reefs
- Water quality degradation continues to be a concern but some localized improvements were observed
- Researchers developed and refined tools to guide restoration, growing and enhancement efforts

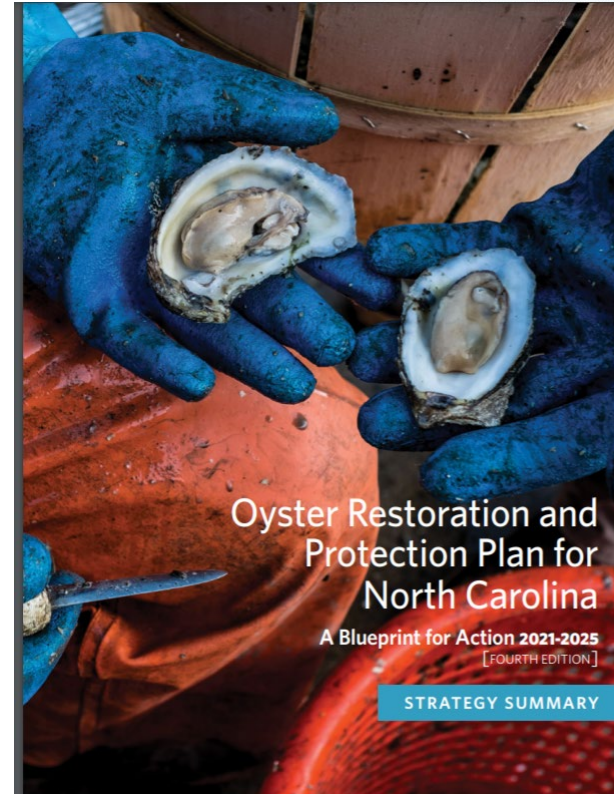
Partnerships and Collaborations are Key to Success



