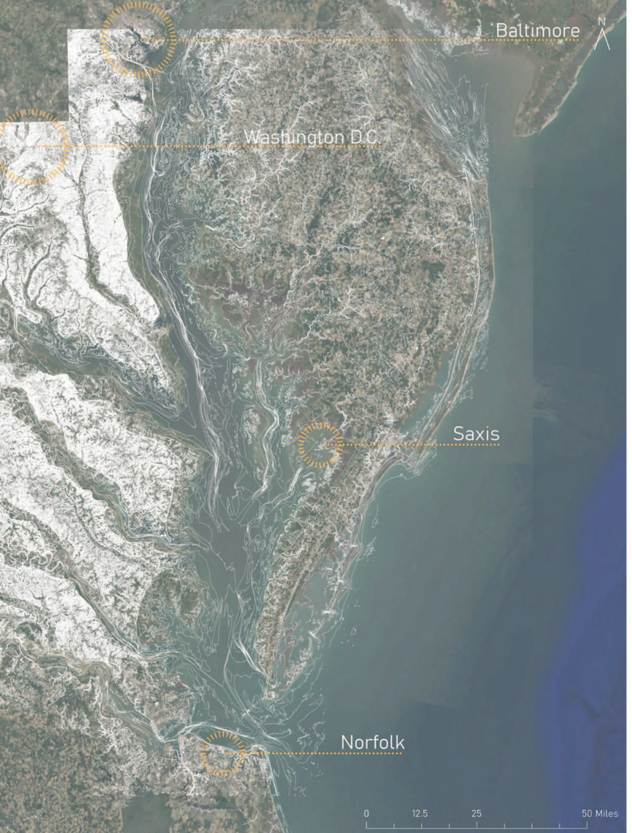
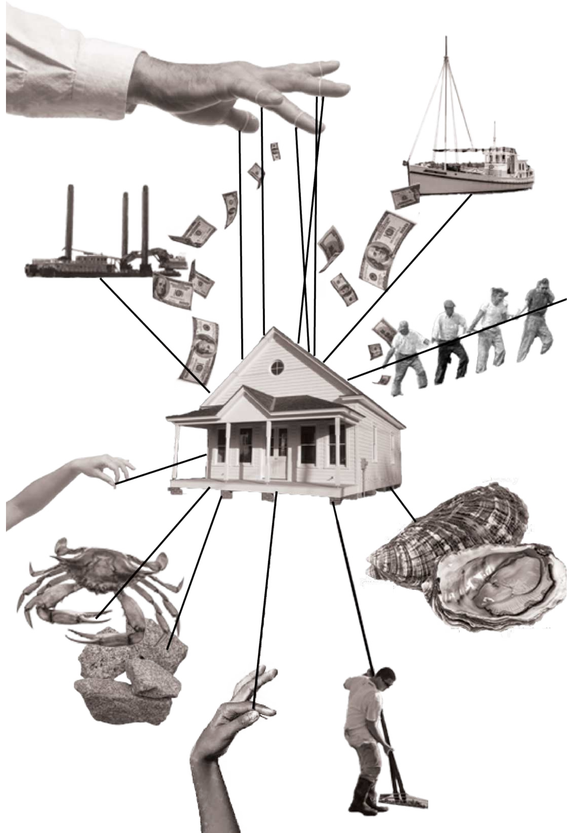
# Settled For a Moment








Saxis was born out of wealth, a father, who wanted his daughter to have the best view unobstructed of the bay. Then the discovery of a seeming never ending supply of oysters, brought waterman to the town. Now life persists in Saxis through grit and perseverance, and through a richness of the lives lived there and those who continue on both human and non-human.



In this atlas we aim to explore the complexities of the unseen world that dictate the built enviornment.

Saxis as entagled life cycles and livlihoods of those who live in this space. To interface with the conflicting needs and desires of the socio-ecological layers of the landscape.

# SAXIS MEETING MINUTES

SAXIS TOWN COUNCIL MOST FREQUENTLY DISCUSSES THESE TOPICS DURING THEIR MEETINGS

RESTORING OYSTER POPULATION AND HABITAT

INCREASING TOWN REVENUE

RESTORING BLUECRAB POPULATION

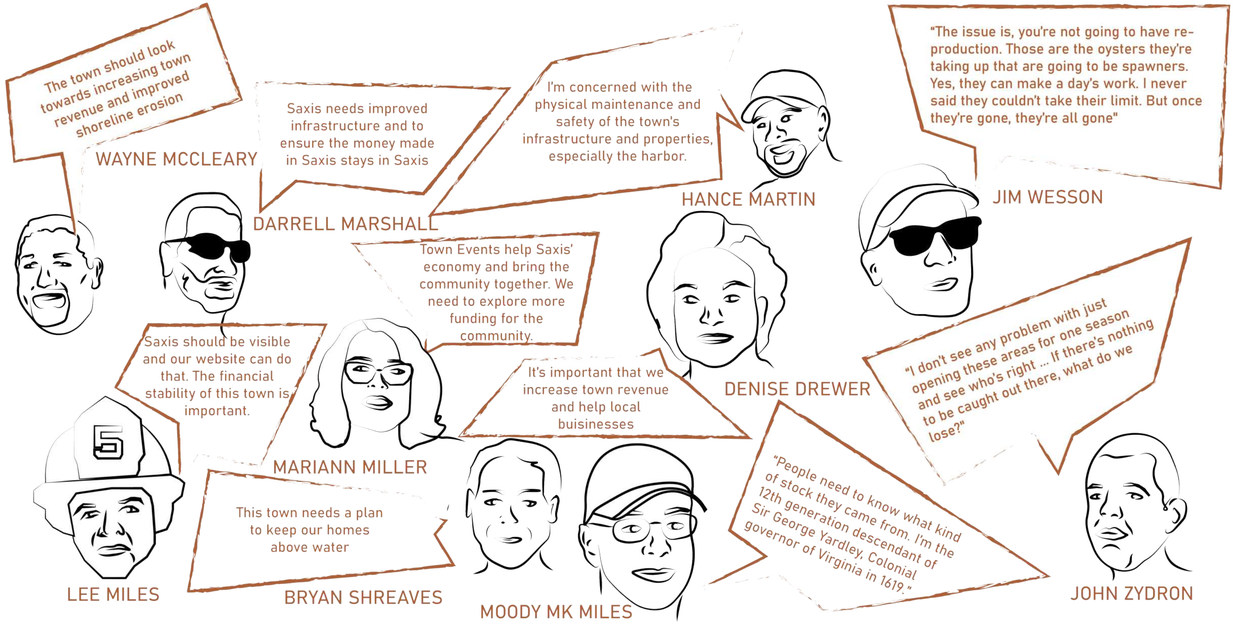
PREVENTING EROSION

FINDING GRANTS AND TOWN FUNDING

INCREASING TOURISM OPPORTUNITIES

SUPPORTING LOCAL BUISINESSES

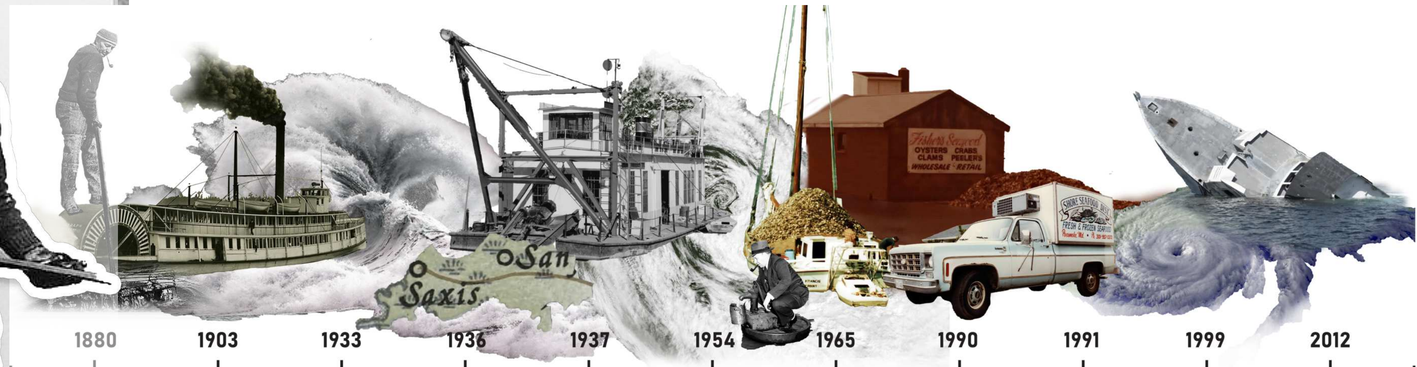
# THE FACES OF SAXIS





# PLACING OUR MOMENT IN HISTORY

## KEY EVENTS IN SAXIS' STORY




**1880**

Pocomoke sound oyster boom and rapid population increase peaking at 636 people in 1910. As oysters are in high demand, clamming becomes a year-round buisiness.

