



VERTICAL OYSTER GARDENING

A Table-to-Reef Initiative

Presented by Ashley Cook

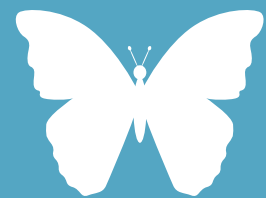
Charlotte Harbor Environmental Center



WHO WE ARE

CHARLOTTE HARBOR ENVIRONMENTAL CENTER

Charlotte Harbor Environmental Center is a nonprofit organization dedicated to providing environmental education, recreation, and conservation.

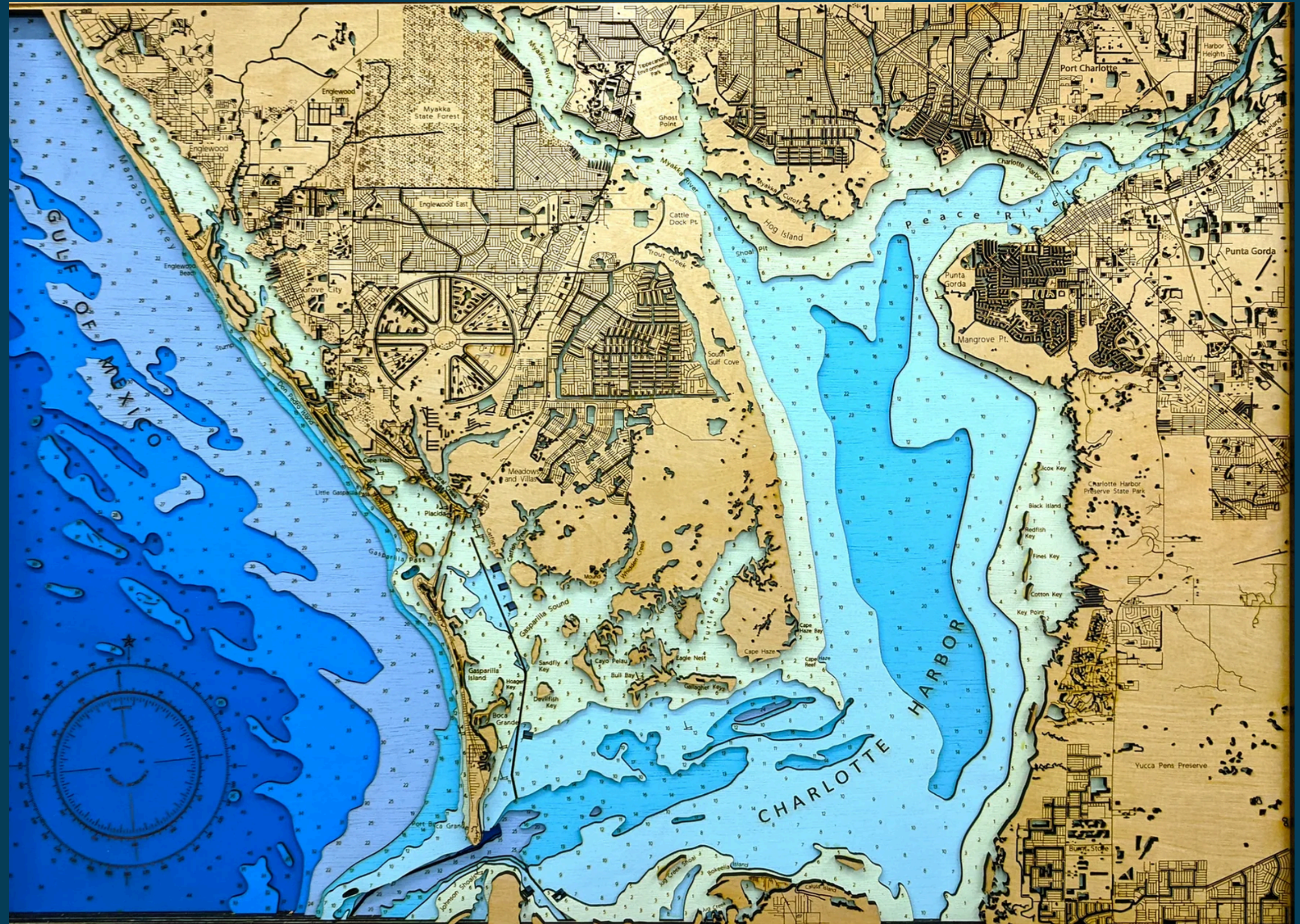


Punta Gorda • Englewood



CHARLOTTE HARBOR ESTUARY

- The second largest in Florida at 270 square miles
- Receives freshwater from the Peace and Myakka rivers and saltwater from the Gulf of Mexico
- High productivity
- Supports a variety of plants, wildlife, and habitats



