

SB 434 CBF FAV E&T.pdf

Uploaded by: Allison Colden

Position: FAV



CHESAPEAKE BAY FOUNDATION

Environmental Protection and Restoration
Environmental Education

Senate Bill 434

Natural Resources – Restorative Aquaculture Pilot Program

Date: March 29, 2023

Position: **Support**

To: Environment & Transportation Committee

From: Allison Colden, Sr. Fisheries Scientist

Chesapeake Bay Foundation (CBF) **SUPPORTS** SB 434 which would create a pilot program to provide financial incentives to Maryland's oyster farmers for practicing restorative aquaculture.

By the year 2050, global food demand is expected to increase by 500 Megatons annually. Arable land is limited, and wild capture fisheries production has stagnated, with many stocks considered overfished. Marine aquaculture is one of few sectors with significant scope for growth, and in the case of aquaculture, potential for restorative benefits alongside economic development.^{1,2}

Restorative aquaculture is defined as “the intentional use of aquaculture to positively affect (ecosystem) services.”³ In Chesapeake Bay, the native oyster population has been depleted to a small fraction of its historic size, along with its attendant ecosystem services, including nutrient removal, water filtration, and provision of habitat for fish and crabs. Shellfish aquaculture, when sited properly, has the potential to replace or restore these critical ecological functions while helping the State meet pollution reduction goals (see Attachment I).

In 2016, the Environmental Protection Agency approved oyster aquaculture as a best management practice for the removal of excess nitrogen and phosphorus. Several aquaculture businesses and co-ops are already successfully utilizing this program to generate nutrient credits.⁴ Oyster farms have also been shown to support nearly double the biomass of fish compared to nearby sites without restorative aquaculture gear.

Senate Bill 434 would help incentivize the development of restorative aquaculture in Maryland through a financial incentive program. While oyster farmers may receive credit for removal of nutrients, no such program currently exists to recognize and compensate growers for the habitat and oyster recovery services that oyster farms provide. Providing financial incentives will encourage growers to continue investing in these public goods.

Specific metrics and husbandry techniques, developed in collaboration with scientists and members of industry, would ensure restorative aquaculture leases meet or exceed metrics associated with large-scale

¹ Costello, C., Cao, L., Gelcick, S., et al. 2020. The future of food from the sea. *Nature* 588: 95-105.

² Barrett, L.T., Theuerkauf, S.J., Rose, J.M., Alleway, H.K., Bricker, S.B., Parker, M., Petrolia, D.R. and R.C. Jones. 2022. Sustainable growth of non-fed aquaculture can generate valuable ecosystem benefits. *Ecosystem Services* 53: 101396.

³ Theuerkauf, S. J. et al. (2019) 'A global spatial analysis reveals where marine aquaculture can benefit nature and people', *PLOS ONE*, 14(10), p. e0222282. doi: [10.1371/journal.pone.0222282](https://doi.org/10.1371/journal.pone.0222282).

⁴ Wheeler, Timothy. Oyster farming co-op earns money from Maryland county to help reduce pollution. *Bay Journal*. 23 January 2023. Available [online](#).