**1903**

Steamboat wharf built 650 yards west of island along 6' contour. The wharf connects Saxis to Baltimore and Norfolk. This construction brings a second boom for the oyster buisiness.

**1933**

Storm destroys steamboat wharf and many town homes.

**1936**

Public Works Projects Administration builds the bulkhead forming the current Creek Point.

**1937**

Army Corps of Engineers dredges the channel from the 6' contours into Starlings Creek and created anchorage basin, placing dredged material inside the bulkhead.

**1954**

Hurricane Hazel hits Saxis.

**1965**

Army Corps of Engineers builds new harbor of refuge on North side of Starlings

**1990**

Crabs become mainstay of the island's economy. 8000 dozen crabs are shipped to the West Coast and Japan per day.

**1991**

Army Corps of Engineers builds additional bulkheads, boat ramp, and slips.

**1999**

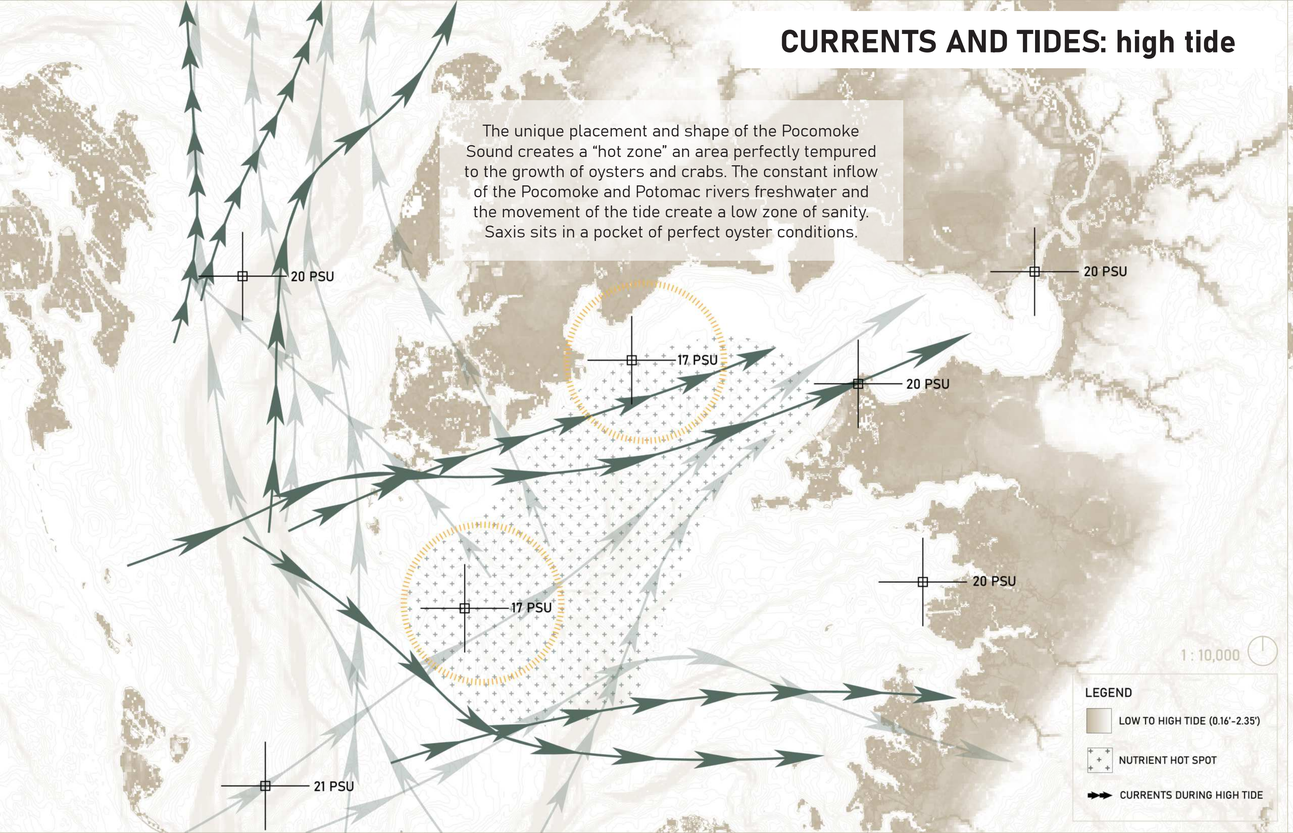
Hurricane Folyd floods nearly 30 homes on the north end of the island. Crab house at the creek point is swept away.

**2012**

Hurricane Sandy hits Saxis and prompts aid from FEMA

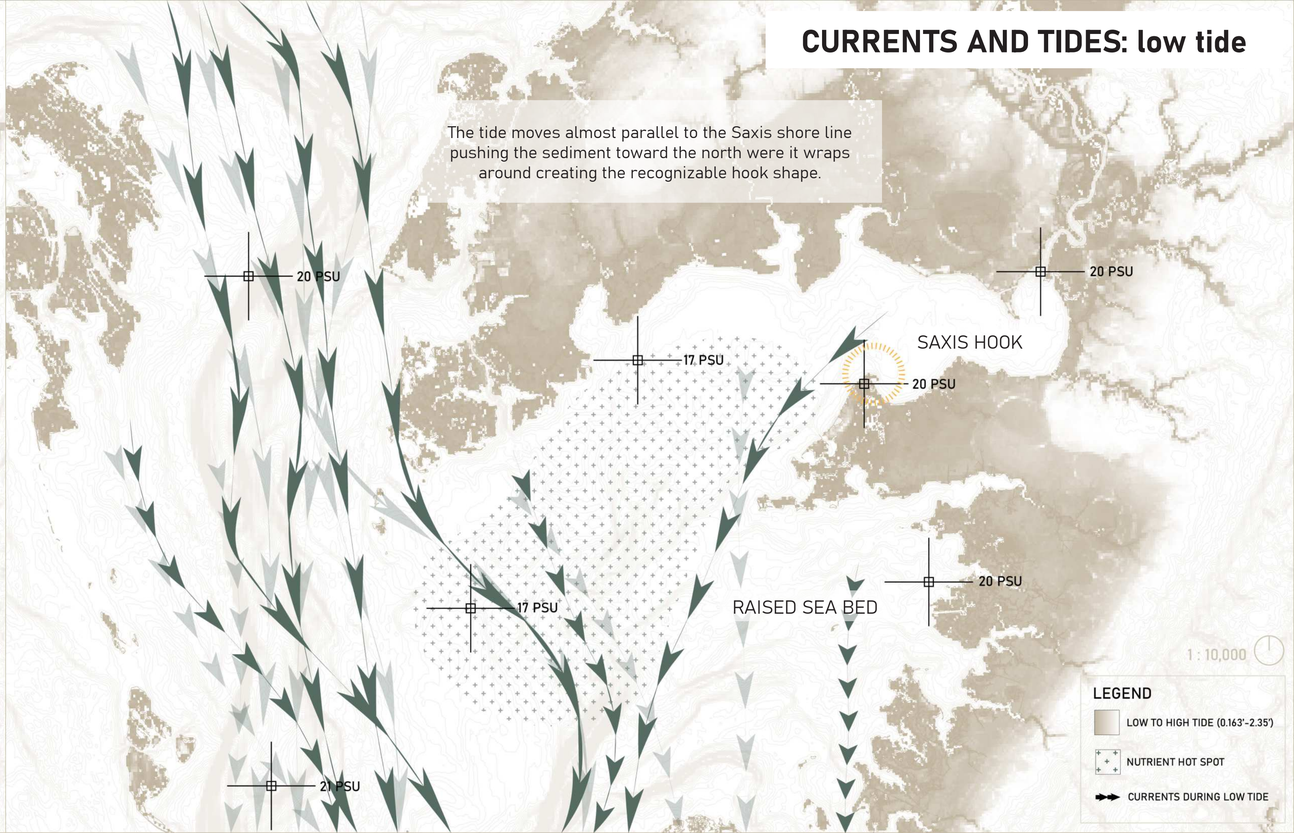
# CURRENTS AND TIDES: high tide

The unique placement and shape of the Pocomoke Sound creates a “hot zone” an area perfectly tempured to the growth of oysters and crabs. The constant inflow of the Pocomoke and Potomac rivers freshwater and the movement of the tide create a low zone of sanity. Saxis sits in a pocket of perfect oyster conditions.