IMPORTANCE OF ESTUARIES



Provides nesting, breeding, and feeding sites for numerous animal species



Protects our coasts from strong winds and wave action



Supports commercial and recreational fisheries



Setting for popular recreational activities and contributes to Florida aesthetic

UP AGAINST THE ODDS

Water Quality Challenges in Charlotte Harbor:



Development and
construction



Increased boating
activity



Water pollution



Over-fishing



Dredging



Excess nutrients



Septic systems

DEAD OYSTER REEF



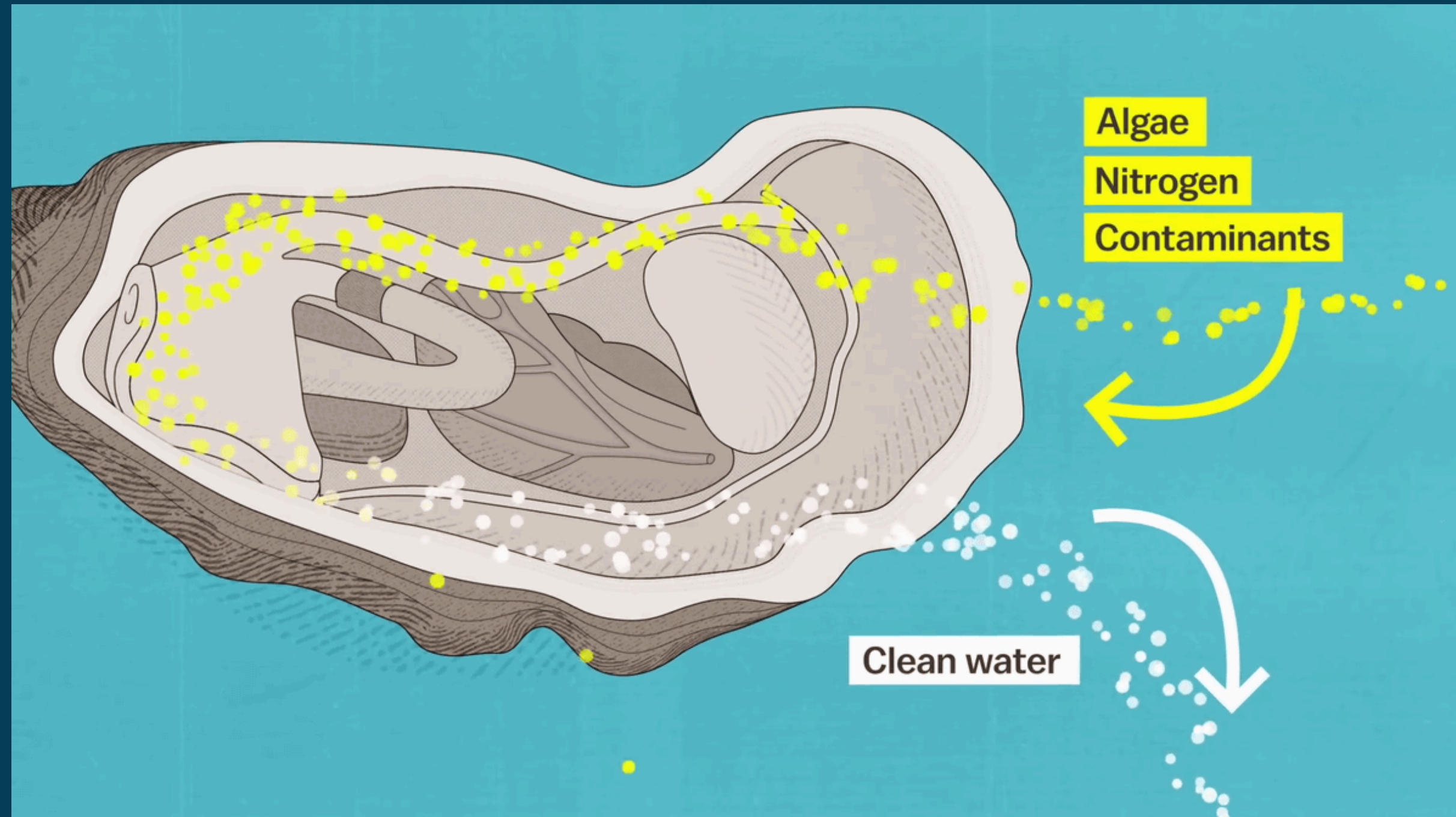
Photo: Paul Hamer

MEET THE HERO...



