

# The Secret Helpers of the Shore



Outer Banks, North Carolina



## Forward

This storybook was created by the Outer Banks Coastal Conservation (OBCC), a nonprofit organization whose mission is to foster environmental stewardship and a deeper connection to the Outer Banks of North Carolina through outreach, education, and conservation efforts.

We believe that small stories can spark big change. That is why we have made this book available as a free resource for parents, teachers, and community members.

All materials in this book may be freely downloaded, shared, printed and used for educational or nonprofit purposes.

To learn more, access additional resources at: [www.theobcc.org](http://www.theobcc.org).



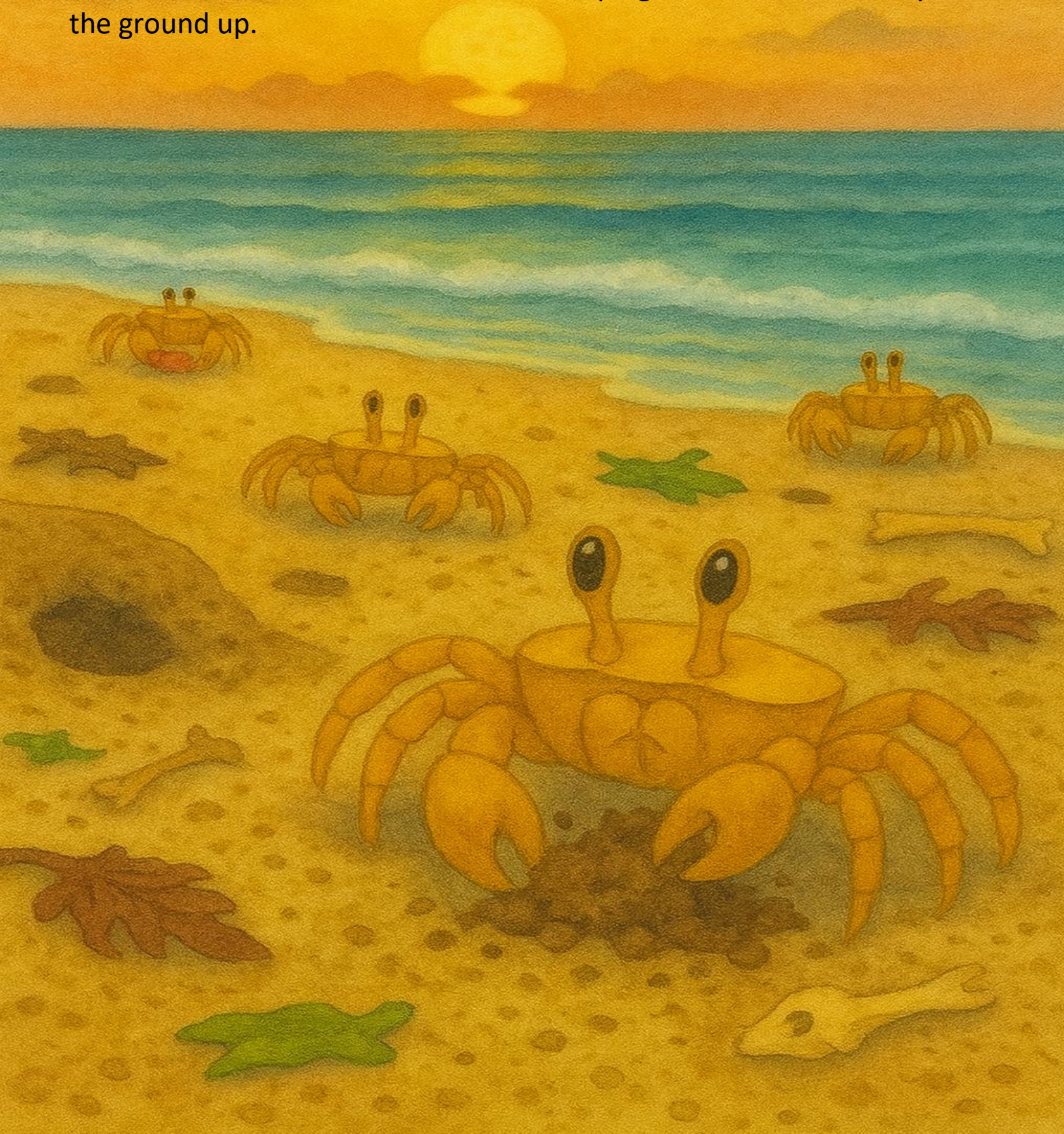


Once the coast seemed clear, they scuttled quickly across the sand, gathering bits of washed-up seaweed, tiny pieces of fish, and even scraps of food left behind by the waves. To many people, the crabs seemed like little scavengers—but really, they were the beach's housekeepers.