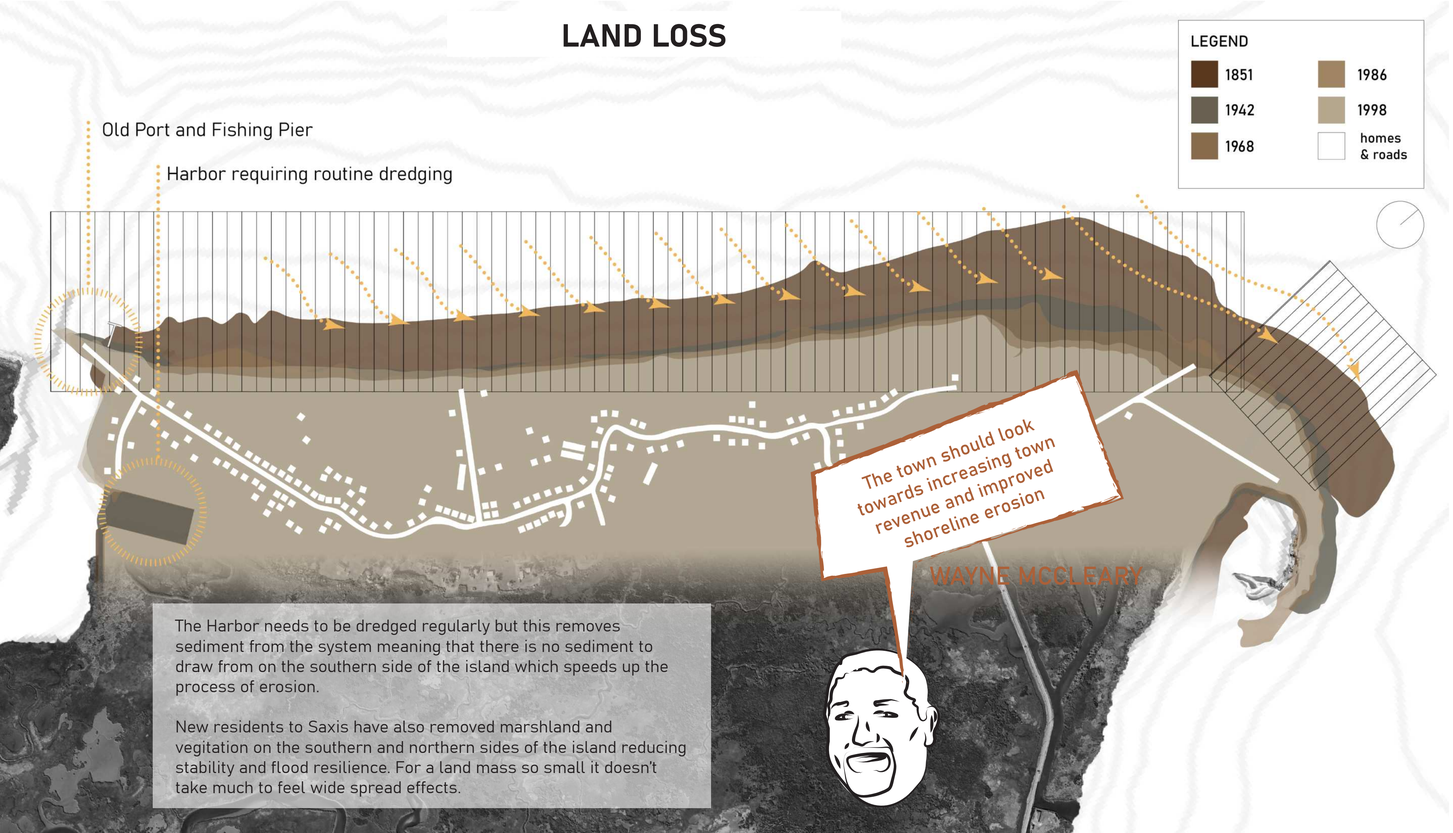



# CURRENTS AND TIDES: low tide

The tide moves almost parallel to the Saxis shore line pushing the sediment toward the north were it wraps around creating the recognizable hook shape.



# LAND LOSS




The Harbor needs to be dredged regularly but this removes sediment from the system meaning that there is no sediment to draw from on the southern side of the island which speeds up the process of erosion.

New residents to Saxis have also removed marshland and vegitation on the southern and northern sides of the island reducing stability and flood resilience. For a land mass so small it doesn't take much to feel wide spread effects.

