

# Senate Bill 434

## Restorative Aquaculture Pilot Program



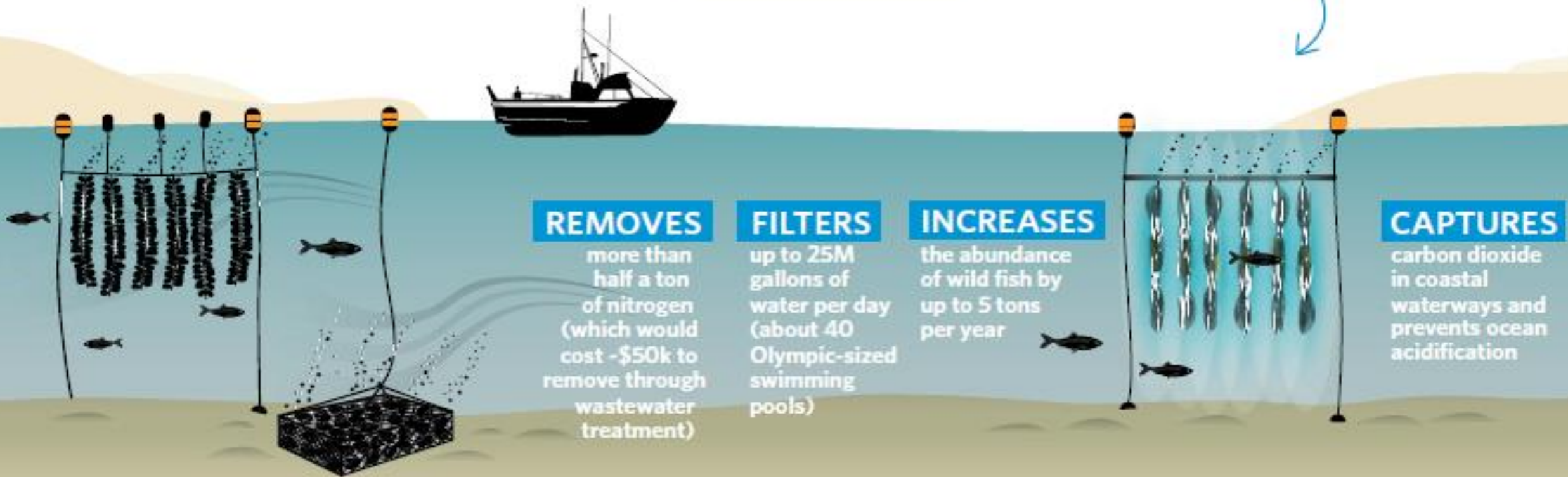
**CHESAPEAKE BAY FOUNDATION**  
*Saving a National Treasure*

PHOTO: KENNY FLETCHER/CBF STAFF

# Restorative Aquaculture

“The intentional use of aquaculture to positively affect ecosystem services” Theuerkauf et al. 2019

A SINGLE HECTARE OF RESTORATIVE FARMS...





# Principles of Restorative Aquaculture

**Principle 1:** Site farms where environmental benefits can be generated.

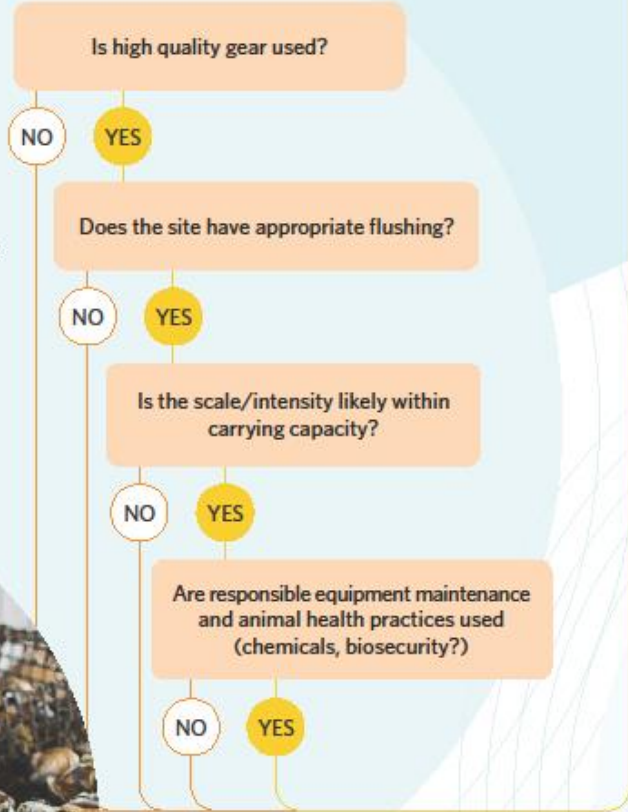
**Principle 2:** Culture species that can provide the environmental benefits intended.

**Principles 3 & 4:** Prioritize farming equipment and practices that enhance the delivery of environmental benefits.

**Principle 5:** Strive to farm at an intensity or scale that can enhance ecosystem outcomes.

# 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.

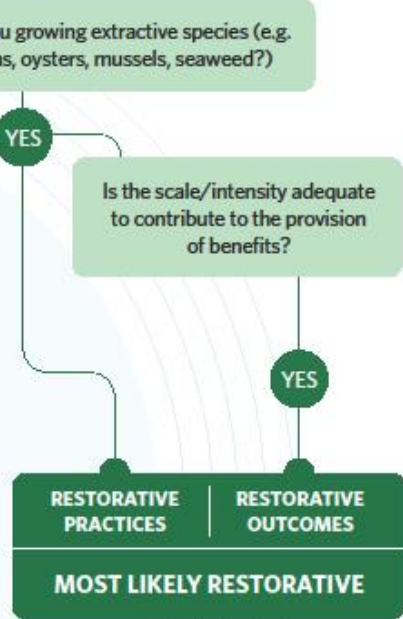


Oyster aquaculture is not occurring in ponds. The water body does require water quality improvement, as established by the mandated requirements for water quality improvement and TMDL.

Oyster aquaculture in the Bay occurs through production of the native species *Crassostrea virginica*; an extractives species that has also undergone significant declines in natural abundance as a result of human activities.

## 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.





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**Principle 6:** Recognize the social and economic value of the environmental benefits provided.

- Pilot program provides restorative aquaculture financial incentives
- Encourages adoption of equipment, practices, and siting that improves environmental conditions
- Improves industry resilience to market fluctuations
- May accelerate oyster recovery efforts