By collecting and eating this organic “trash,” crabs prevented the shoreline from filling up with rotting debris. This work not only kept the sand clean, but also stopped pests and disease from spreading. Every scoop of sand they tossed while digging their burrows helped circulate air and nutrients back into the beach, keeping the shoreline healthy from the ground up.



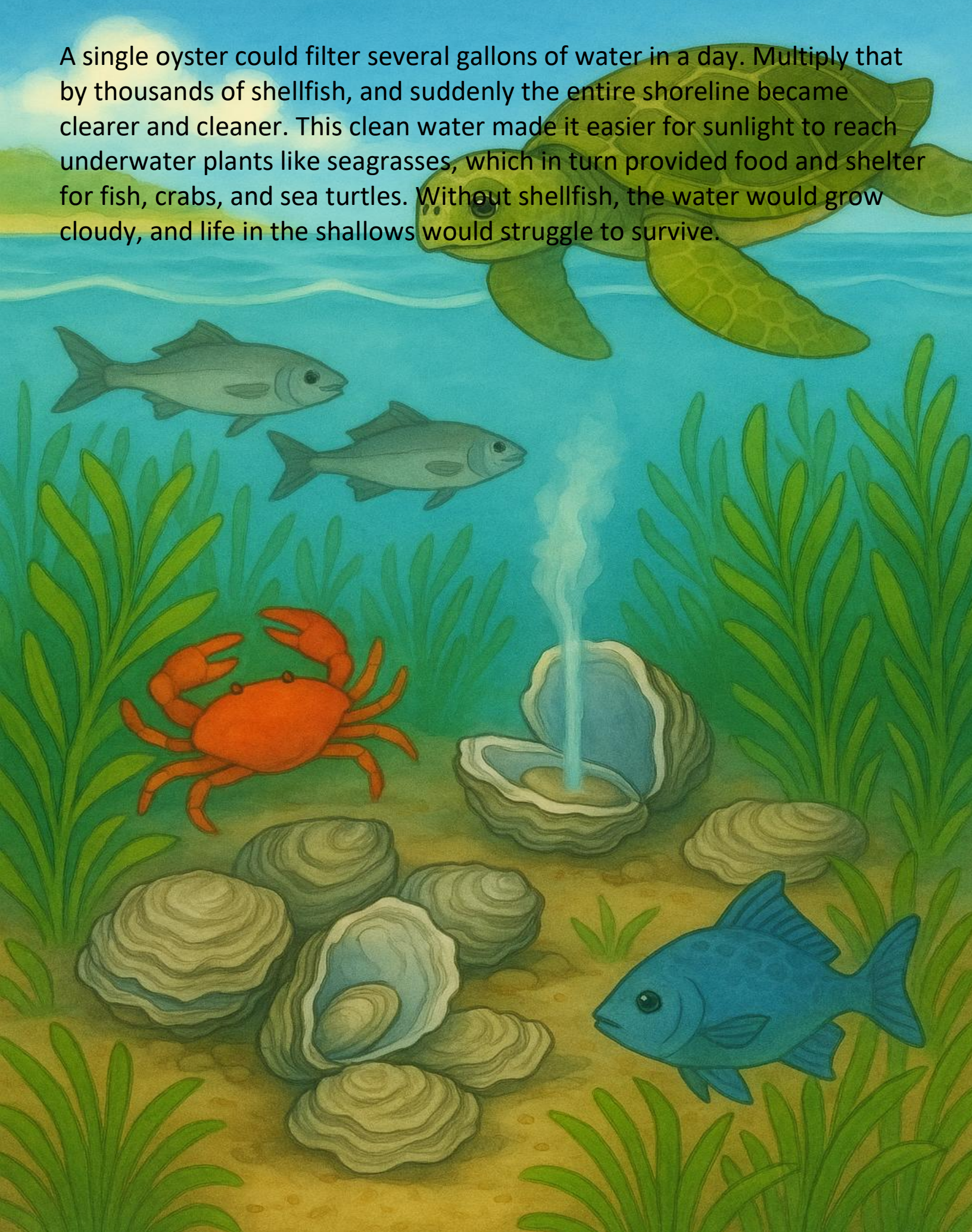


Meanwhile, just beneath the waves, another group of workers was just as busy. Shellfish like oysters, clams, and mussels opened their shells and began to feed. They weren't chasing scraps like the crabs—they were filtering the very water around them. With every breath of water they pulled in, they trapped tiny particles of plankton, algae, and dirt. Then, they pushed clean, filtered water back out into the sea.