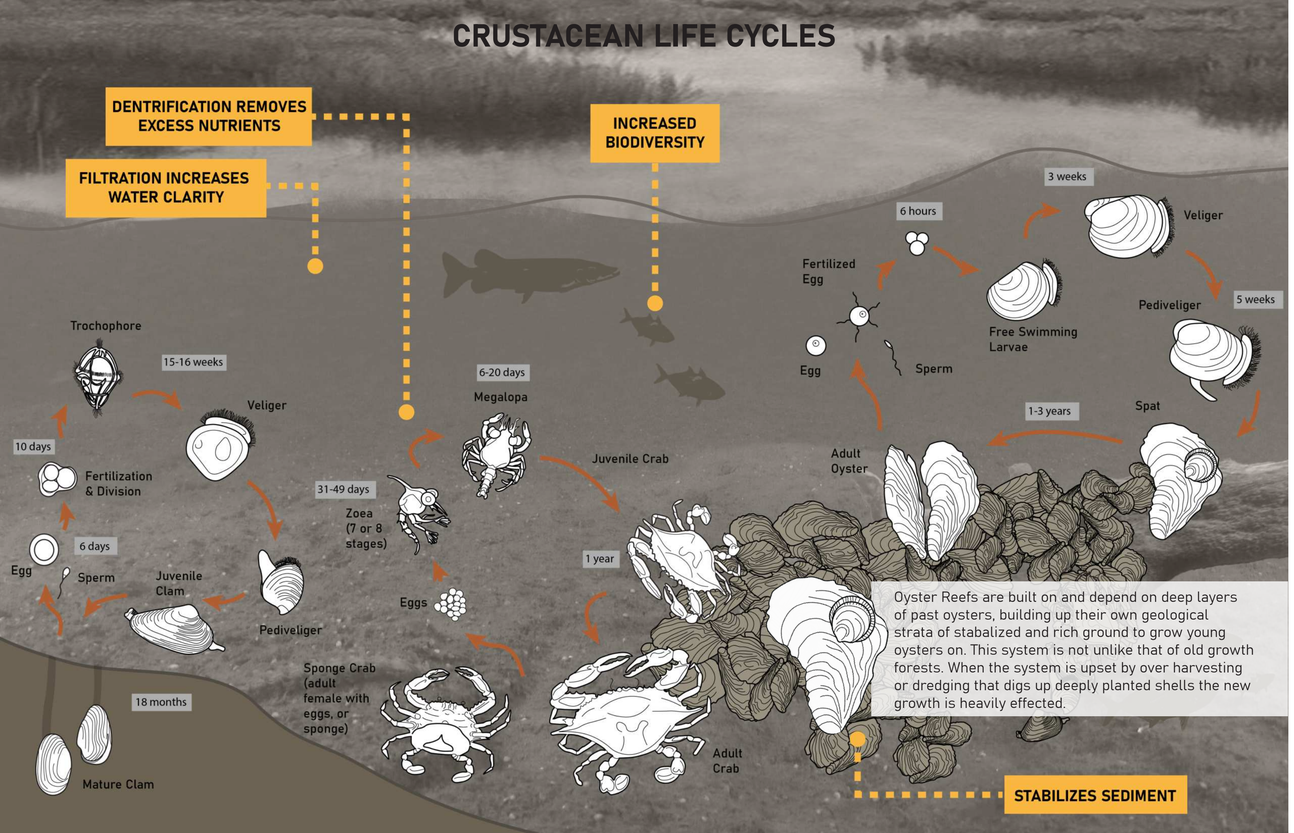


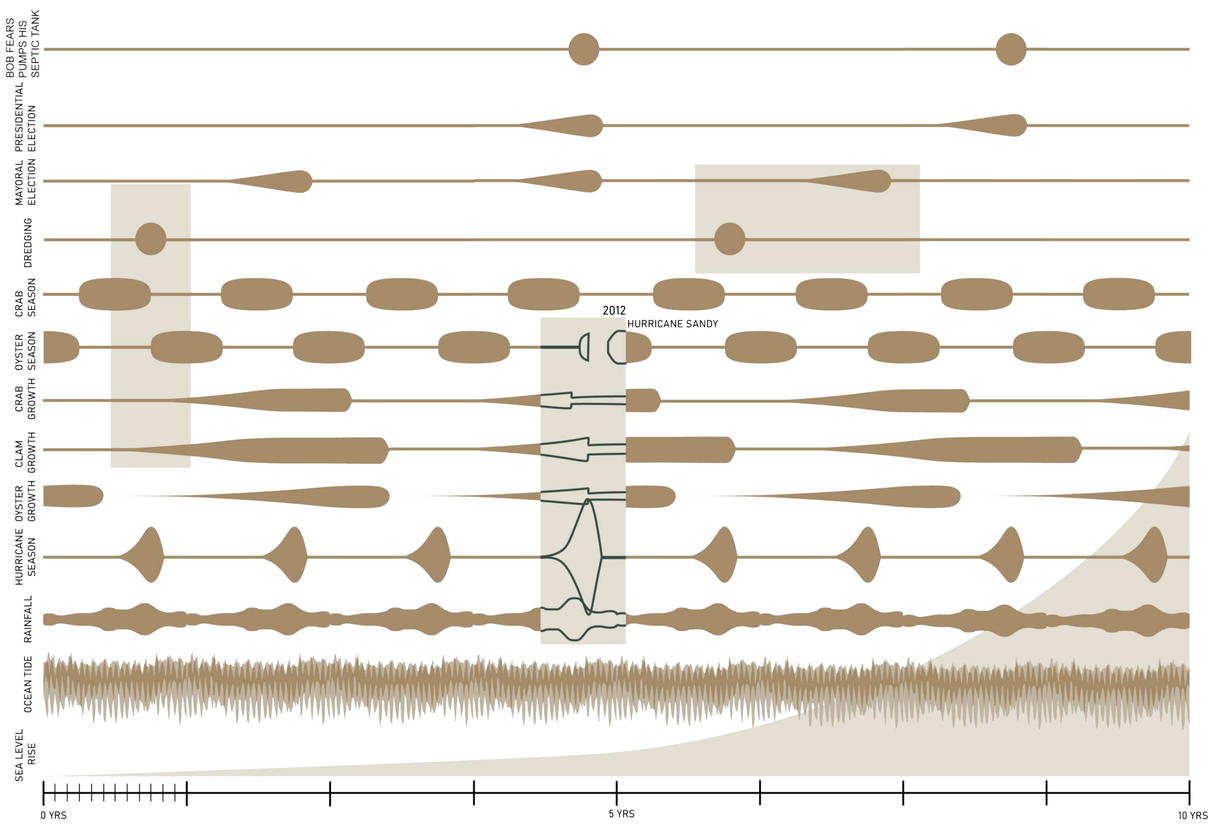

Peices of buildings that have been demolished used by one home owner to fortify his property line that abuts the bay.



Residents of Saxis are not people to give up easily they have created their own solutions to protect their homes and the land they value.




CRUSTACEAN LIFE CYCLES
DENTRIFICATION REMOVES EXCESS NUTRIENTS
FILTRATION INCREASES WATER CLARITY
INCREASED BIODIVERSITY
Trochophore
15-16 weeks
Veliger
10 days
Fertilization & Division
Egg
6 days
Sperm
Juvenile Clam
Pediveliger
18 months
Mature Clam
31-49 days
Zoea (7 or 8 stages)
Eggs
6-20 days
Megalopa
Juvenile Crab
1 year
Sponge Crab (adult female with eggs, or sponge)
Adult Crab
6 hours
Fertilized Egg
Egg
Sperm
3 weeks
Veliger
Free Swimming Larvae
5 weeks
Pediveliger
Spat
1-3 years
Adult Oyster
Oyster Reefs are built on and depend on deep layers of past oysters, building up their own geological strata of stabalized and rich ground to grow young oysters on. This system is not unlike that of old growth forests. When the system is upset by over harvesting or dredging that digs up deeply planted shells the new growth is heavily effected.
STABILIZES SEDIMENT


BOB FEARS PUMPS HIS SEPTIC TANK
PRESIDENTIAL ELECTION
MAYORAL ELECTION
DREDGING
CRAB SEASON
OYSTER SEASON
CRAB GROWTH
CLAM GROWTH
OYSTER GROWTH
HURRICANE SEASON
RAINFALL
OCEAN TIDE
SEA LEVEL RISE
2012
HURRICANE SANDY
0 YRS
5 YRS
10 YRS



# TANGLED RELATIONSHIPS

## ECONOMIC INVESTMENT

"I don't see any problem with just opening these areas for one season and see who's right ... If there's nothing to be caught out there, what do we lose?"



JOHN ZYDRON

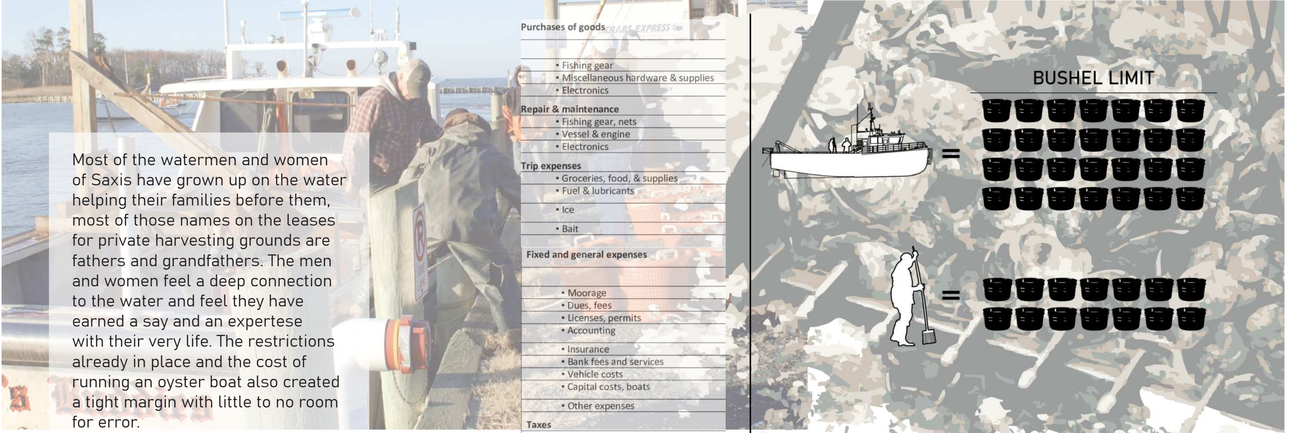
**In Saxis oyster war, watermen prevail**

The Virginia Marine Resource Commision has once again closed Public Grounds #9 due to conserns of low drood stalk.

"Their livelihood on the line, several watermen made the 2½-hour trip to Newport News to protest the move — three times for three meetings."
-Jeremy Cox




For Oyster harvesters of Saxis the health of the reef is their livelyhood but their livelyhood depends on harvesting every season as much as they can.