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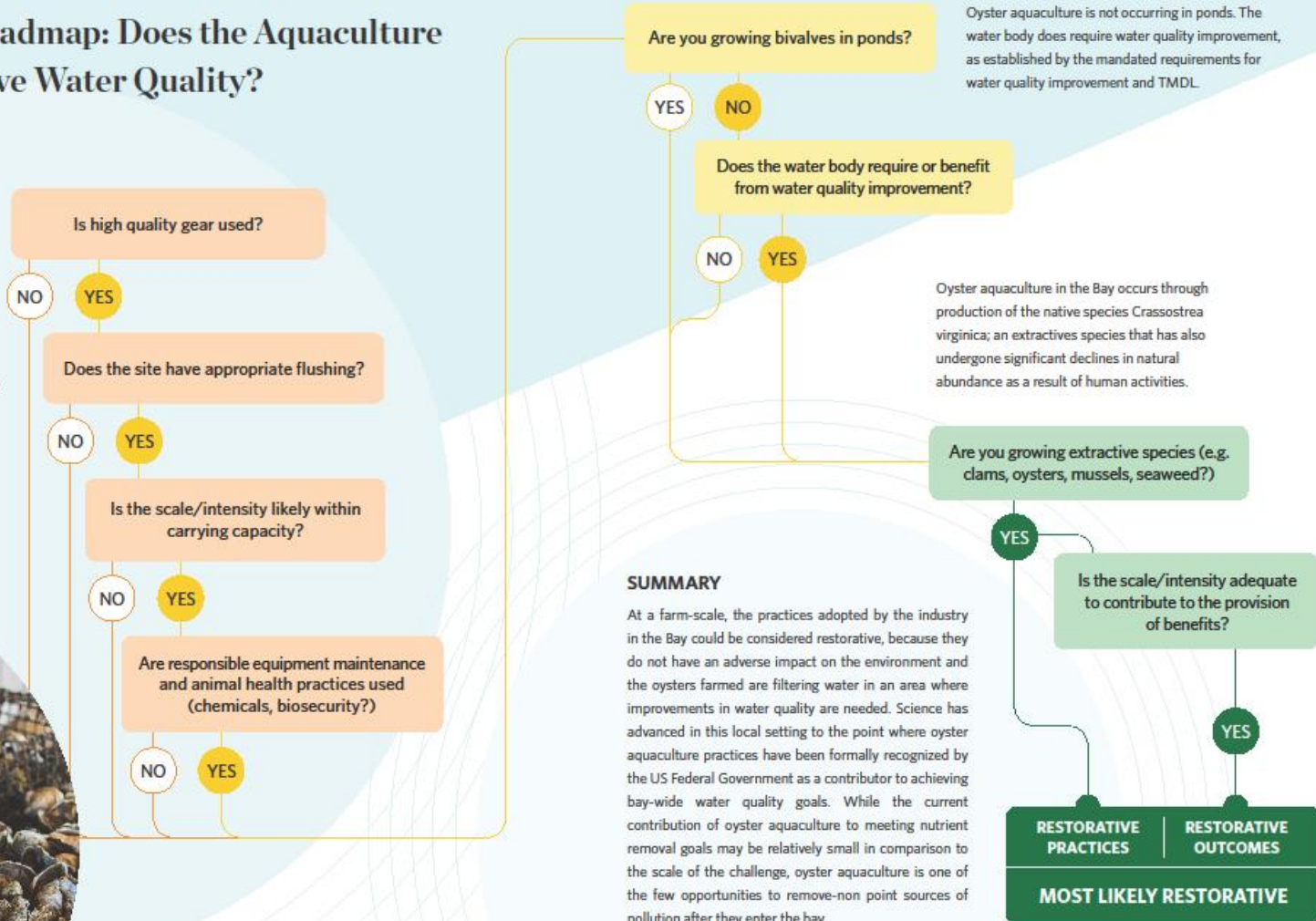
restoration projects in Maryland. This not only helps to diversify income streams for oyster farmers, but also provides an opportunity to partner with the private sector to accelerate the pace of oyster restoration.

CBF urges the Committee's FAVORABLE report on SB 434.

For more information, please contact Matt Stegman, Maryland Staff Attorney, at mstegman@cbf.org.

Application of Roadmap: Does the Aquaculture Operation Improve Water Quality?

Oyster aquaculture in Chesapeake Bay is managed via regulations that require quality gear to be used and regularly maintained. Farms also must be sited in areas that have an appropriate degree of water movement to support farm-scale flushing. Research has established that the current density of farms and scale of production is conducted within the carrying capacity of the ecosystem, and that no negative environmental impacts on the benthos, sediment or water quality can be detected from the aquaculture activity.



