

VIRGINIA OYSTER RESTORATION & REPLENISHMENT: PAST, PRESENT & FUTURE





Shellfish
Management
Division

ADAM KENYON
CHIEF, SHELLFISH MANAGEMENT DIVISION



VMRC has led the largest oyster restoration effort in the U.S., setting a national precedent. Our collaboration with federal agencies, non-profits, and private stakeholders, supported by the NOAA Chesapeake Bay Office, has been pivotal in implementing innovative techniques and monitoring ecosystem health.

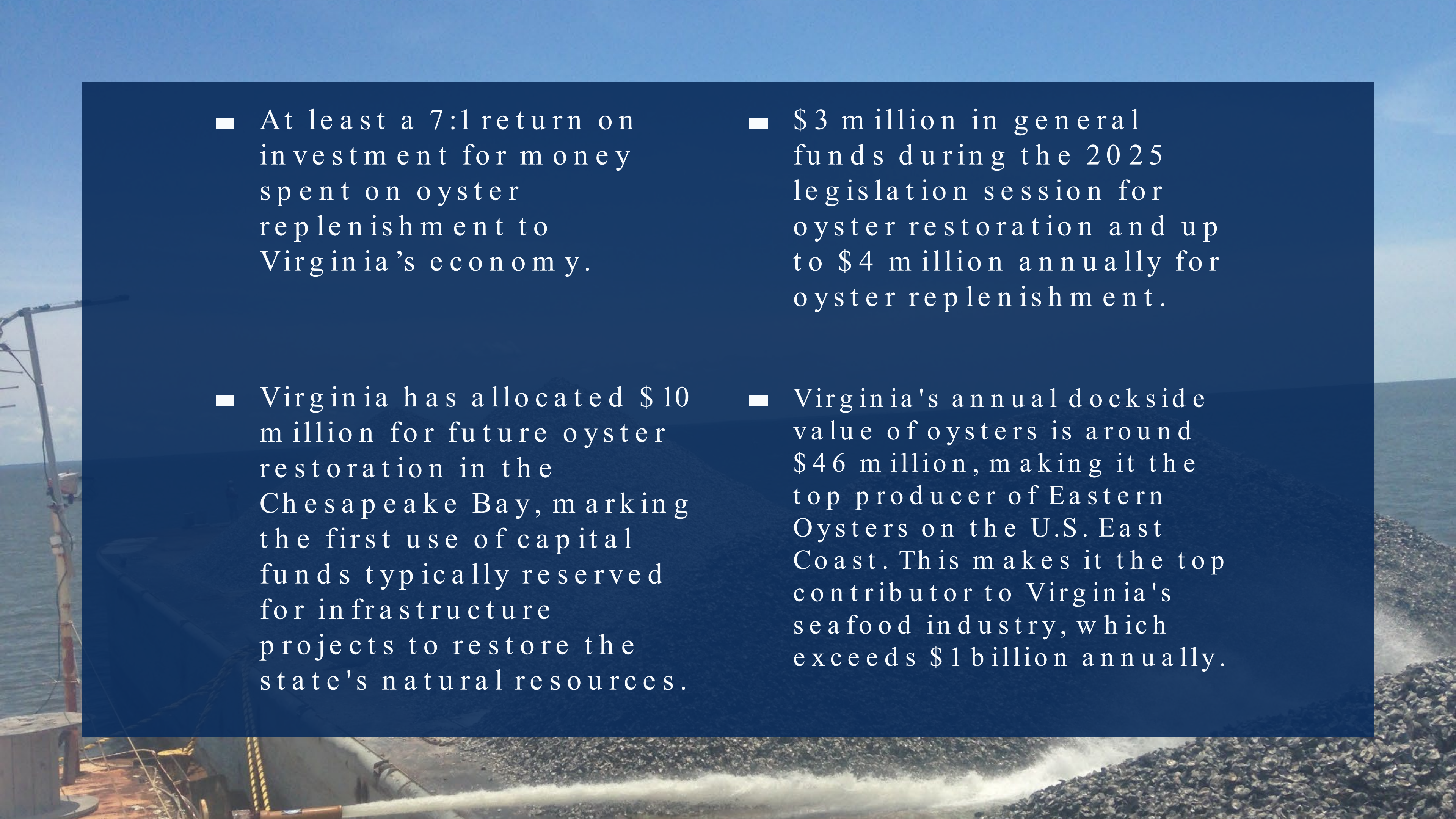
CURRENT STATUS

How Virginia Ranks and why it matters



Shellfish Management Division

- Largest restoration program in the Country
- Largest replenishment program in the Country
- Largest producer of Hard Clams in the Country
- Largest Producer of Oysters on the East Coast
- 3rd largest producer of all seafood in the Country
- ~1.5 Billion Oysters harvested over the last 10 years.
- \$400 million dockside value
- Directly supports or provides more than 4,000 jobs in Virginia
- All this economic activity does not just stay in Virginia

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- At least a 7:1 return on investment for money spent on oyster replenishment to Virginia's economy.
 - Virginia has allocated \$10 million for future oyster restoration in the Chesapeake Bay, marking the first use of capital funds typically reserved for infrastructure projects to restore the state's natural resources.
 - \$3 million in general funds during the 2025 legislation session for oyster restoration and up to \$4 million annually for oyster replenishment.
 - Virginia's annual dockside value of oysters is around \$46 million, making it the top producer of Eastern Oysters on the U.S. East Coast. This makes it the top contributor to Virginia's seafood industry, which exceeds \$1 billion annually.