Most of the watermen and women of Saxis have grown up on the water helping their families before them, most of those names on the leases for private harvesting grounds are fathers and grandfathers. The men and women feel a deep connection to the water and feel they have earned a say and an expertese with their very life. The restrictions already in place and the cost of running an oyster boat also created a tight margin with little to no room for error.

**Purchases of goods**
- Fishing gear
- Miscellaneous hardware & supplies
- Electronics

**Repair & maintenance**
- Fishing gear, nets
- Vessel & engine
- Electronics

**Trip expenses**
- Groceries, food, & supplies
- Fuel & lubricants
- Ice
- Bait

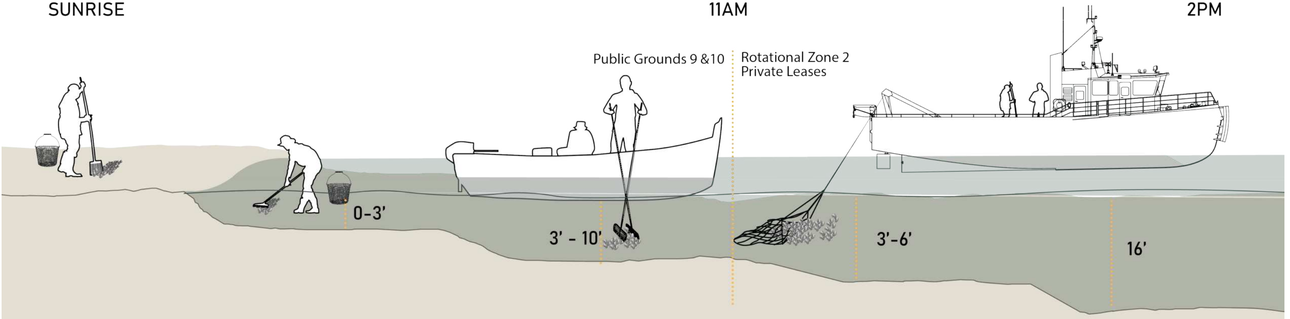
**Fixed and general expenses**
- Moorage
- Dues, fees
- Licenses, permits
- Accounting
- Insurance
- Bank fees and services
- Vehicle costs
- Capital costs, boats
- Other expenses

**Taxes**

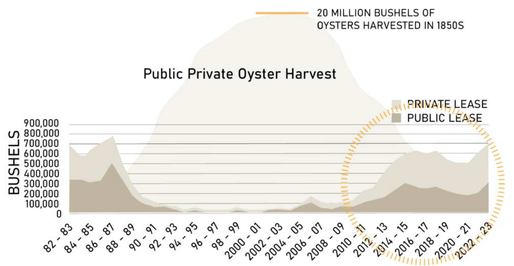
**Income and profit**
- Crew & captain shares, other income
- Profit




November 1 — SUNRISE — 11AM — March 31 — 2PM



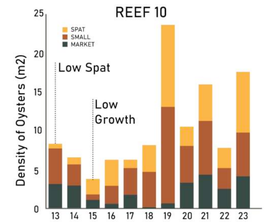

# OYSTER SEEDING AND HARVESTING

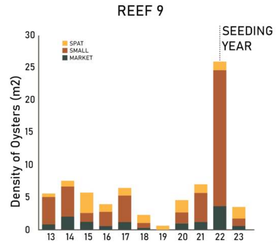



"It's the best that it's ever been, but they're still cutting us back," - Donnie Porter

"The issue is, you're not going to have re-production. Those are the oysters they're taking up that are going to be spawners. Yes, they can make a day's work. I never said they couldn't take their limit. But once they're gone, they're all gone"

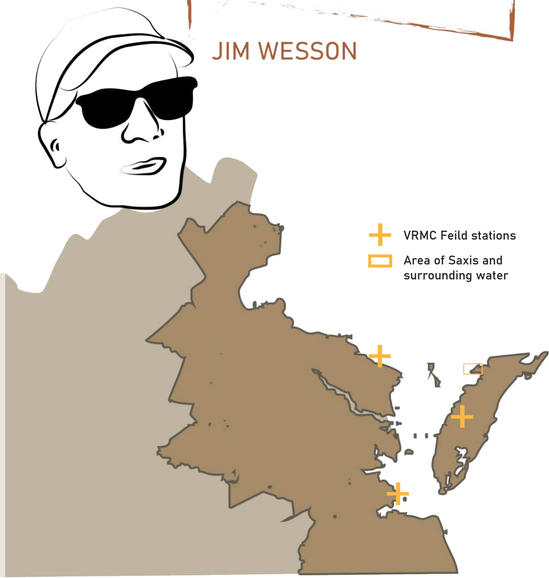
JIM WESSON



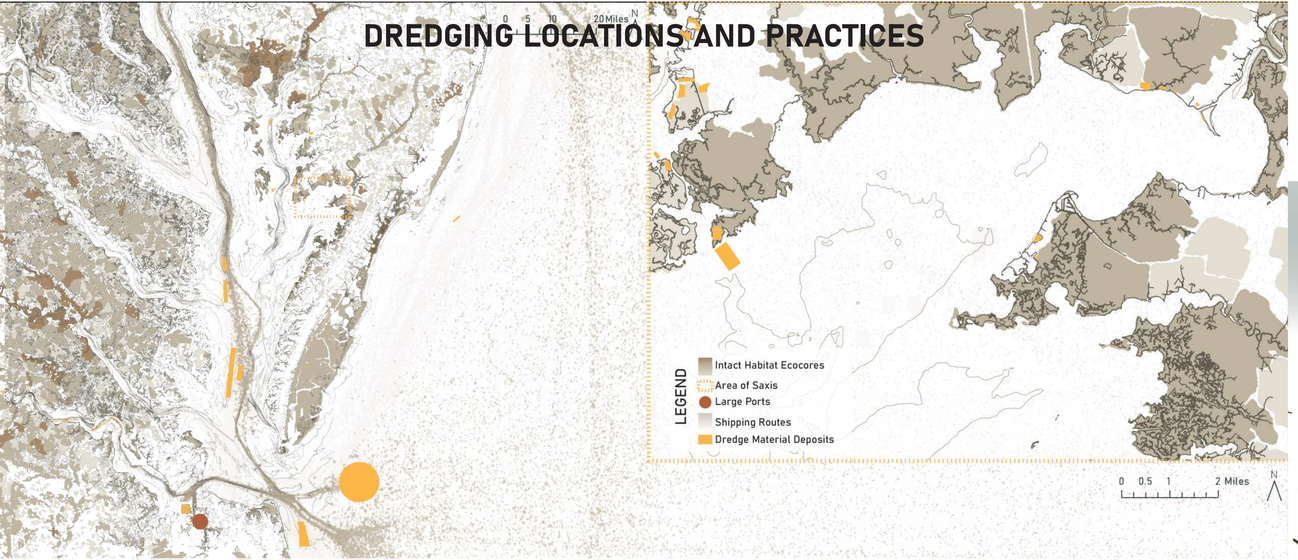




The VIrginia Marine Resource Commision regulates all of the marine waterways and is responsible for the continued availability of resources in these ecosystems. The map shows the range of land and water they are responsible for and in yellow is the area of saxis shown on the previous map.

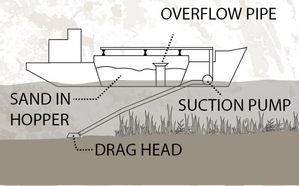
The Oyster harvesters of today remember their parents stories of the oyster harvests of the 80s and are excited to see a return of such prosperity, and hope for stability to be able to keep making payments on their homes down the street from the pier. The VMRC sees a different story they see all the way back to the Oyster boom of the 1800s when the harvests were 10s of millions. They also see the over all picture of the health of the oysters life cycle and know the signs of decline like the low levels of Spat or pour rates of maturity.