SUMMARY

At a farm-scale, the practices adopted by the industry in the Bay could be considered restorative, because they do not have an adverse impact on the environment and the oysters farmed are filtering water in an area where improvements in water quality are needed. Science has advanced in this local setting to the point where oyster aquaculture practices have been formally recognized by the US Federal Government as a contributor to achieving bay-wide water quality goals. While the current contribution of oyster aquaculture to meeting nutrient removal goals may be relatively small in comparison to the scale of the challenge, oyster aquaculture is one of the few opportunities to remove non point sources of pollution after they enter the bay.



SB434_MDSierraClub_fav 29March2023.pdf

Uploaded by: Carolyn Parsa

Position: FAV



P.O. Box 278
Riverdale, MD 20738

Committee: Environment and Transportation

Testimony on: SB 434 “Natural Resources – Restorative Aquaculture Pilot Program”

Position: Support

Hearing Date: March 29, 2023

The Maryland Chapter of the Sierra Club supports a favorable committee vote on SB 434 that will require the Department of Natural Resources (DNR) to establish and operate the Restorative Aquaculture Pilot Program. SB 434 encourages those currently holding an aquaculture lease to participate in the program by offering a financial incentive for maintaining the operations of that lease in accordance with the criteria and metrics for restorative aquaculture for a minimal of four years as identified by the DNR and determined in collaboration with the MD Aquaculture Coordinating Council and the University of Maryland Center for Environmental Sciences (UMCES). SB 434 further incentivizes participation by permitting participants in the pilot program to sell the oysters they grow to the DNR for use in oyster restoration sanctuary projects.

Efforts to repair the Chesapeake Bay as an ecosystem begins with rebuilding the Bay’s vital oyster substrate. It is the ability of the eastern oyster (*Crassostrea virginica*) to form reef habitat that is essential for other Bay life that makes the pollution filtering oyster a keystone species. A technical memorandum published by the NOAA in 2020 predicted an increase of 45% more biomass in the amount of harvest available fish and crab if the newly restored oyster bars from Chesapeake Bay Watershed Agreement would be allowed to reach maturity. Oyster planting projects are Maryland's hope for a future Chesapeake Bay put into present day action. Replenishing and maintaining its oyster population serves both our conservation goals towards a Green Maryland and our economic need to sustain Maryland's historic seafood industry. While organizations such as the DNR are already practicing restorative aquaculture with oyster planting projects, SB 434 would open project participation to aquafarmers, widening the number of participants and increasing the area and number of aquaculture plots studied to collect valuable data concerning oyster density, oyster biomass, and habitat complexity. SB 434 creates a platform for the science of sustainable aquafarming to advance collaboratively by including the Aquaculture Coordinating Council and the scientists of UMCES alongside the DNR to receive and manage all data generated by "The Restorative Aquaculture Pilot Program."

The Maryland Chapter of the Sierra Club recognizes the ecological importance of repairing the Chesapeake’s Bay oyster substate and the need for our state to identify and define the best practices for achieving this goal. We encourage a favorable report for SB 434.

Rev. Melina Frame
Natural Places Committee
mellframe@yahoo.com

Josh Tulkin
Chapter Director
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Uploaded by: Chesapeake Oyster Alliance

Position: FAV



Chesapeake
OYSTER ALLIANCE
10 Billion for the Bay

ADVOCATES FOR HERRING BAY - ANNAPOLIS AQUACULTURE - ARUNDEL RIVERS FEDERATION
BLUE OYSTER ENVIRONMENTAL - CAPE CONSERVATION CORPS - CHESAPEAKE BAY FOUNDATION
CHESAPEAKE BEACH OYSTER CULTIVATION SOCIETY - COASTAL CONSERVATION ASSOCIATION MARYLAND
DOWNTOWN SAILING CENTER - FRIENDS OF ST. CLEMENTS BAY - HOOPERS ISLAND OYSTER CO.
LIVING CLASSROOMS FOUNDATION - MARK STREET VENTURES, LLC - NATIONAL AQUARIUM
ORCHARD POINT OYSTER COMPANY - PIRATES COVE OYSTER COMPANY - SEVERN RIVER ASSOCIATION – SHORERIVERS
SOLAR OYSTERS LLC - ST. MARY'S RIVER WATERSHED ASSOCIATION
TRUE CHESAPEAKE OYSTER COMPANY, LLC - WATERFRONT PARTNERSHIP OF BALTIMORE