In October, pursuant to statute, regulations were drawn up which were mutually satisfactory to the United States Public Health Service, the Shellfish Sanitation Department, and the Commission of Fisheries, and proved very successful this fall. During the open season a system was worked out whereby permits could be given to tongers to take clams from restricted territory, while small planters removed oysters from their beds or sold to larger planters under certain conditions of supervision and also after having given bond.

FIRST REPLETION OF PUBLIC ROCKS

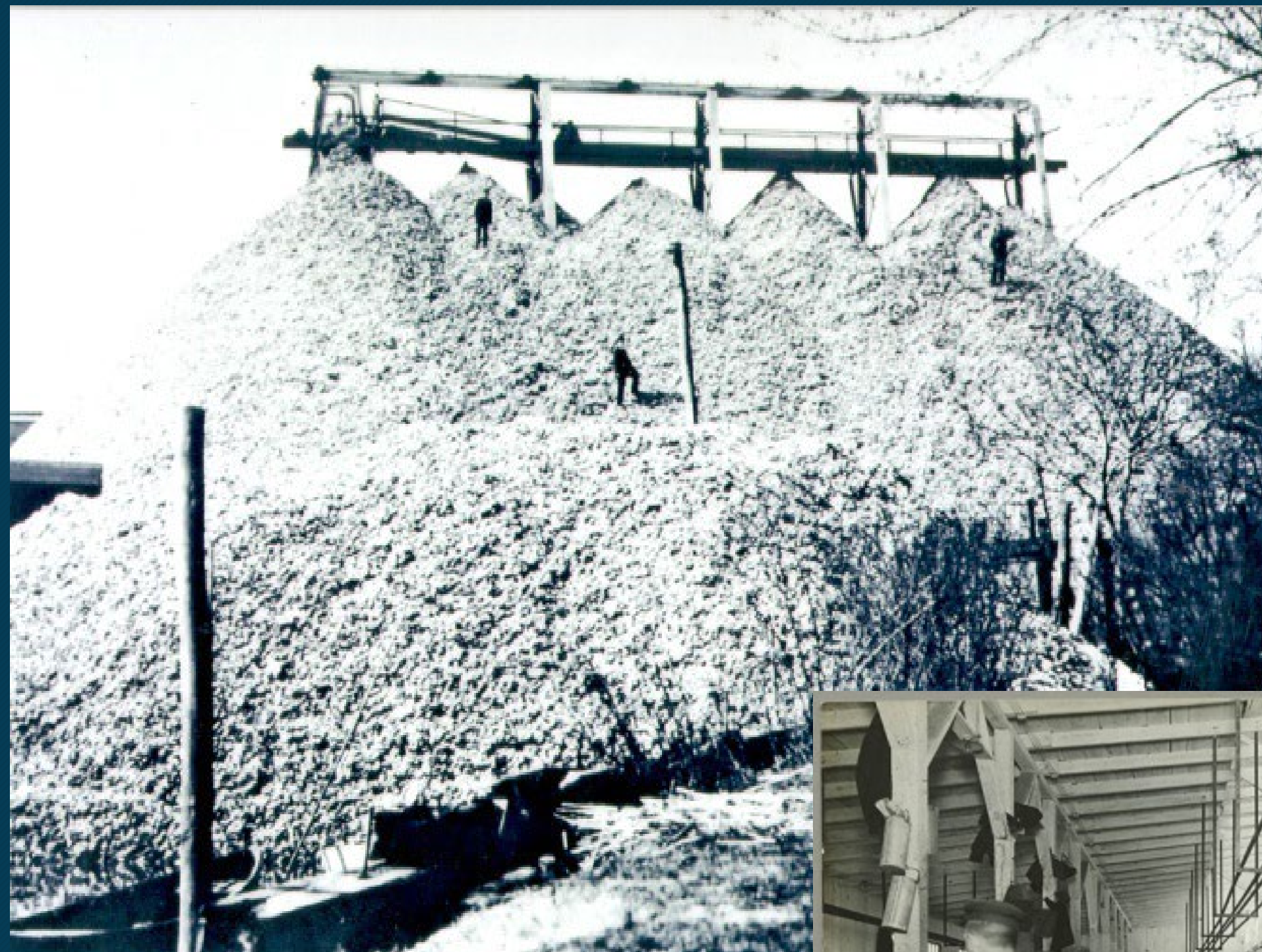
The present Commission of Fisheries made the first attempt in the history of the industry to replete or restore impoverished bottoms within the Baylor Survey. This was done under the so-called "Oyster Repletion Act," enacted in 1928, providing for a "Repletion Fund" to be expended under an "Oyster Advisory Commission." Functioning under the provisions of this act during the early summer of 1929, this work was commenced, upon a small scale, with such funds as were available. The Oyster Advisory Commission was composed of Honorable R. O. Norris, of Lancaster; Honorable Albert Sidney Johnson, of Isle of Wight, and Engineer Frederick E. Ruediger, of Accomac. The funds were provided by statute, being the remainder of the bushel tax collected from oysters taken from the public rock at one and one-half ($1\frac{1}{2}$) cents per bushel within the State and three (3) cents per bushel going out of the State.

The first ground set apart and planted were 250 acres in James River near the mouth of the Warwick River off Blunt Point. The seed for repletion was dredged nearby from the area through which the United States Government is cutting a channel, which crosses certain oyster rocks at Rocklanding Shoals. This not only saved the oysters from being destroyed by the channel dredge, but saved them for the State, and present indications are that within a year or two this planting will furnish good working ground for the tongers, from an area which heretofore had been barren. This was platted and buoyed as the law requires.