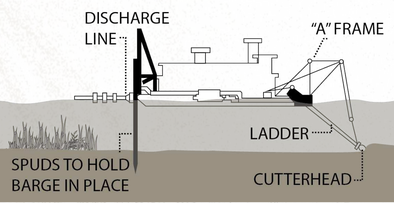
# DREDGING LOCATIONS AND PRACTICES



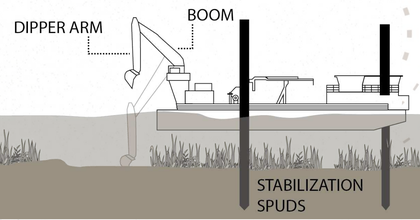

## HOPPER DREDGE



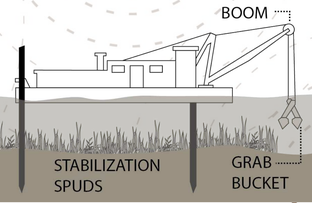

## CUTTER DREDGE



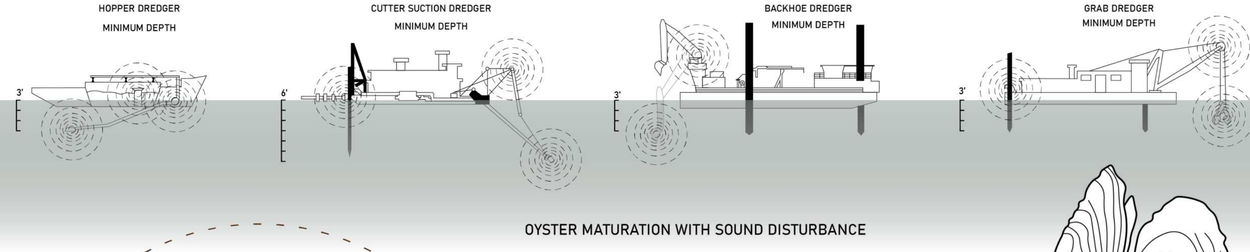

## BACKHOE DREDGE




## GRAB DREDGE




# DREDGING DEPTH AND NOISE DISTURBANCE



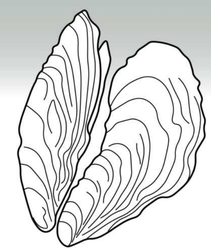

OYSTER MATURATION WITH SOUND DISTURBANCE

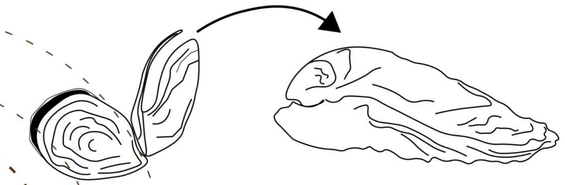
Hairs on the Oysters Shell sense the vibrations of certain sound frequencies

In response to sound, oysters slam their shells closed to protect their internal soft bodies

Oysters are filter feeders and can only do so when their shells are open.

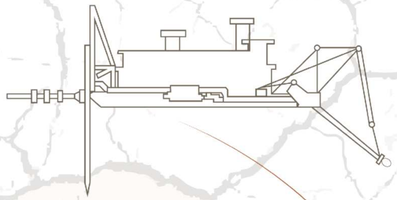
Noise pollution may stunt their growth and decrease their effectiveness to clean and oxiginate their environment.





## THE CULMINATION

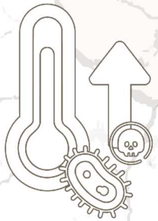
Dredging practices breaks apart habitat where natural reefs might form



Overfishing prevents oyster population from effectively repopulating



Rising Water Temperatures increase disease in oyster population





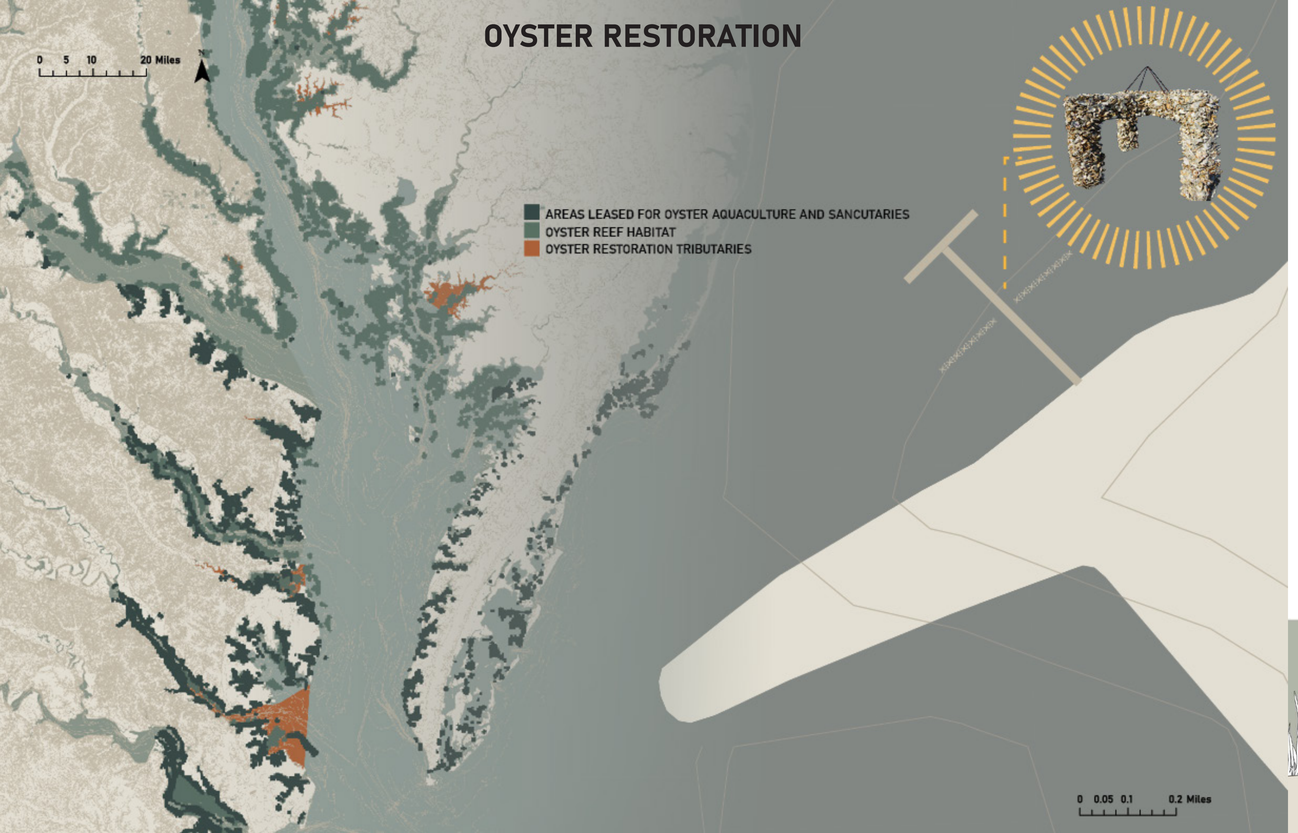
Rising water levels create inhospitable environment for oysters which have an optimal growth zone in relation to distance from the surface



