

# Oysters, Heroes, and Disasters

Vic Spain, MOG

April 2026

19<sup>th</sup> Century Oyster Culture Pioneers: Coste and Brooks

The MSX Story: Nelson, Burreson, Stokes

Stan Allen: Inventor, Developer of Eastern Oyster Aquaculture

Ryan Carnegie: Dermo Changed for the Worst

Introduction to Virginia Oyster Stock Assessment: Jim  
Wesson, VOSARA

# Oysters, Heroes, and Disasters

Vic Spain, MOG

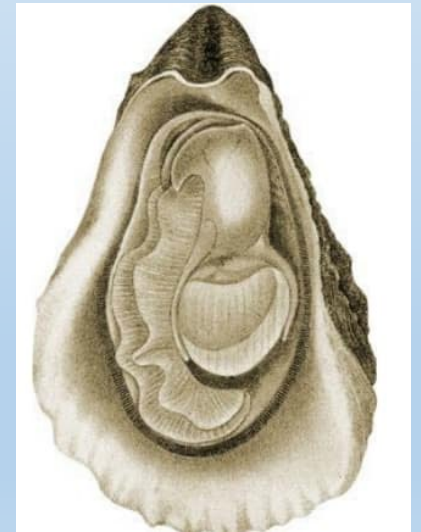
19<sup>th</sup> Century Oyster Culture Pioneers: Victor Coste (France) and William K. Brooks (US)



Coste restored French Oyster Grounds for Culturing *Ostrea Edulis*

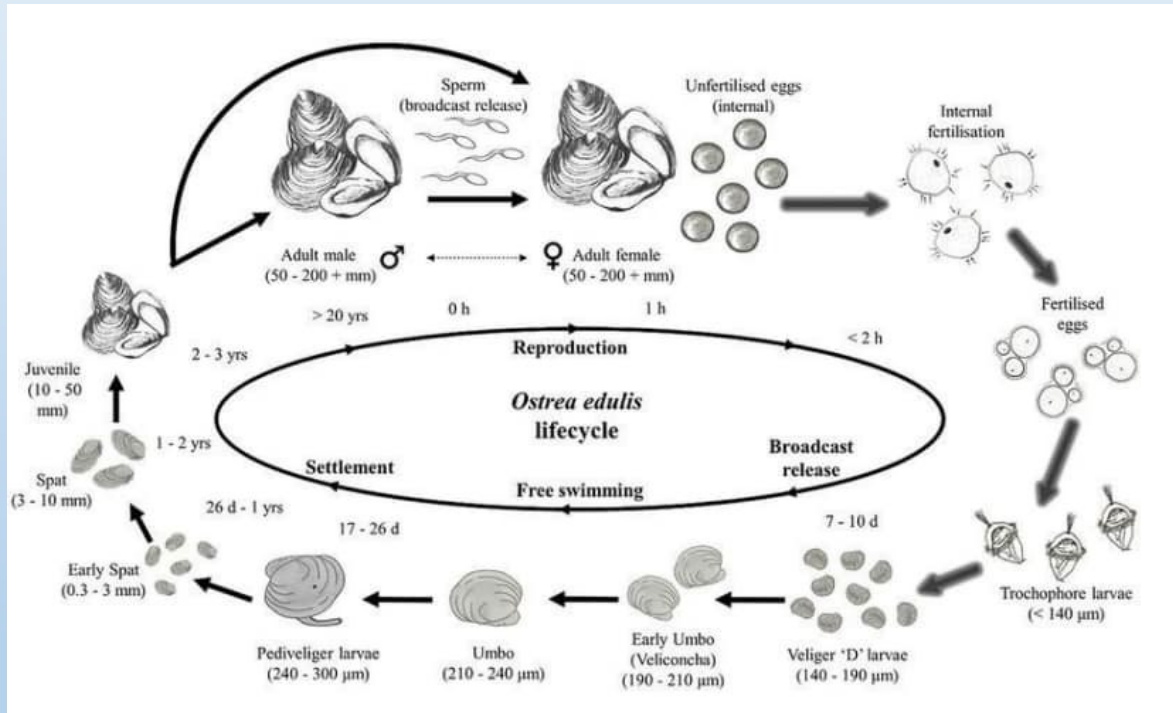


Brooks: We have wasted our inheritance....