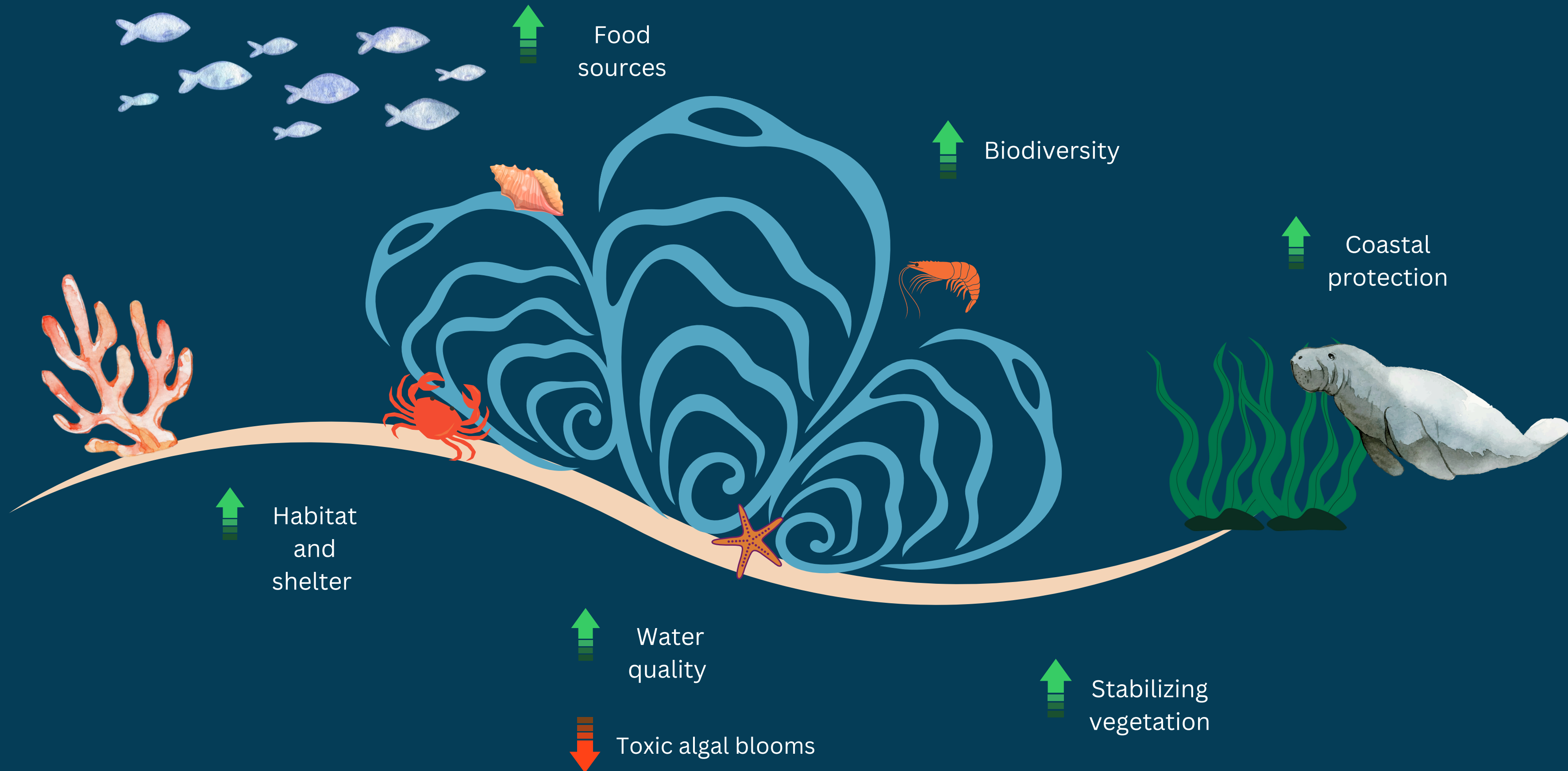
OYSTERS!