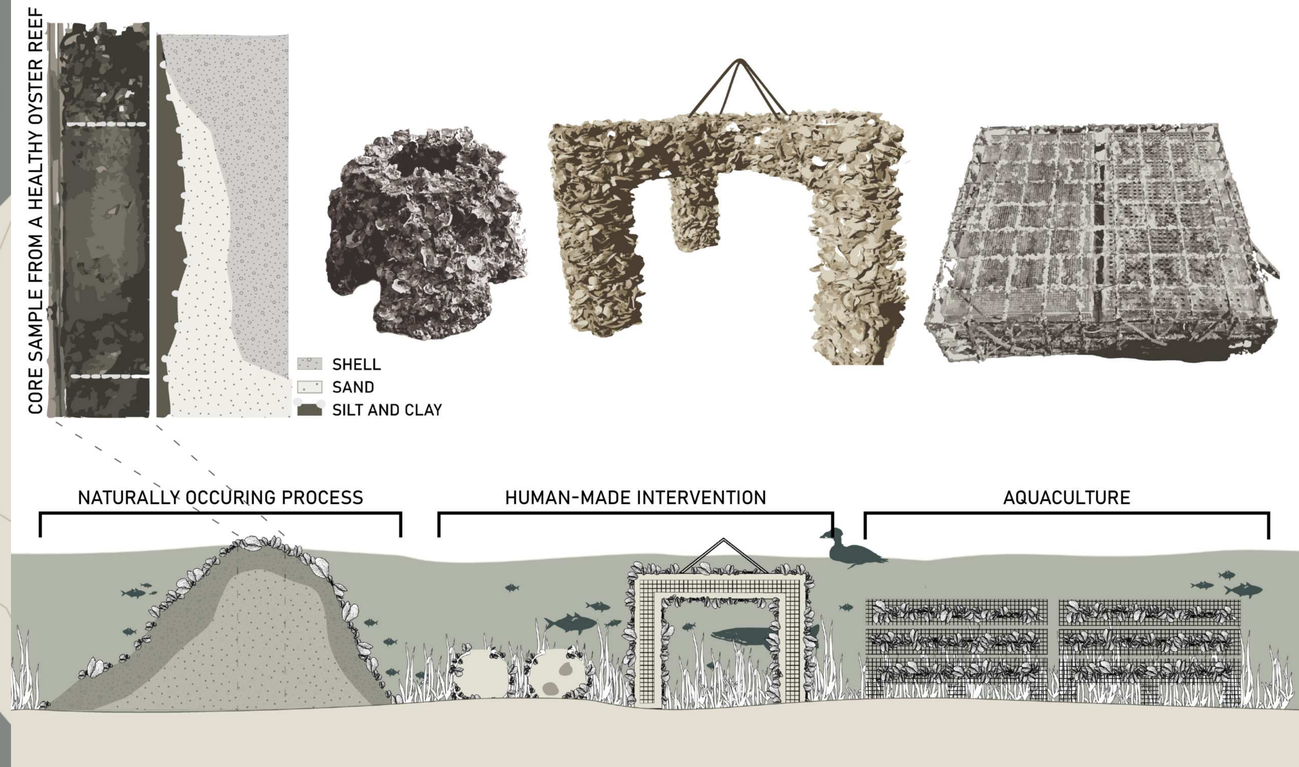


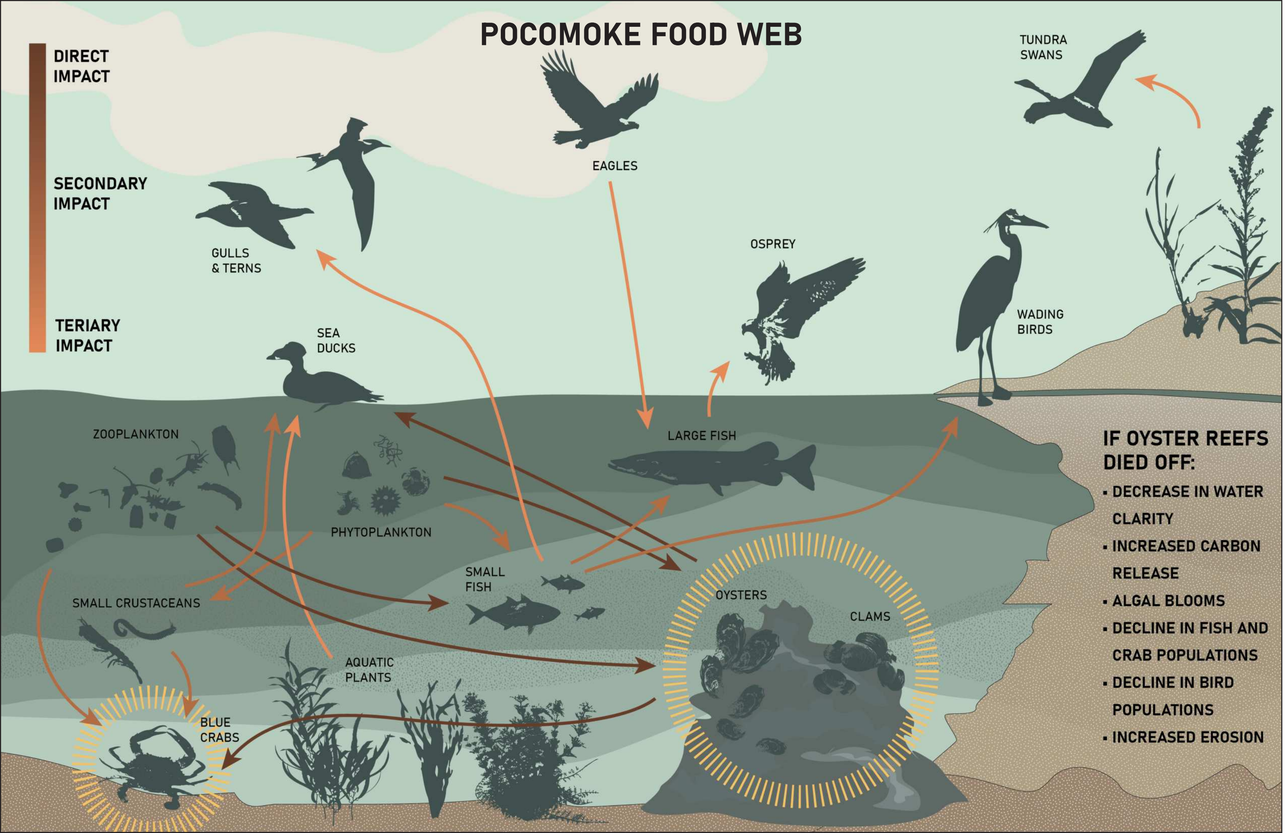
# ECOLOGICAL TENSIONS

# OYSTER RESTORATION

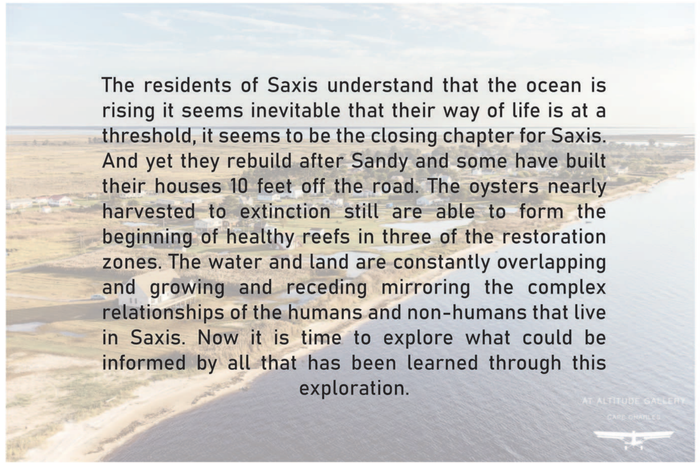



# OYSTER RESTORATION SECTION






And Yet ...



The residents of Saxis understand that the ocean is rising it seems inevitable that their way of life is at a threshold, it seems to be the closing chapter for Saxis. And yet they rebuild after Sandy and some have built their houses 10 feet off the road. The oysters nearly harvested to extinction still are able to form the beginning of healthy reefs in three of the restoration zones. The water and land are constantly overlapping and growing and receding mirroring the complex relationships of the humans and non-humans that live in Saxis. Now it is time to explore what could be informed by all that has been learned through this exploration.

## SITE RECONNAISSANCE HYPOTHESIS

### HYPOTHESES:

Fresh water outflow from the Pocomoke River and Potomac River combining with inflow of salt water from the Atlantic is creating a rich slurry during regular tide and current movements. The geomorphology and hydrology conditions create a shallow, nutrient dense ecosystem surrounding the Peninsula of Saxis, which has created an ideal point of oyster harvesting.

In the wake of sea level rise and limited funding or insurance, the people of Saxis are creating their own systems of fortification. What are the visible effects of the fortification they have created thus far? The circumstances between the communities of humans and non-humans here are complex and have created strained tensions. While the peoples efforts are resilient and ceaseless, these coping mechanisms may not be effective.

### TO DO:

Water Samples to test salinity and nutrient levels at different locations.

Measure depth of water.

Soil Samples to test soil composition (stabilization abilities).

Aquatic plant species samples to understand biodiversity of the system, catalog what trees people are planting there and determine inundation or longevity of tree species.

Oyster shell, Clam shell, Crab shell samples to understand morphology of possible oyster reefs.