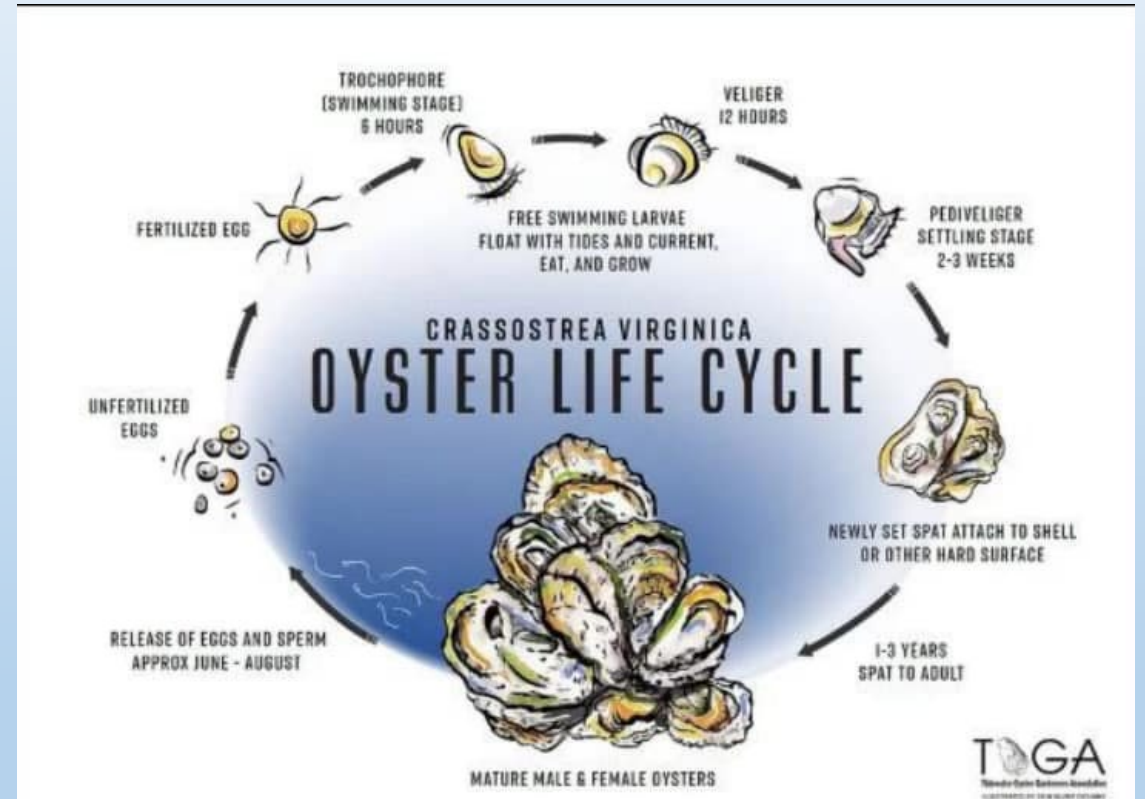


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*Ostrea Edulis*



*Crassostrea Virginia*

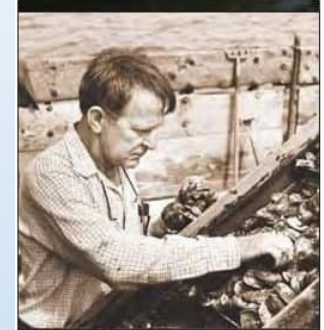
*What is the difference?*

# Oysters, Heroes, and Disasters

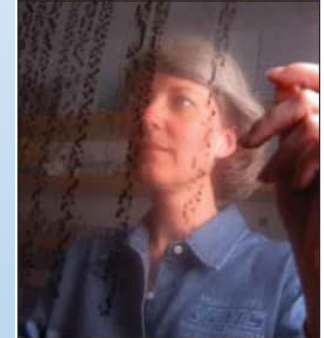
## The MSX Story

- **1958-** Thurlow Nelson found “boxes” in the Delaware Bay.
- Unidentifiable blobs, named Multi-Spherical Unknown (MSX), *Haplosporidium nelsoni*.
- **1960-** Nelson died in boating accident.
- Years earlier, Nelson and others brought in Japanese oysters.
- **1990s VIMS-** Burreson and Stokes used DNA to solve mystery. Parasite from *Crassostrea gigas*.