Fourth Edition- April 2021



Full Plan



Strategy Summary

Protect:
water quality,
oyster sanctuaries

Educate:
outreach and
engagement

Blueprint

Restore:
living shorelines,
recycle for reefs

Harvest:
cultch, harvest,
aquaculture

WATER QUALITY

CLOSED AREA

NO TRAWLING

N.C. MARINE FISHERIES

CLOSED AREA

NO TRAWLING

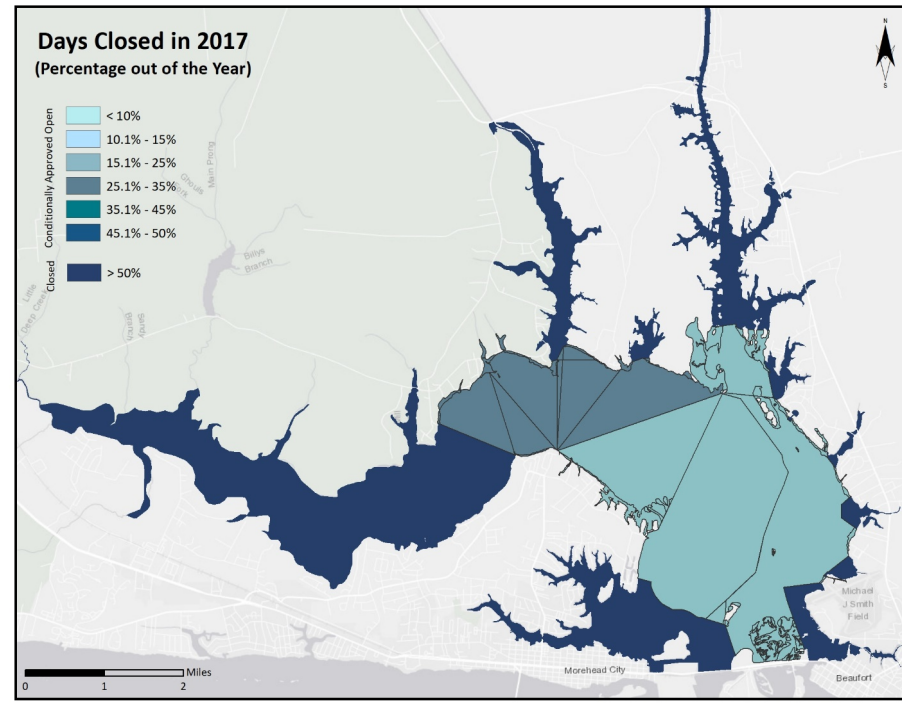
N.C. MARINE FISHERIES

CLOSED AREA

UNLAWFUL TO TAKE
OYSTERS CLAMS
OR MUSSELS

N.C. MARINE FISHERIES

Protect and restore water quality in shellfish growing waters that are both critically important and endangered.



- Stump Sound Watershed Restoration Plan Underway
- Application for Newport River Estuary Protection and Restoration Strategic Plan
- Prioritize additional waterbodies in need of protection- refine prioritization tool

SANCTUARIES



Establish sufficient acreage of protected oyster reefs to support desired ecosystem services including: build fish habitat, supplement wild oyster stock and filter water.



- Build 100 acres of sanctuary by 2025.
- Determine the feasibility of a protected reef designation in Southern waters.
- Refine estimates for how many acres of protected habitat is needed to reach ecosystem service goals.

A photograph of a coastal landscape featuring a living shoreline. In the foreground, there is a dense field of tall, green and yellowish grasses. A narrow channel of water flows through a series of low, rocky structures that form a breakwater or barrier. The water is dark blue and extends to the horizon. In the distance, a line of trees and a few white sails are visible against a clear blue sky with scattered white clouds. The text "Living Shoreline" is overlaid in white, sans-serif font across the middle of the image.

Living Shoreline

Expand the use of living shorelines to become the most commonly used stabilization method in estuaries that support oyster habitats.



- Expand use of living shorelines to be most commonly used method. (3 miles added by 2025)
- Ensure protection of living shorelines constructed from oyster reef material.

Recycle for Reefs



Create a cohesive oyster shell recycling program to provide 5 percent of material needed to support oyster habitat restoration strategies



- Recycled material to provide 5 percent of needed material by 2025 (~15,000 bushels).
- Identify priority reef locations for recycled shell, target 20 acres of reef.

CULTCH PLANTING



Use cultch planting to replenish and enhance oyster habitat for commercial harvest and ecosystem services



- Plant cultch to build 40 acres of harvestable oyster habitat annually.
- Study existing program to determine if improvements can be made to maximize oyster growth and ROI.

WILD HARVEST



Sustainably manage natural oyster habitats within public trust areas to perpetuate ecosystem services and wild harvest.



- Improve the science and monitoring that informs the FMP-work towards a state stock assessment.
- Coordinate with various state plans: CHPP and FMP in particular.

A close-up photograph of a large quantity of oysters. Many oysters are encased in bright orange, textured mesh sleeves, which are commonly used in aquaculture to protect the shells from predators and debris. The oysters themselves show various stages of growth and shell coloration, ranging from light tan to dark, almost black, hues. The shells are piled together, creating a dense, textured surface. The text 'Shellfish Aquaculture' is overlaid in white on the upper right portion of the image.

Shellfish Aquaculture

Build the shellfish aquaculture industry to create a \$45 million industry by 2025.



- Grow industry to \$45 million by 2025.
- Education and economic support for new and existing growers; comprehensive marketing and distribution; research and continued regulatory review and planning.
- Advance the Oyster Trail in North Carolina.

Outreach and Engagement



Create communication and outreach strategies that engage stakeholders and the general public to actively support the goals, strategies and actions outlined in the Blueprint.



- Continue to engage statewide oyster steering committee
- Leverage support with NC Aquariums, Museums and visitor's centers
- Expand the use of traditional and social media outlets- including field trips, public forums and school engagement.



Oyster Restoration and Protection Plan for North Carolina

A Blueprint for Action **2021-2025**
[FOURTH EDITION]



Questions?

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