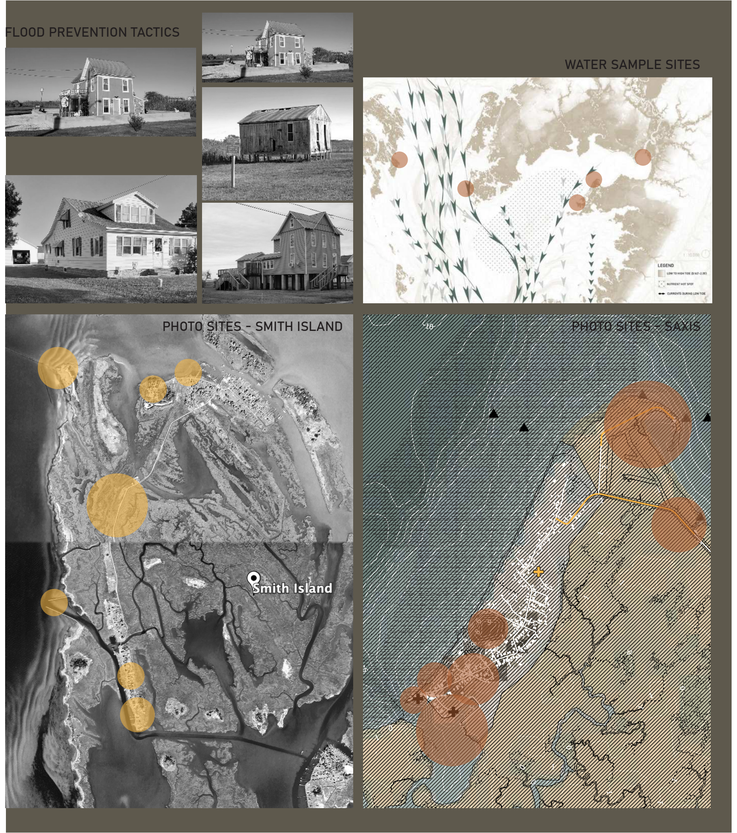
Photograph houses in Saxis to perceive durability, jetty, bay, road into Saxis, sediment deposition pile, spit, flood control channels, dredge channel.

- Document artifacts that represent tensions - dirt, rip-rap, coastal infrastructure, tools, etc.
- Measure the scales of these structures - who is capable of building these?

Document primary source literature and photos from museum.

### MATERIALS + TOOLS:

| | |
|---|---|
| Camera | Water Nutrients Test Strips |
| Glass Jars | Waders |
| Plant Press | Ruler |
| Hand Spade | Meter Stick / Pole |
| Plastic Bags | Sketchbook |
| Salinity Meter | Drawing Utensils |




# REFERENCES


"A Brief History of Saxis Island," n.d.
"An Historical Sketch of Saxis Island | The Countryside Transformed:" Accessed January 28, 2025. https://eshore.iath.virginia.edu/node/2085.
"CHAPTER 21: TOWN OF SAXIS," n.d. https://www.esvaplan.org/wp-content/uploads/2023/04/Chapter-21-Town-of-Saxis.pdf.
"Chesapeake Bay Map." Accessed January 28, 2025. https://webapps.mrc.virginia.gov/public/maps/chesapeakebay_map_layers.php.
Chesapeake Bay Program. "How One Town Is Determined Not to Drown," June 10, 2024. https://www.chesapeakebay.net/news/blog/how-one-town-is-determined-not-to-drown.
Cox, Jeremy. "In Saxis Oyster War, Watermen Prevail." The Daily Times. Accessed January 28, 2025. https://www.delmarvanow.com/story/life/outdoors/2015/11/13/saxis-oyster-wars/75703832/.
Cunningham, James, Antonia Lämmle, Takashi Sakamaki, and Ramón Filgueira. "Predicting Eastern Oyster (Crassostrea Virginica) Settlement Using Growing Degree Days along the North Shore of Nova Scotia, Canada." Aquaculture 594 (January 15, 2025): 741377. https://doi.org/10.1016/j.aquaculture.2024.741377.
"Eastern Shore of Virginia Regional Dredging Needs Assessment," n.d.
"Expanding Virginia's Oyster Industry While Minimizing User Conflict," n.d.
gradclif. "Oyster Life Cycle." Horn Point Oyster Hatchery. Accessed January 28, 2025. https://hatchery.hpl.umces.edu/oyster-life-cycle/.
"History, Status and Challenges for Oyster Industry in Virginia," n.d.
"Home | Town of Saxis." Accessed January 28, 2025. https://saxis.org/.
Horton, Tom. "The Fishing Village That Got Away." Bay Journal, September 8, 2015. https://www.bayjournal.com/travel/the-fishing-village-that-got-away/article_e31bb7e0-2d3e-56ed-af24-3b422aa5abcb.html.
"Minutes | Town of Saxis." Accessed January 28, 2025. https://saxis.org/minutes.
"News About Saxis." Accessed January 28, 2025. https://www.saxisislandmuseum.org/SaxisNews.html.
NewsHour, Teresa L. Carey, PBS. "Even Earless Oysters Clam Up Over Noise Pollution." Scientific American. Accessed January 28, 2025. https://www.scientificamerican.com/article/even-earless-oysters-clam-up-over-noise-pollution/.
"OFS Map Plots." Accessed January 28, 2025. https://tidesandcurrents.noaa.gov/ofs/ofs_mapplots.html?ofsregion=cb&subdomain=0&model_type=currents_forecast.
"(PDF) Quantitative Assessment of Oysters' Multiple Nitrogen Removal Pathways in a Subtropical Bay." ResearchGate, December 29, 2024. https://doi.org/10.3390/jmse13010021.
Ridge, Justin T., Antonio B. Rodriguez, and F. Joel Fodrie. "Evidence of Exceptional Oyster-Reef Resilience to Fluctuations in Sea Level." Ecology and Evolution 7, no. 23 (2017): 10409–20. https://doi.org/10.1002/ece3.3473.
"Saxis: 'Almost an Island', a Community with Character," n.d.
Saxis Island Virginia: In the Chesapeake Bay, 2024. https://www.youtube.com/watch?v=bLRBxaSw0YQ.
"Saxis, Virginia Population 2024." Accessed January 28, 2025. https://worldpopulationreview.com/us-cities/virginia/saxis.
Schulte, David M. "History of the Virginia Oyster Fishery, Chesapeake Bay, USA." Frontiers in Marine Science 4 (May 9, 2017). https://doi.org/10.3389/fmars.2017.00127.
SHORE PERSPECTIVES: Local Historian, M.K. Miles, on the Forming of the Saxis Museum and More, 2021. https://www.youtube.com/watch?v=s0m2MPXbbTQ.
"Starling Creek Project Map," n.d.
"The Raft Scorecard: A Full Service Tool to Assist Localities in Increasing Their Resilience," n.d.
"U.S. Geological Survey Open-File Report 2004-1350." Accessed January 28, 2025. https://pubs.usgs.gov/of/2004/1350/figures_pages/fig1_2.htm.
"U.S. Geological Survey Open-File Report 2004-1350." Accessed January 28, 2025. https://pubs.usgs.gov/of/2004/1350/figures_pages/fig1_4.htm.
"U.S. Geological Survey Open-File Report 2004-1350." Accessed January 28, 2025. https://pubs.usgs.gov/of/2004/1350/figures_pages/fig1_3.htm.
Virginia Institute of Marine Science. "Box 30: Pocomoke Sound - Island Bay." Accessed January 28, 2025. https://www.vims.edu/research/units/labgroups/molluscan_ecology/archive/restoration/va_restoration_atlas/pocomoke_sound/.
VPM. "Virginia Oyster Harvest Hits Milestone," January 8, 2024. https://www.vpm.org/news/2024-01-08/virginia-oyster-harvest-hits-milestone.
WVTF. "Almost an Island, the Eastern Shore Town of Saxis Is Fighting Rising Seas," November 7, 2019. https://www.wvtf.org/news/2019-11-07/almost-an-island-the-eastern-shore-town-of-saxis-is-fighting-rising-seas.
WVTF. "Saxis Looks for Solutions to Rising Seas," November 8, 2019. https://www.wvtf.org/news/2019-11-08/saxis-looks-for-solutions-to-rising-seas.
Accessed January 28, 2025. https://www.saxisislandmuseum.org/files/Download/Lovie%20Marshall%20talks%20about%20the%20road%20to%20Saxis.mp3.


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