Senate Bill 434

Natural Resources – Restorative Aquaculture Pilot Program

DATE: March 29, 2023

POSITION: **SUPPORT**

The Chesapeake Oyster Alliance is a broad coalition of non-profits, community organizations, oyster growers, academic institutions, and business owners with the shared goal of adding 10 billion oysters in the Bay by the year 2025. With a focus on expanding aquaculture, increased oyster restoration, and science-based fishery management, the Chesapeake Oyster Alliance aims to accelerate oyster recovery efforts and in so doing the recovery of the Chesapeake Bay.

Oyster aquaculture, as known as oyster farming, is the practice of cultivating oysters on areas leased from the State for harvest. Since 2010, Maryland oyster aquaculture harvest has grown, on average, 24% annually. The industry provides valuable economic benefits and employment opportunities in Maryland's coastal communities.¹ Additionally, oysters planted by oyster farmers provide water filtration, habitat, and a low-carbon source of nutritious seafood to local markets. In 2016, oyster aquaculture was approved by the Chesapeake Bay Program as a nutrient reduction 'best management practice'² allowing municipalities to partner with oyster farmers to help reach their Bay clean-up goals.³

The Chesapeake Oyster Alliance strongly supports Senate Bill 434 and recommends a favorable report from the House Environment & Transportation Committee.

SB434 creates a pilot program to provide financial incentives for businesses that manage their aquaculture leases to maximize environmental value. Under this program, leases would be maintained to meet or exceed criteria used in oyster restoration. Incentivizing these aquaculture approaches creates opportunities for partnership with the private sector to support oyster recovery and provides aquaculture businesses with additional revenue streams, making the industry more resilient to unexpected changes in market demand.

¹ van Senten, Jonathan et al. 2020. Analysis of the Economic Benefits of the Maryland Shellfish Aquaculture Industry. Final Report to the Chesapeake Bay Foundation. Available [online](#).

² Oyster BMP Expert Panel Report. 2016. Available [online](#).

³ Wheeler, Tim. 2023. Oyster farming co-op earns money from Maryland county to help reduce pollution. Bay Journal. 23 January 2023. Available [online](#).

Oyster aquaculture is a key component of long-term oyster recovery in Chesapeake Bay. This bill will help ensure the viability and productivity of Maryland's nascent oyster industry, helping to reduce the seafood trade deficit, create jobs in working waterfront communities, and provide Marylanders with fresh, locally produced seafood.

For these reasons, the Chesapeake Oyster Alliance urges a **favorable** report on Senate Bill 434 from the House Environment & Transportation Committee. Please contact Tanner Council (tcouncil@cbf.org) with any questions.

Support of SB 434 - Natural Resources - Restorativ

Uploaded by: Colby Ferguson

Position: FAV



Maryland Farm Bureau, Inc.

3358 Davidsonville Road • Davidsonville, MD 21035 • (410) 922-3426

March 29, 2023

To: House Environment & Transportation Committee

From: Maryland Farm Bureau, Inc.

Re: **Support of SB 434 - Natural Resources - Restorative Aquaculture Pilot Program**

On behalf of our Farm Bureau member families in Maryland, I submit this written testimony in support of SB 434, legislation that would require DNR to establish a pilot program, in consultation with the Aquaculture Coordinating Council and UMCES, to provide incentive payments for aquaculture farmers who maintain conditions on their lease that provide similar ecosystem benefits as restored reef areas. This program would sunset after 6 years. This would provide alternative revenue stream for oyster farmers who choose to manage their farms to the standards developed by DNR.

Cleaning up the bay requires more than just trying to reduce the pollution entering it. Filtering out the nitrogen and other sediment is critical to truly cleaning up the water body. Oyster aquaculture is one of the best ways to do that. This pilot program will work to restore the ecosystem while still allowing the grower to be profitable.