OYSTERS ARE INCREDIBLE FILTER FEEDERS

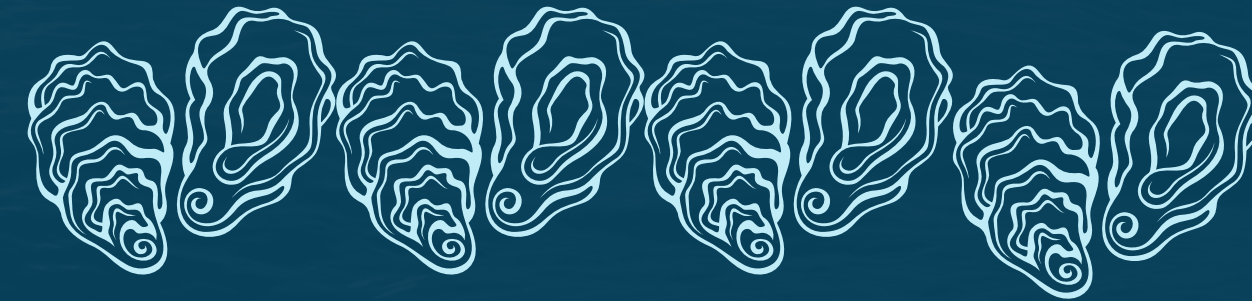


ONE ADULT OYSTER CAN FILTER UP TO **50** GALLONS OF WATER A DAY

BENEFITS OF AN OYSTER REEF HABITAT



OYSTER POPULATIONS ARE AT HISTORIC LOWS



- Low salinity and oxygen levels
- Overload of silt, waste, toxins, and excess nutrients
- Increased sedimentation reduces nutrients for oysters
- Silt covers hard structures needed for settlement

**HOW WE CAN
HELP...**



**VERTICAL
OYSTER
GARDENS**


WHAT IS A VOG?

Vertical Oyster Gardens are composed of recycled oyster shells strung on rope. Deployed off docks, these stacks of oysters provide juvenile oysters the hard structures they need to colonize.





LARVAE

Watch on  YouTube

Late stage larvae grow a foot that helps them crawl along the seafloor and find a suitable place to settle such as on a rock or other oysters



JUVENILE
OYSTERS (SPAT)

TABLE-TO-REEF JOURNEY



Oyster shells are collected from local restaurants



Shells are quarantined to kill off bacteria

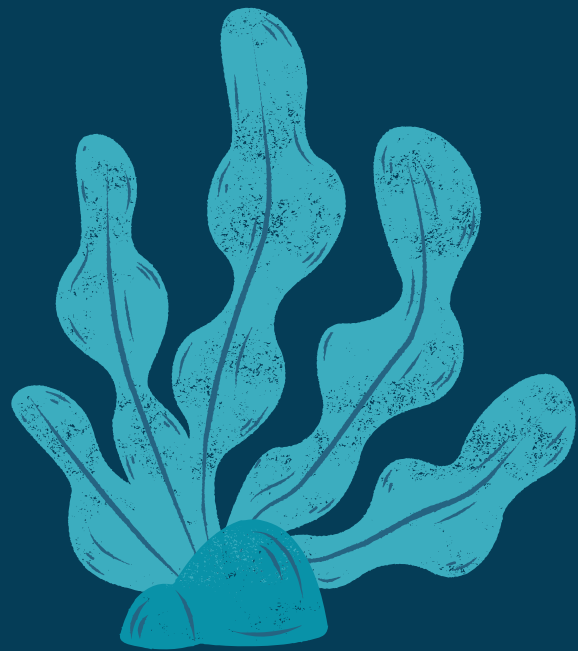


CHEC leads educational workshops about water quality



In the future, oysters will be added to existing reefs that will filter water, provide habitat and prevent coastal erosion

CHEC observes and monitors new growth over time to record water quality and biodiversity assessments



Participants create vertical oyster gardens to deploy on their dock

HOW WE'VE BEEN DOING



Provided TONS of educational workshops and served hundreds of participants



Successfully recruited oyster spat and a variety of other aquatic creatures



Partnered with local governments and organizations to place VOGs in public parks

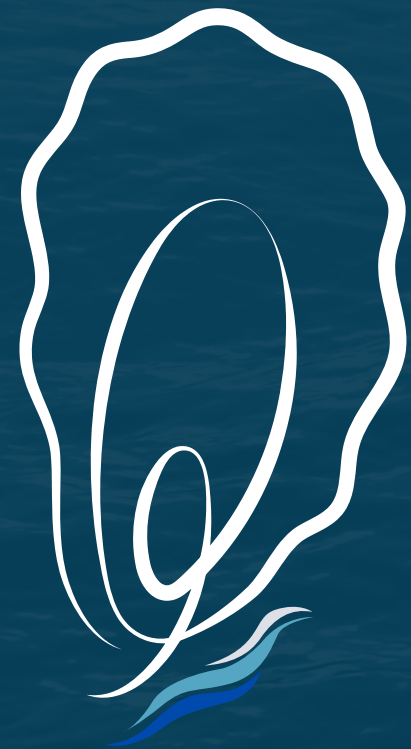
A KEYSTONE SPECIES THAT SUPPORTS OVER 300 SPECIES

The more oysters are in our waterways, the cleaner and clearer the water becomes. Providing crucial habitat, nursery, and breeding grounds for hundreds of fish, invertebrates, crabs, mollusks, and birds.



OUR COMMUNITY WITH THE HELP OF SOME VERY POWERFUL OYSTERS, CAN PROTECT, PRESERVE,
AND RESTORE OUR FLORIDA PARADISE.





READY TO GET STACKING?

Ashley Cook - ashley@checflorida.org - 941 575 5435