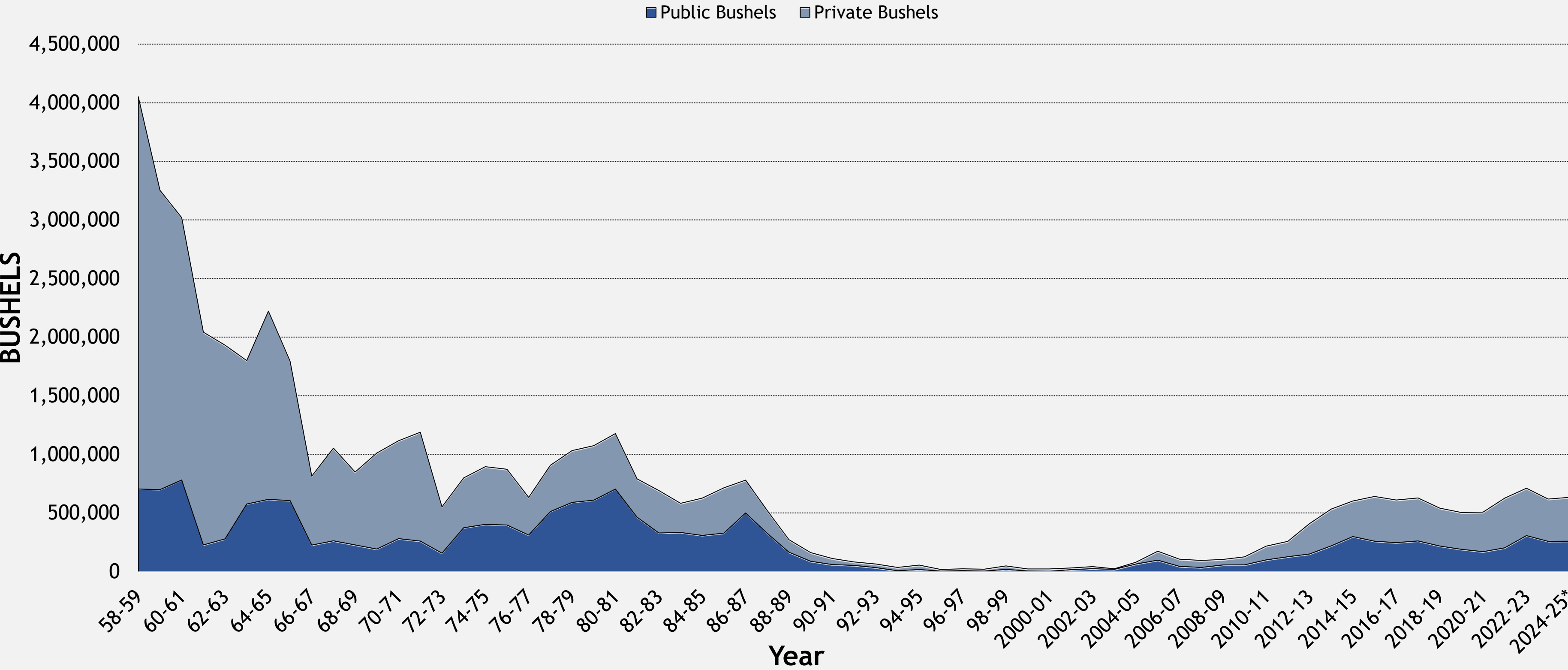
The second reservation for repletion consisted of 162.8 acres, which was set apart near Towles' Point in the Rappahannock. This has also been platted and staked, 29,283 bushels of shells being planted upon this ground and an examination in October indicated a good strike.

The third allocation of funds for reservation was 69.7 acres at New Virginia, Chincoteague Bay, 13,200 bushels of shells being also planted upon this ground. An examination of this reservation shows a good strike and a great deal of natural growth.

It is to be borne in mind that most probably, in many cases, there will be natural restoration upon these reservations by reason of the fact that they are closed to the public and in this period of rest can to a measure replete themselves. This is clearly proven by bottoms adjoining the Naval Mine Depot at Yorktown. Here the bottoms have been closed, more or less since 1918, or certainly a number of years, and a large amount of natural growth of oysters may be observed over the entire area where the bottoms are susceptible of natural growth.