MDFB Policy: We recommend that greater attention and research be given to what is happening in the water column of the Bay itself. The filter feeders and small aquatic life will have to be a part of the long-term solution for the Bay cleanup.

We support the Maryland Aquaculture Coordinating Council's recommendations that provide science-based guidance on how aquaculture should be managed.

MARYLAND FARM BUREAU SUPPORTS SB 434 & REQUESTS A FAVORABLE REPORT

A handwritten signature in black ink, appearing to read "Colby Ferguson". The signature is stylized and includes a long horizontal flourish at the end.

Colby Ferguson

Director of Government Relations

For more information contact Colby Ferguson at (240) 578-0396

SB434_IndivisibleHoCo_FAV_ElizabethFixsen.pdf

Uploaded by: Elizabeth Fixsen

Position: FAV



SB434

Natural Resources - Restorative Aquaculture Pilot Program
Testimony before House Environment and Transportation Committee
Hearing March 29, 2023
Position: Favorable

Dear Delegate Barve, Delegate Stein, and members of the committee, my name is Elizabeth Fixsen, and I represent the 700+ members of Indivisible Howard County. Indivisible Howard County is an active member of the Maryland Legislative Coalition (with 30,000+ members). We are providing written testimony today **in support of SB434**, which would provide financial incentives to the Maryland shellfish aquaculture industry that would increase shellfish production, which in turn would contribute to the health of the Chesapeake Bay and of the industries dependent on the Bay.

Shellfish such as oysters are filter feeders that contribute to reducing excess nutrients, thus furthering restoration of the Chesapeake Bay. Oysters form large reef structures that support more than 300 other species, making it a keystone species in the Chesapeake Bay, providing a habitat for fish and blue crabs, which benefits commercial watermen and recreational fishers. The production of oysters through well-managed aquaculture benefits Maryland seafood consumers, supports small businesses, and generates regional economic impacts to coastal communities and economies.

Despite these benefits, shellfish production by the Maryland aquaculture industry is lower than what is socially optimal. By providing well-targeted financial incentives through a Restorative Aquaculture Pilot Program, Senate Bill 434 would help increase shellfish aquaculture production to a more optimal level that reflects both the private and public benefits of shellfish aquaculture.

Thank you for your consideration of this important legislation.

We respectfully urge a favorable report.

Elizabeth Fixsen
Savage, MD

Sources Cited:

<https://www.cbf.org/issues/fisheries/shellfish-aquaculture.html>

<https://www.mdsg.umd.edu/topics/oysters/oyster-aquaculture-and-restoration>

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Uploaded by: Lani Hummel

Position: FAV

TO: House Environment and Transportation Committee

Testimony on: SB 434 – Restorative Aquaculture Pilot Program

Position: SUPPORT Bill as Passed by House

Date: March 27, 2023

I support SB 434 as written because I do not think it is necessary to convert the program to a study. Therefore, I urge you to support the bill as passed in the Senate.

Thank you for your consideration,

Lani Hummel

Annapolis

SB 434 Natural Resources - Restorative Aquaculture

Uploaded by: Michelle Dietz

Position: FAV

Wednesday, March 29, 2023

TO: Kumar Barve, Chair of the House Environment and Transportation Committee, and Committee Members
FROM: Mark Bryer, The Nature Conservancy, Chesapeake Bay Program Director; and Michelle Dietz, The Nature Conservancy, Director of Government Relations
POSITION: Support SB 434 Natural Resources – Restorative Aquaculture Pilot Program

The Nature Conservancy (TNC) supports SB 434 offered by Senator Klausmeier. For the past two decades, the world has looked to the Chesapeake Bay to learn what's possible in oyster restoration. No effort in the world matches the scale of what has been accomplished here, and TNC has been proud to support and invest in oyster restoration along with many others during this time.

