DoWon Lee
Luther Jackson Middle School
Oakton

Consider the Oyster

Beating the slim 1% chance of survival, weathering the freezing water temperature of 25 degrees Fahrenheit, I am one of a kind. A ridged gray shell, with white blemishes differentiating myself from my relatives. My pearly white inside holds a jewel for the ocean. [1] Don't underestimate me because of my tiny size—on average 3-5 inches. I am the lungs of the ocean, the trees of the sea: I am an Eastern Oyster in the Chesapeake Bay.

As the lungs of the ocean, I tackle the polluted waters of the Chesapeake Bay, filtering 50 gallons of seawater each day. 50 gallons equates to 417 pounds, it's like lifting 217 times my own body weight. Impressive, right? By filtering water, I remove light-blocking algae from Bay waters and help remove excess nutrients like nitrogen and phosphorus from them, and in exchange, I release pure saltwater, cleaning up my home one gallon at a time. [3] There may be millions of my kind, but pollution and overfishing are leading to my populations decreasing. Even if I survive the 19.9 million pounds of Oysters taken out of the seas each year, I am still met with nutrient pollution, constant water pollution and habitat destruction from boats; Oyster reefs that I live in are trampled over by boats, killing off thousands of Oysters in an instant. [3]

What's worse is that diseases run rampant, threatening the marine ecosystem in the Chesapeake Bay, including myself. For example, MSX, an invasive disease from Japan, is usually found in the oyster gills and can annihilate a whole oyster reef. Another threat, Dermo, is a disease from parasite Perkinsus marinus that affects the growth of oysters, causing many to die in their second year of life. [4] These diseases would be preventable if the water's salinity that I live in stay above 9ppt, but as climate change leads to glaciers melting into the ocean, the

salinity has lowered below this threshold. [5] Less than 1% of my original 1800's population remain in the Bay, and as diseases continue to wreak havoc along Oyster reefs, my and the Bay's future is unclear.

So, could you help me in the effort to reverse the course? I am the heartbeat of the Virginia watershed and the keystone in the fight against ocean pollution. Only 29.8% of tidal waters are estimated to have met water quality standards during the 2020-2022 assessment period in the Chesapeake Bay, and as pollution keeps running on further, I need help in this fight to keep our bay clean. [6] Consider the Oysters and support my fight on cleaning the bay by remembering not to use excess amounts of fertilizer, using electric scooters or bikes for small trips, spreading awareness about Oysters in the Chesapeake Bay, and most importantly, joining Oyster recovery projects such as the Chesapeake Bay Foundation (CBF).

As the CBF are planning to bring back Oyster populations in 11 rivers by 2025, their planted Oyster reefs help remove almost 20,000 bags of fertilizer, a $1.7 million service. By recycling Oyster shells to the CBF, they can turn 2,000 bushels of recycled oyster shells each year into habitat for millions of oysters, planted in the Bay and its rivers. [7] The CBF can do this by cleaning and curing the shells, then placing them in huge water tanks containing millions of microscopic oyster larvae, which then attach to the shells. On average, each recycled shell can become home to dozens of those baby oysters, called spat. The CBF can provide the spat-on-shell to its oyster gardeners and plant in the Bay to grow and expand oyster reefs. [8]

DoWon Lee
Luther Jackson Middle School
Oakton

With my chance of survival now even slimmer than 1% and water temperatures reaching historic highs due to climate change, I plead for my future. Please fight against pollution and help keep my habitat healthy. As the lungs of the Bay and Virginia Watershed, I promise to keep the waters pristine. Together, we can change the future. Consider the oysters, will you?

DoWon Lee
Luther Jackson Middle School
Oakton

[1]- https://www.fisheries.noaa.gov/species/eastern-oyster#:~:text=Reaches%208%20inches%20at%20maturity,invertebrates%2C%20macrofauna%2C%20and%20birds.

[2]- https://massoyster.org/oyster-information/anatomy#:~:text=Oysters%20are%20filter%20feeders.,with%20nutritional%20value%20like%20plankton.

[3]- https://www.agmrc.org/commodities-products/aquaculture/aquaculture-non-fish-species/oysters

[4]- https://www.fisheries.noaa.gov/national/habitat-conservation/oyster-reef-habitat#:~:text=benefits%20as%20well.-,

[5]- https://www.agriculture.gov.au/sites/default/files/documents/infection-perkinsus-marinus.pdf

[6]- https://www.chesapeakebay.net/issues/whats-at-risk/oysters#:~:text=While%20the%20oyster%20population%20is,wild%20in%20Maryland%20and%20Virginia.

[7]- https://www.chesapeakeprogress.com/clean-water/water-quality#:~:text=The%20current%20Bay%2Dwide%20attainment,the%202019%2D2021%20assessment%20period.

DoWon Lee
Luther Jackson Middle School
Oakton

[8]- https://www.cbf.org/about-cbf/our-mission/restore/oyster-restoration/index.html#:~:text=Help%20rebuild%20the%20Chesapeake%20Bay's,grow%20and%20expand%20oyster%20reefs.