PUBLIC AND PRIVATE OYSTER HARVEST



Restoration Today



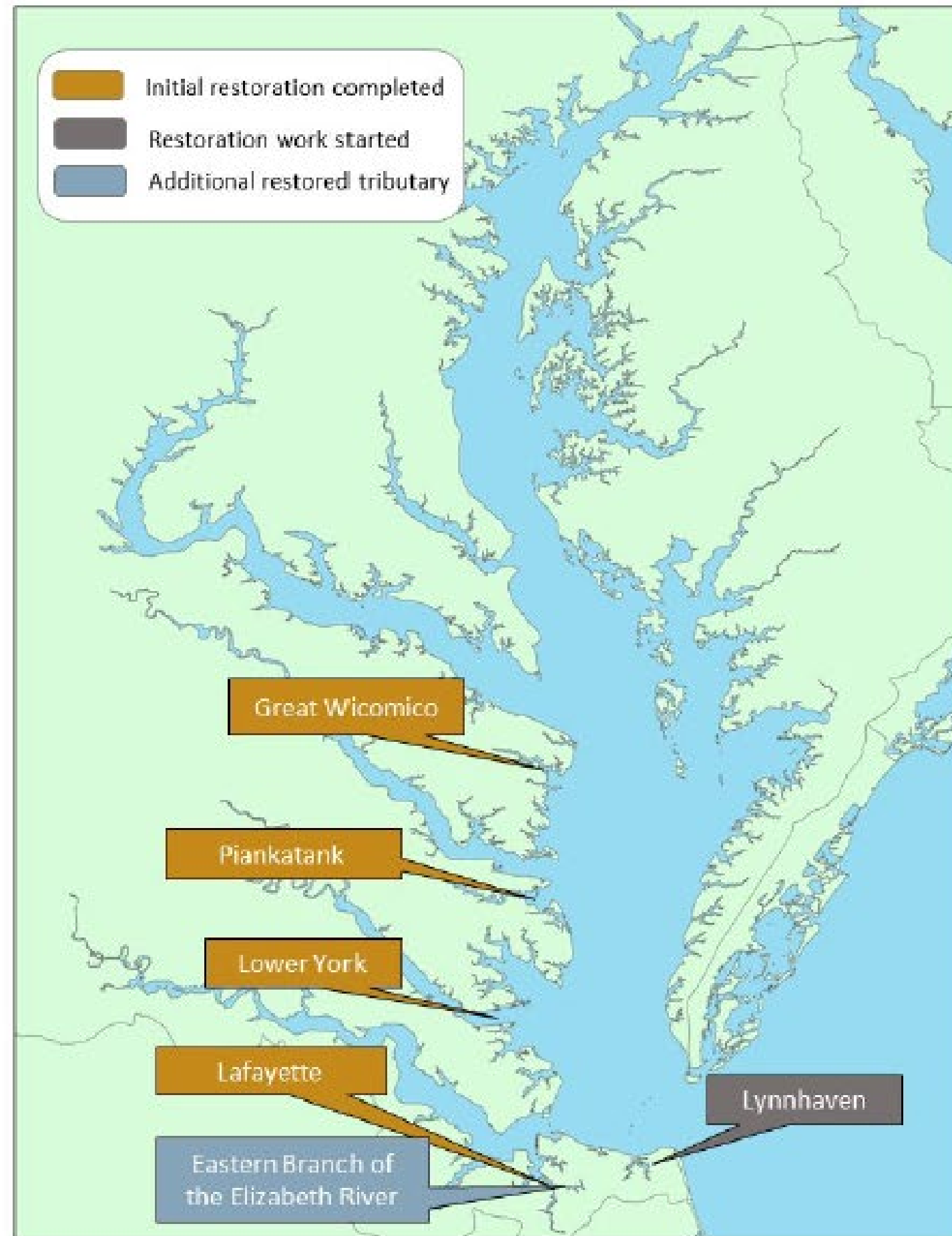
“Continually increase finfish and shellfish habitat and water quality benefits from restored oyster populations. Restore native oyster habitat and populations in 10 tributaries by 2025 and ensure their protection.”

GOAL: Reduce pollutants to achieve the water quality necessary to support the aquatic living resources of the Bay and its tributaries and protect human health.

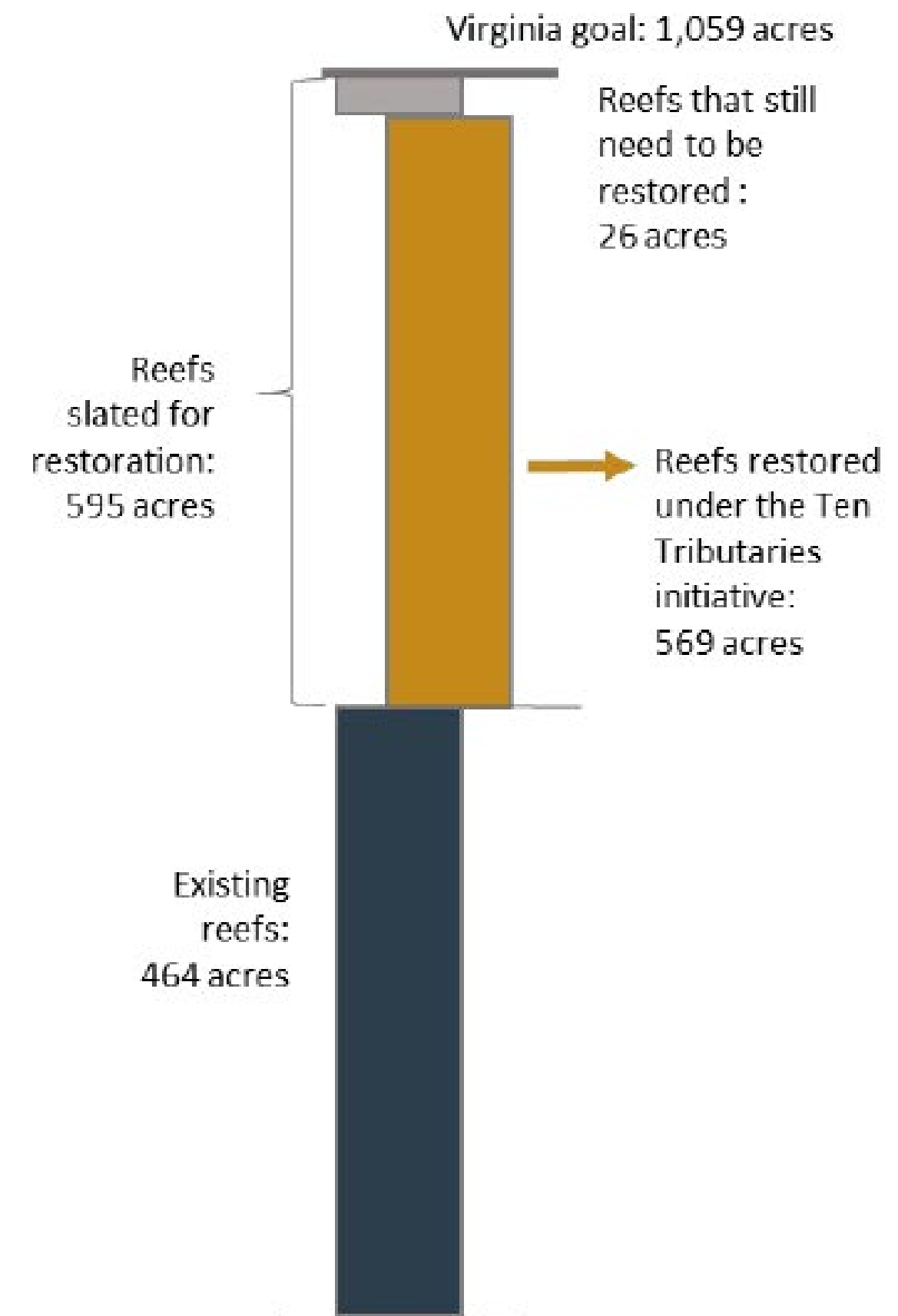
Tasked initially with restoring five tributaries, Virginia has gone above and beyond, completing the restoration of a sixth tributary. This demonstrates the state's commitment to exceeding the goals set in the 2014 Chesapeake Bay Watershed Agreement.