A single oyster could filter several gallons of water in a day. Multiply that by thousands of shellfish, and suddenly the entire shoreline became clearer and cleaner. This clean water made it easier for sunlight to reach underwater plants like seagrasses, which in turn provided food and shelter for fish, crabs, and sea turtles. Without shellfish, the water would grow cloudy, and life in the shallows would struggle to survive.





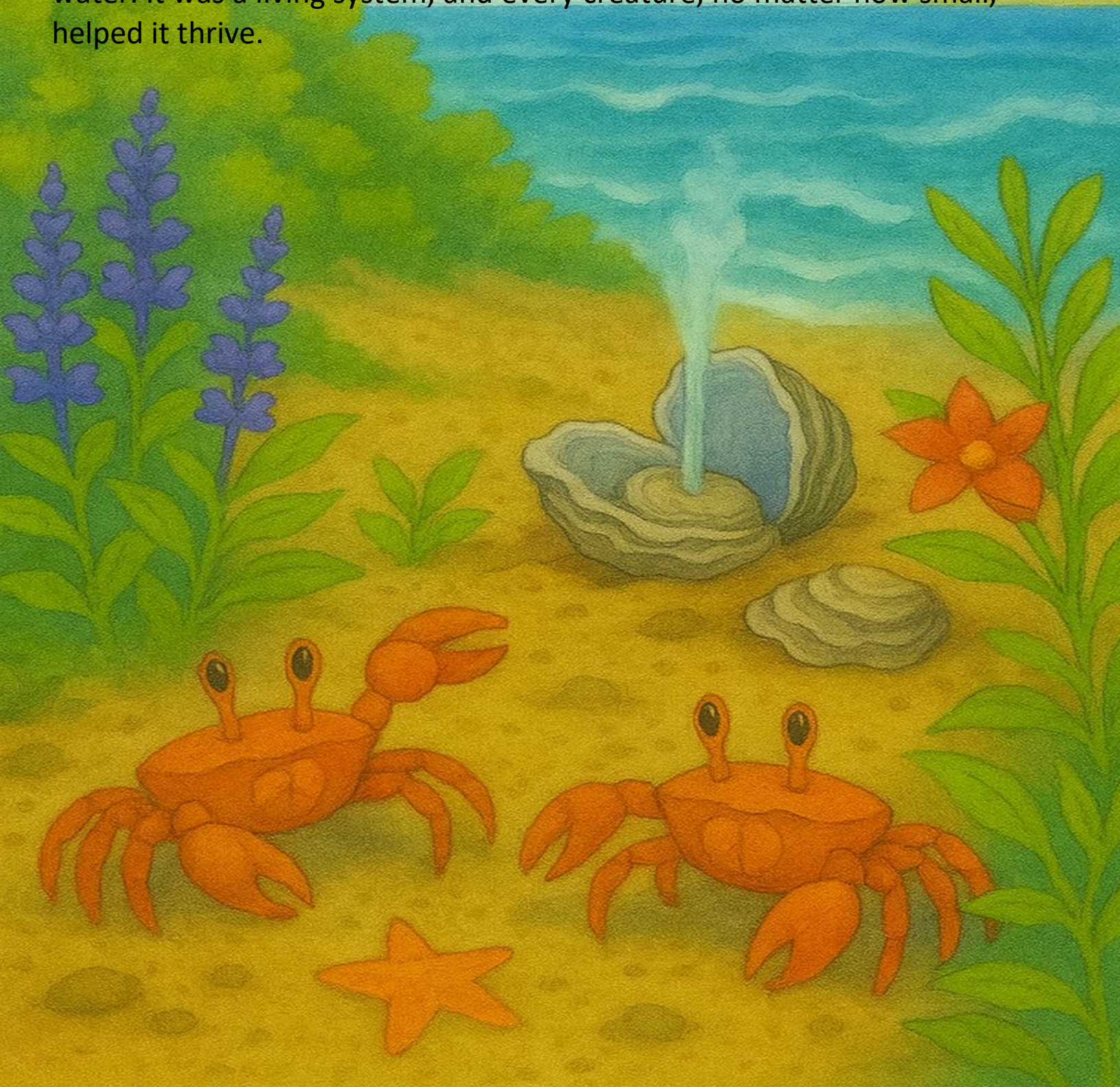
By mid-morning, the sun shimmered on the waves, and seagulls circled overhead. Children laughed as they built sandcastles, unaware that right under their feet, crabs were tidying the shore. Swimmers splashed in the surf, not realizing that the water was clearer thanks to oysters and clams.