Thurlow  
Nelson



Nancy  
Stokes

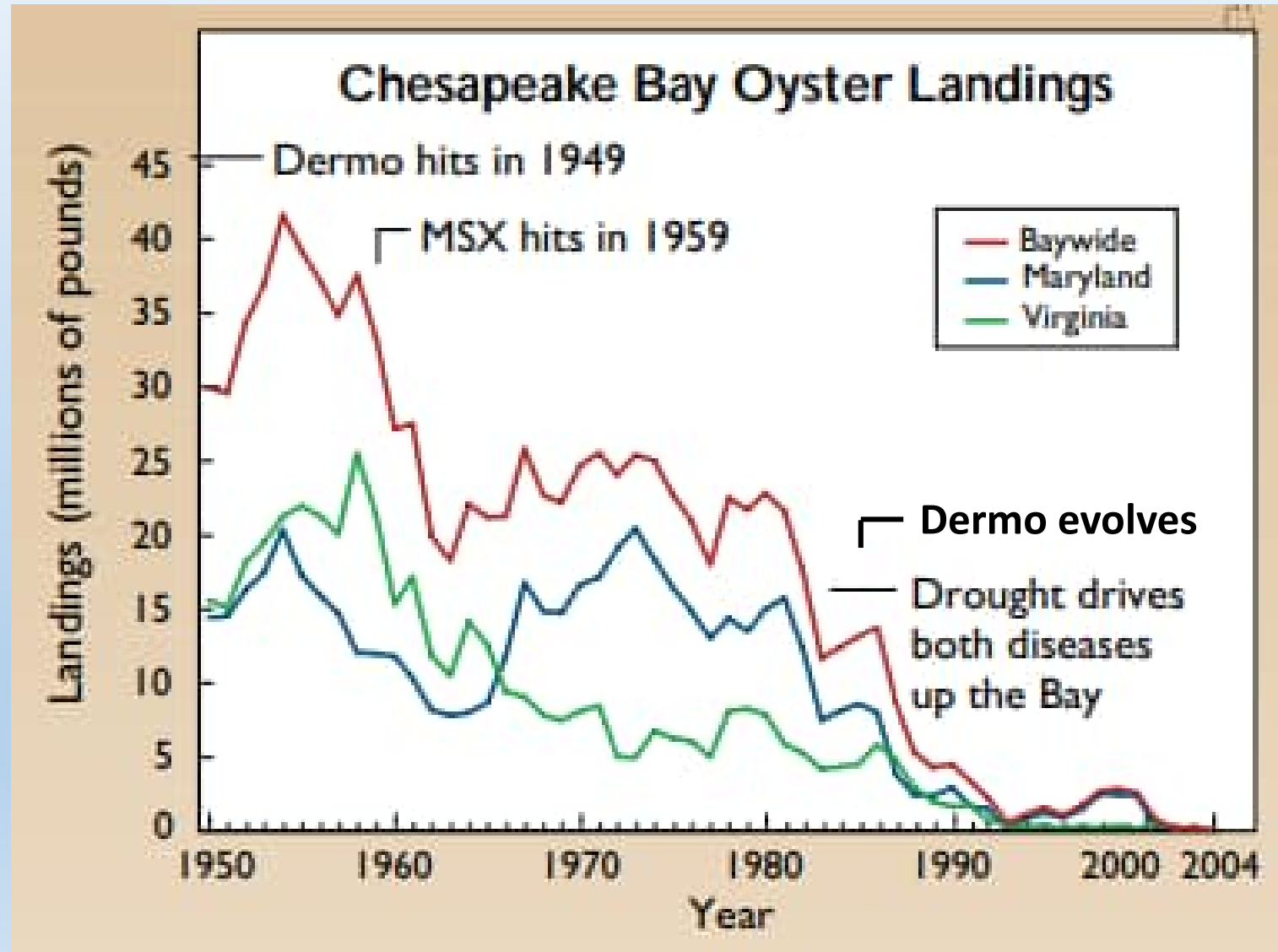


Gene  
Burreson



# Oysters, Heroes, and Disasters

## The MSX Story



# Oysters, Heroes, and Disasters



**Standish K. Allen, Jr.**

**Faculty Emeritus**

1997- Founded the **Aquaculture Genetics and Breeding Center**

- Disease-resistant oyster strains
- Triploid oyster
- US & international aquaculture
- Trained scientists
- Supported TOGA and MOGs.