Tributaries Complete: Four of Five Planned



Acres of Reefs Restored: 569 of 595 planned



Chesapeake Bay Watershed Agreement

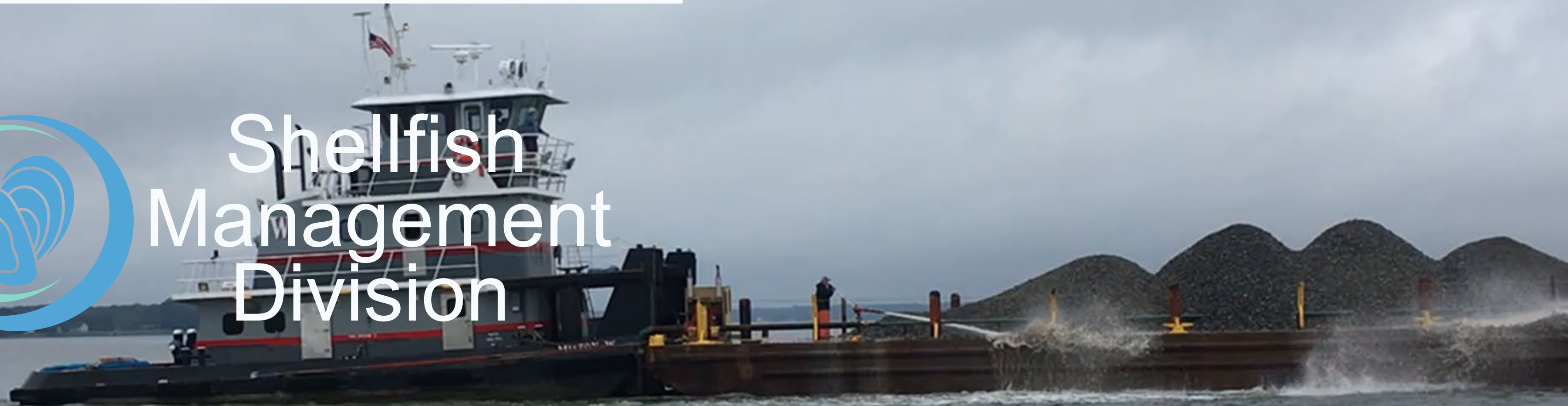
- To assess restoration success, a baseline of existing and potential oyster habitat is established for each tributary through the development of a Blueprint Plan.
- Each blueprint outlines the minimum threshold acreage required for a tributary to be deemed successfully restored, while also setting a higher target to encourage further restoration efforts beyond the minimum evaluation criteria.

Tributary	Baseline Acreage	Restored Acreage	Completed Acreage	Restoration Threshold	Virginia's Target	Year Threshold Achieved	Year Target Achieved
Lafayette River	70	12	82	80	82	2018	2018
Piankatank River	203	294	497	232	444	2020	2023
Lynnhaven River	89	37	126	85	152	2018	2025
Lower York	2	202	204	152	200	2022	2023
Great Wicomico	100	24	124	71	124	2020	2021
Elizabeth River	3	21	24	24	24	2020	2020