SB 434 would require the Maryland Department of Natural Resources (DNR) to establish a Restorative Aquaculture Pilot Program. This program would provide financial incentives to aquaculture lease holders who, for restoration purposes, only seed shellfish on their lease holdings for four or more years. Pausing oyster harvesting for this set amount of time will allow for restorative aquaculture activity that benefits water quality, oyster productivity and habitat. The program will also enable DNR to purchase oysters from these growers for use in ongoing restoration sanctuary projects. Over the course of this pilot program, DNR will work with partners like the University of Maryland Center for Environmental Science, the Aquaculture Coordinating Council, and other interested parties to develop restorative aquaculture criteria and metrics as well as define program eligibility and financial incentives for the pilot program. By allowing broad engagement in this process, members of the aquaculture industry, conservation community, researchers and state agencies can work together to ensure this program is supported by all interests in the Chesapeake Bay.

Sanctuaries and protected areas in the Chesapeake Bay improve recreational and commercial fishing by providing persistent habitat for blue crabs, striped bass, white perch and other important finfish species. Oysters within these protected areas can produce larvae that benefit areas not only within these boundaries, but also in public fishery areas adjacent to sanctuaries, which increases harvest opportunities. By establishing the Restorative Aquaculture Pilot Program, Maryland is providing the aquaculture industry with financial incentive to support enhancing the shellfish population for their environmental benefits to the Chesapeake Bay.

TNC has a history of working across sectors to leverage private, state and federal funding to support the aquaculture industry in Maryland. Our Supporting Oyster Aquaculture and Restoration (SOAR) program is a good example of leveraging investments to establish alternative markets for oyster farmers to sell oysters for reef restoration projects, as well as to expand the Shellfish Grower's Resilience Fund in Maryland. In 2022, TNC received \$150,000 in Congressionally Directed Funding thanks to support from Senators Cardin and Van Hollen. This funding will be used to purchase farmed oysters in the spring of 2023 for use in sanctuary restoration in Maryland. TNC is pleased to see additional state investments into developing programs such as the Restorative Aquaculture Pilot Program, assisting oyster growers in the Chesapeake Bay to participate in restoration efforts.

TNC commends Senator Klausmeier for advancing legislation that is aimed at investing in Maryland's critical oyster industry by incentivizing restoration practices. SB 434 reflects a positive step forward in the long road to restoring oysters to the Chesapeake.

Therefore, we urge a favorable report on SB 434.

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Uploaded by: Emily Wilson

Position: UNF



*Wes Moore, Governor
Aruna Miller, Lt. Governor
Josh Kurtz, Secretary
David Goshorn, Deputy Secretary*

March 29, 2023

BILL NUMBER: Senate Bill 434 – Third Reader

SHORT TITLE: Natural Resources – Restorative Aquaculture Pilot Program

DEPARTMENT’S POSITION: OPPOSE

EXPLANATION OF DEPARTMENT’S POSITION:

The Department opposes Senate Bill 434.

The bill would set up a pilot program for a new concept that has not yet been adequately vetted among the proper stakeholders. The Department believes that it would be most productive to have discussions with stakeholders first prior to deciding to create a pilot program. Because of this, the Department still believes the best path forward would be to have discussions about the concept of a restorative aquaculture pilot program, including concepts for a pilot program that would be created with the metrics and criteria determined by those discussions. The Department believes that allowing time for productive discussions with appropriate involvement and consultation will result in both good dialogue on this concept as well as assisting in creating the best possible outcome for a restorative aquaculture pilot program. The Department would need both staff and funding in order to meet the requirements of the bill. Without funding for the required incentives, and not knowing what the amount of those incentives would be, the Department would be creating a pilot program that may result in a program where only a few participants could participate because of limited funding availability. This would impact any results of the pilot program, potentially making it unsuccessful.

BACKGROUND INFORMATION:

None.

BILL EXPLANATION:

The bill would create an aquaculture pilot program that focuses on restoration activities. The bill would require the agency to design the program to provide financial incentives to participants based on a per-acre payment requirement, and for oysters purchased by the Department for sanctuary plantings.

Contact: Emily Wilson, Director, Legislative and Constituent Services (Acting)
emilyh.wilson@maryland.gov ♦ 410-260-8426 (office) ♦ 443-223-1176 (cell)