The truth of the beach was simple but powerful: the smallest creatures often played the biggest roles. Crabs, clams, and oysters weren't just ordinary animals—they were protectors, cleaners, and builders of healthy coasts.

If people cared for these unsung heroes—by keeping the beach free of litter, protecting shellfish beds, and respecting the crabs' burrows—they would, in turn, protect the entire shoreline. The beach wasn't just sand and water. It was a living system, and every creature, no matter how small, helped it thrive.





# Facts



## Ghost Crab Facts

- Ghost crabs are sometimes called the “clean-up crew” of the beach because they eat leftover bits of food, plants, and dead animals.
- Their burrows can be over 3 feet deep and help bring fresh air and nutrients into the sand.
- They can run sideways up to 10 miles per hour—super fast for such a small creature!



## Shellfish Facts (Oysters, Clams, Mussels)

- A single oyster can filter up to **50 gallons of water a day!**
- By filtering water, shellfish help sunlight reach seagrasses, which provide food and shelter for fish, crabs, and even sea turtles.
- Oyster reefs act like underwater walls, protecting shorelines from waves and erosion.



## Beach & Ocean Health Facts

- Healthy beaches depend on tiny creatures working together: crabs recycle nutrients, and shellfish keep the water clear.
- Seagrass beds—made healthier by shellfish—are called “nurseries of the sea” because so many young fish and sea creatures grow up there.
- When people litter or step on burrows, it can hurt these small but mighty helpers.



## Lesson

Even the smallest animals—like crabs and oysters—play **huge roles** in keeping coasts clean, safe, and alive.



# References

American Littoral Society. (n.d.). *Ghost crabs: Nature's beach cleaners*. Retrieved from <https://www.littoralsociety.org/>

National Oceanic and Atmospheric Administration (NOAA). (2023). *Oysters and other shellfish: Ecosystem services and habitat benefits*. U.S. Department of Commerce. <https://www.fisheries.noaa.gov/>

North Carolina Coastal Federation. (2022). *Living shorelines and oyster reef restoration along the Outer Banks*. Retrieved from <https://www.nccoast.org/>

North Carolina Sea Grant. (2021). *Beach and dune ecology of the Outer Banks: The role of crabs and shellfish in coastal systems*. North Carolina State University. <https://ncseagrant.ncsu.edu/>

Smithsonian Ocean Portal. (n.d.). *Oysters, clams, and mussels: Nature's water filters*. Smithsonian Institution. <https://ocean.si.edu/>

U.S. Environmental Protection Agency (EPA). (2022). *Coastal ecosystem health and nutrient recycling*. <https://www.epa.gov/nutrient-policy-data>

University of North Carolina Institute of Marine Sciences. (2023). *Seagrass meadows and shellfish filtration in the Pamlico Sound*. Chapel Hill, NC: UNC Press.