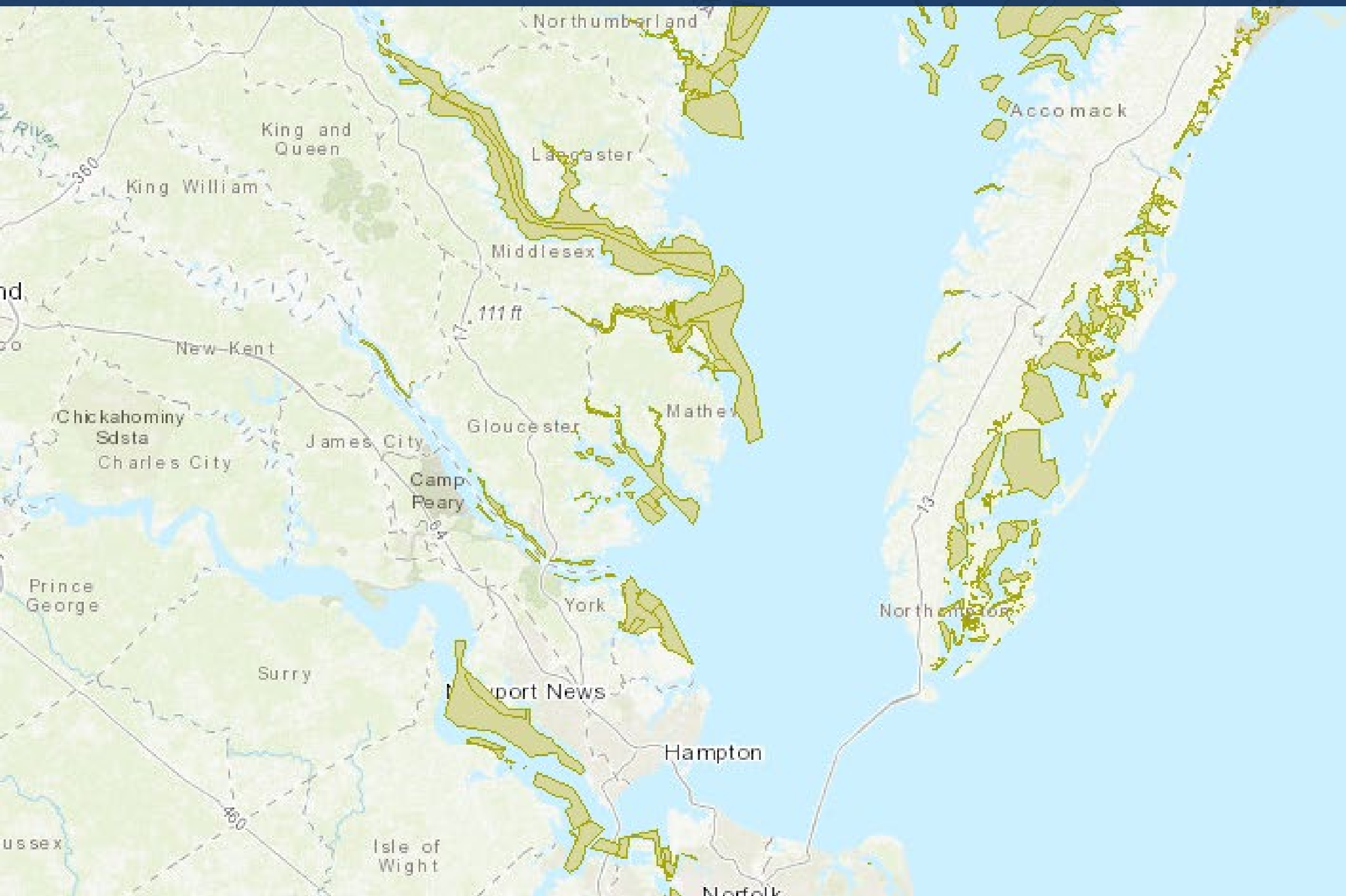
Replenishment Today



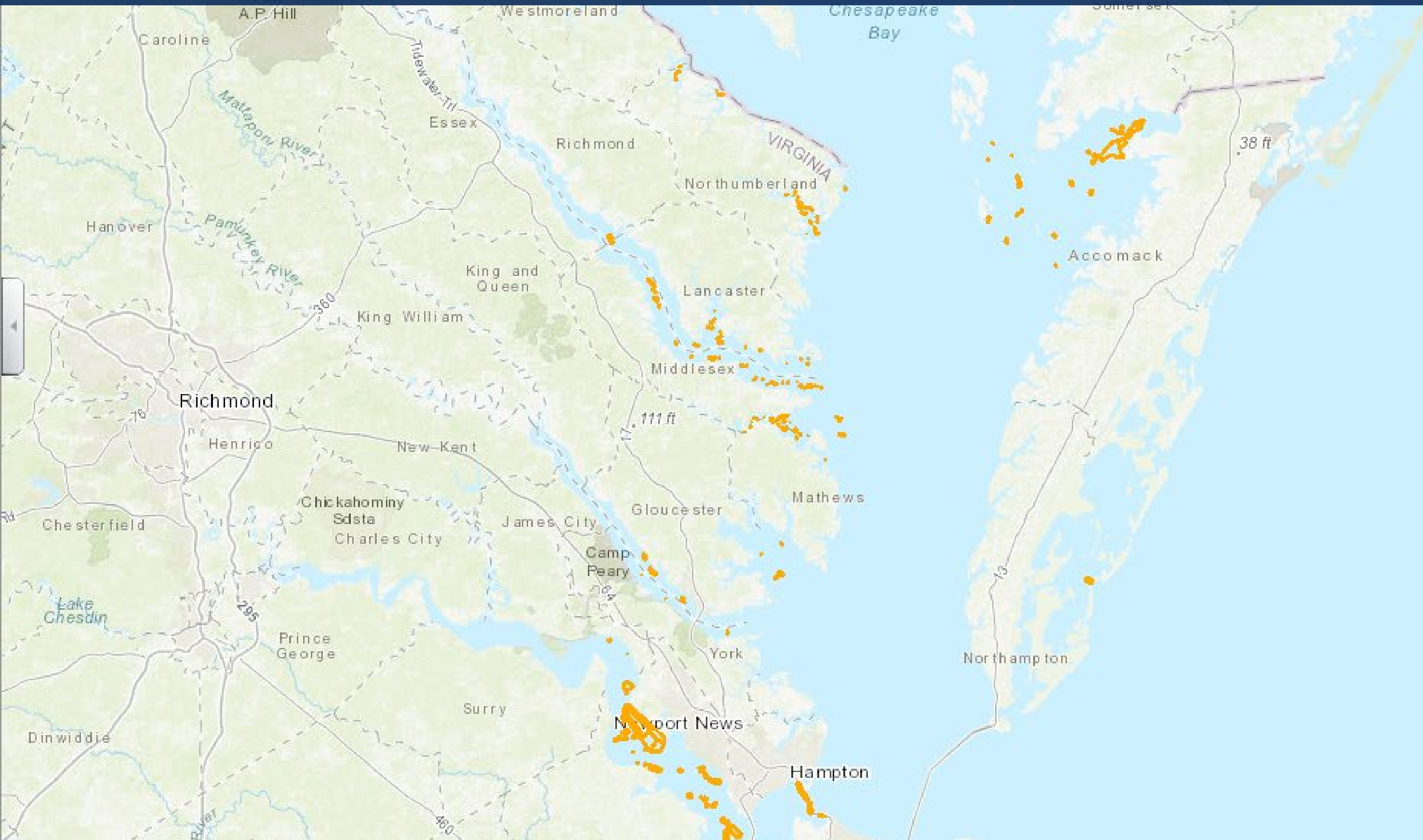
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250,000 + Acres of Baylor Ground (46,000 Seaside Eastern Shore)

