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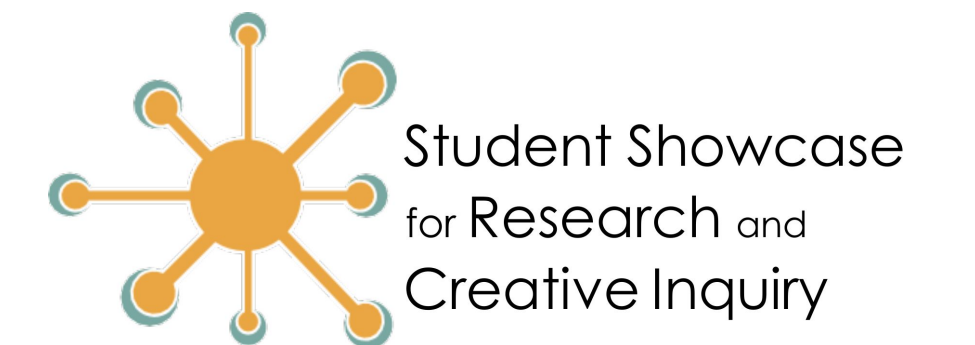
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Suminoe Oysters and the Chesapeake Bay: A Case Study

Taylor Balovich, Kara Branch, Brianna Edgar, Timothy Slater

ISCI 121 Entering Research II; Faculty Mentor: Melissa Rhoten



Research Question

Can Suminoe Oysters Save the Chesapeake Bay?

Introduction

- The Chesapeake Bay's extreme pollution levels have hastened its declining health for years threatening local animal and plant life.
- Oysters are an important part of keeping the Bay clean, as they are filter feeders.
- Native oyster populations have dropped to less than 1% of historic population levels.²
- Oysters are also an important food source for coastal communities.
- Oysters provide jobs for watermen and oyster farmers to provide for their families and support local economies.
- Suminoe oysters are another species of oyster, native to China and Japan.
- The Suminoe oyster has similar environmental needs to the native eastern oyster.

The Case¹

- State Senator Ben Fisher wanted to assemble a bill for funding the full-scale introduction to sterile Suminoe oysters to the Maryland side of the Chesapeake.
- The bill was an attempt to try to offset the effects of declining populations of native oysters in the bay, the result of habitat degradation, over-harvesting, and disease.
- Different businesses and water farmers had different opinions on if the Suminoe Oysters should be added or not and how it will effect the Bay.



References

1. Liu, Zhi-Jun, Nieman, Valerie. "Can Suminoe Oysters Save Chesapeake Bay?" National Center For Case Study Teaching In Science.
2. Doremus. "Which Oysters for the Chesapeake Bay?" Environmental Law and Climate Policy Insights.

Our Policy Briefs

- Groups were broken into different cultural and economic backgrounds—commercial fishermen, traditional watermen, aquaculture industry, and environmental activists—to address solutions for the Bay's declining health.
- Each group's role organized several possible solutions, then chose one to present in front of an assembly to gain their support.

Policy Brief
Proposal 2023: Yay or Nay for Suminoe Oysters?
Commercial Fishermen say yay!
By: Jo'ne Henderson, Angelina Scotese & Brianna Edgar

Executive Summary

The Chesapeake Bay serves as a watershed for six southern states but is also famous for its keystone species, among which are the Eastern oysters. Commercial fishing in the Bay has been around since the early 1800's and is still active today. By definition, commercial fishing is catching or harvesting fish or other aquatic life from their native marine environment. These oysters result in sale of all, or parts of whatever was harvested, but to Commercial Fishermen, and the other 250 million people who are directly employed this way it is a way of life, the native oyster population is decreasing and affecting work stability and food insecurity.

Policy Makers should care so Commercial Fishermen in the Chesapeake Bay can keep their careers.

Suminoe Oysters in the Chesapeake Bay: Traditional Watermen's Perspective

Summary

- watermen culture needs to be preserved
- These oysters feed families
- it will be an expensive project but the benefits will pay for it over time

Introduction

Traditional Watermen first settled in the Chesapeake Bay in 1822(1). This included black watermen, that were able to have these jobs before the Reconstruction(2). Watermen have a culture that should be preserved, they have a unique character, and resilient even today(3). During an interview with a waterman from Manassas, VA, it was stated that the Chesapeake Bay needs these new oysters, they will feed a lot of families and give these watermen jobs that they would not have without them(2). This is because many of the native oyster populations dropped by 90% between 1950 and 2010(4). With these declining numbers, it makes it harder for these watermen to do their jobs, as well as to feed local communities(2). A lot of these jobs are also family run, generation after generation working the same waterways or even on the same boats. In my hometown, many watermen will name their boats after their daughters, and eventually pass them on to their sons to take over the business. They will lose these jobs and a culture without a solution.

Non-Native Oysters Poses Risk for Aquaculture Farmers!
By: Taylor Balovich, Erica China, and Jessica Patten

Introduction

This policy brief is based on the idea of non-native oysters being brought in from China, resulting in decreased income or work for aquaculture farmers. Introducing non-native species directly affects aquaculture farmers' jobs, financially, economically, and socially. Non-native oysters are being brought into aquaculture farming because there has been no success in restoring the oyster population after exploitation, therefore, the population remains low for a period of time.

Summary

This research identifies that if non-native species are brought in, the economy would go down for the aquaculture farmers due to the cause of bioinvasion. These non-native species, including viruses, bacteria, and fungi, are system degradation, and endemic species collection through both direct competition or predation and indirect trophic cascades (Fu-Ting Ju, et al, 2015). However, China bringing in non-native species increases aquaculture production, but it removes the native oysters being harvested by the farmers.

The Community Forum

To discuss the given case and expand on the policy briefs, ISCI 121 had a community forum meeting. Citizens in a democracy use community forum meetings to have their opinions heard. For this meeting, citizen leaders presented their arguments publicly, based on the identity of the assigned stakeholder, to represent their positions on the introduction of Suminoe Oysters in front of the Assembly. The Assembly consisted of Dr. Rhoten, Dr. Mark Fink, Dr. Alix Fink, and Dr. Leah Shilling-Stouffer. Each stakeholder group had 7 minutes to give a clear and professional stance on introducing foreign oyster species to the Chesapeake Bay. The members of the different groups spoke according to the timeframe, answering any follow-up questions the council or Assembly may have. Each stakeholder group used evidence discovered during the case study to prepare well-organized arguments, attempting to gain the support of the Assembly.

A step in the clean direction; yes to imported oysters

By: Matthew Carter, Tim Slizer, and Kayla White

What we want and why

We want the introduction of imported oysters in the Chesapeake. We want the introduction because it would help the bay's water quality. It's known that the bay's water quality has been in a decline recently from 2013-2020 due to high river flows.

Summary

It is important to know that native oysters are good for the bay, but aren't enough. Suminoe oysters can possibly contain diseases, which can be altered and changed so they don't pass it onto the native oyster but there are many and can reproduce fast.

It's also important to understand and recognize the effects these imported oysters could have on the bay. We are concerned activists trying to improve the bay's quality. We must take risks for the greater good.

We are morally affected by the surrounding environment and health of the bay plants and aquatic and non-aquatic animals that live in and around the bay. Our policy makers need to care about this because it not only positively affects the environment but also the watermen and their livelihood.

It also creates more jobs in the bay for people who need them and better opportunities which nature can motivate and show people how important the bay's health is to the states surrounding it.