

Oysters could rebound more quickly with limited fishing and improved habitat

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A new study shows that combining improved oyster restoration methods with limits on fishing in the upper Chesapeake could bring the oyster population back to the Bay in a much shorter period of time. The study led by Michael Wilberg of the University of Maryland Center for Environmental Science's Chesapeake Biological Laboratory assessed a range of management and restoration options to see which ones would have the most likelihood success.

"This [new model](#) we developed suggests that oysters should be able to come back if we help them out by reducing fishing pressure and improving their habitat," said Wilberg.

Eastern oysters in the [Chesapeake Bay](#) have undergone a drastic decrease in abundance over the past century due to [overfishing](#) and disease. The population is currently estimated to be less than one percent of its historic high, making substantial [restoration efforts](#) necessary if the population is to recover.

The team's study shows that if oysters were allowed to reproduce naturally and fishing were halted, it would take between 50 to 100 years for oyster abundance to reach as high a level as could be supported by the Bay. If fishing were reduced to about half its current level, it would take as many as 200 to 500 years to see a healthy population restored to the Bay.

"The fishery as it has been practiced hasn't been sustainable, and our

model helps explain why," said Wilberg. "Oysters just can't replace the shell that has been removed fast enough to keep up."

Oysters are called ecosystem engineers because they build habitat for themselves and other creatures. Oyster harvesting methods, such as dredging and tonging, chip away at the oyster reef and knock it down, spreading the shells over the bottom and making the remaining oysters prone to being covered by silt or moving them to a soft surface where oysters cannot grow.

Since reefs are the place where oysters are born and reproduce, fishing not only removes adults from the population, but also removes habitat essential to their survival.

"[Oysters](#) should be able to rebuild their reefs if we leave them alone," said Wilberg. "It's an experiment that hasn't been tried yet."

More information: The study, Sustainable exploitation and management of autogenic ecosystem engineers: application to oysters in Chesapeake Bay appears in the June issue of *Ecological Applications*.

Provided by University of Maryland Center for Environmental Science

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