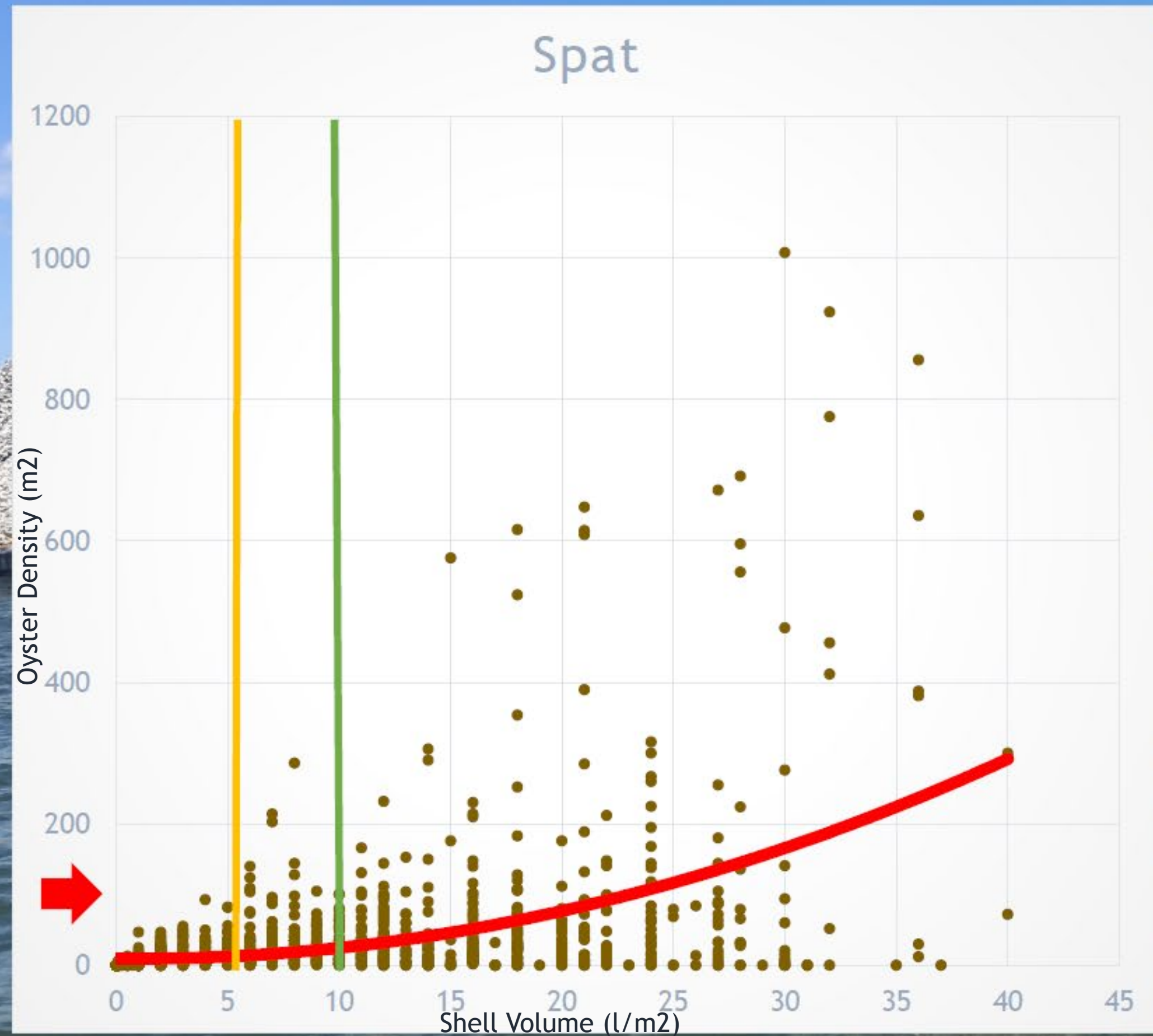


~10,000 Acres Surveyed Annually





WHEN TO REPLENISH?





FUTURE GOALS

Blue Ribbon Oyster Panel



- The Blue-Ribbon Oyster Panel is committed to restoring and sustaining Virginia's oyster resources, recognizing their critical role in both our environment and our economy.
- By working together and embracing new ideas, the Panel aims to tackle the long-term challenges facing oyster populations, ensuring this iconic resource remains abundant for generations to come.
- In addition to setting clear and realistic goals, the Panel is dedicated to finding practical, effective solutions to meet them.
- Through collaboration with local communities, scientists, and industry leaders, the Panel strives to balance conservation with the needs of those who rely on oysters for their livelihoods.

FUTURE GOALS

Potomac River Tributary Restoration

- We propose identifying and assessing vital Potomac River tributaries for restoration, fostering collaboration among neighboring jurisdictions.
- This broader approach enhances conservation effectiveness and cultivates a shared commitment to ecological preservation.
- Through strategic collaboration and a unified vision, we can amplify our conservation efforts, safeguarding the natural habitats and biodiversity of the Potomac River watershed.

FUTURE GOALS

Substrate Diversification

- This initiative aims to diversify substrate options for oyster habitat restoration in Virginia.
- With fossil shell resources in the Lower James River projected to deplete in 10 - 15 years due to current replenishment activities, alternative substrates like granite or other stone materials are being considered.
- Exploring the feasibility of transporting and planting upland shell deposits is also on the agenda.

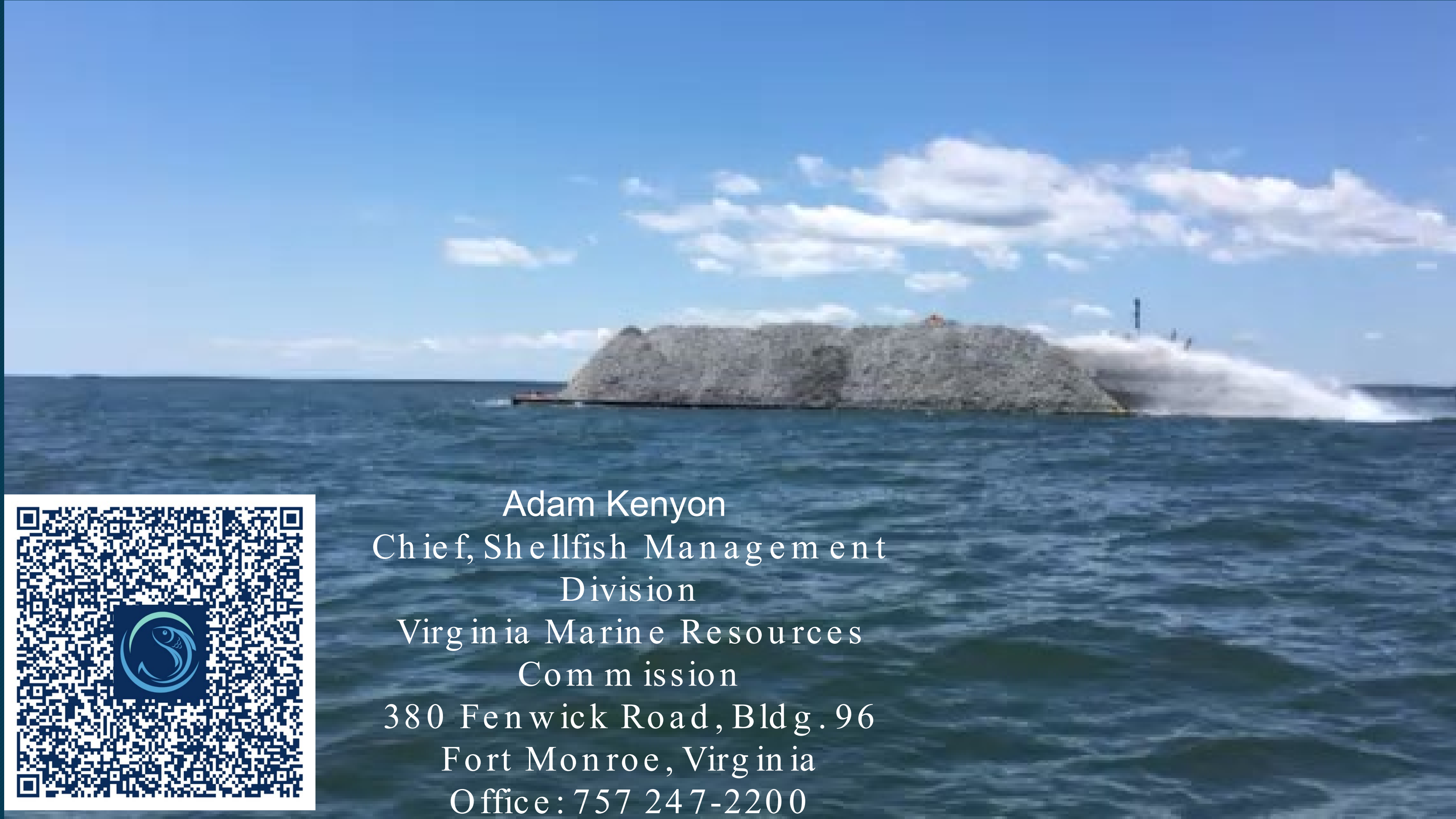
FUTURE GOALS

Expanding Fossil Shell Resources

- This initiative seeks new areas with untapped fossil shell deposits in the James River and Chesapeake Bay regions, discovered during the 1950s, crucial for long -term oyster replenishment in Virginia.
- Meticulous identification and assessment of these areas are vital for sustained viability, enhancing habitat restoration efforts for oyster populations.



Adam Kenyon
Chief, Shellfish Management Division
Virginia Marine Resources
Commission
380 Fenwick Road, Bldg. 96
Fort Monroe, Virginia
Office: 757 247 -2200



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Chief, Shellfish Management
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Virginia Marine Resources
Commission
380 Fenwick Road, Bldg. 96
Fort Monroe, Virginia
Office: 757 247-2200