# Oysters, Heroes, and Disasters

Dr. Ryan Carnegie

- Intensification of Dermo (*Perkinsus marinus*)
- Evolved in mid-1980s
- Compared tissue samples

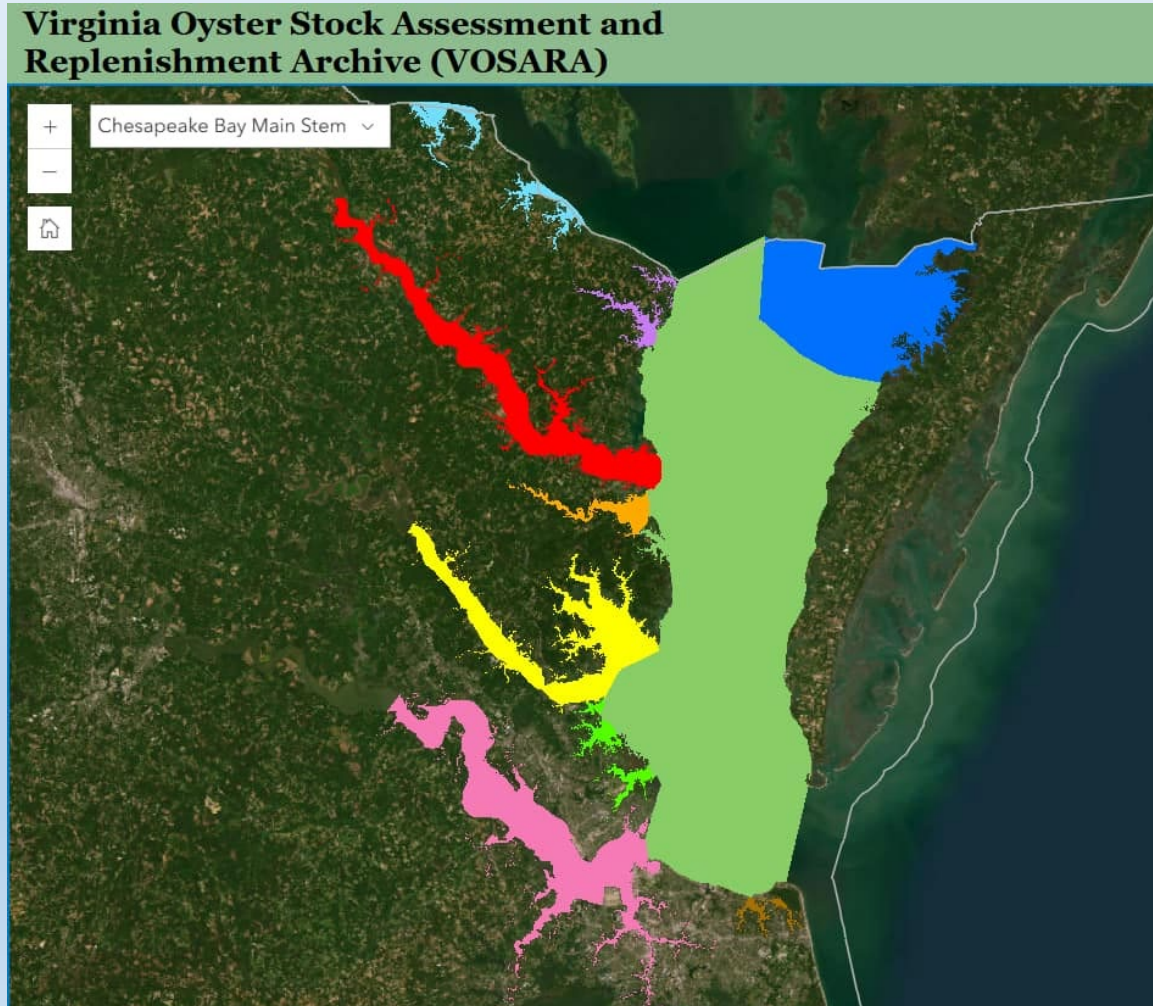


Dr. Ryan Carnegie, “... long-term environmental monitoring,”

# Oysters, Heroes, and Disasters

## Virginia Oyster Stock Assessment and Replenishment Archive (VOSARA)

<https://cmap22.vims.edu/VOSARA/>



**VOSARA-2 is now live**

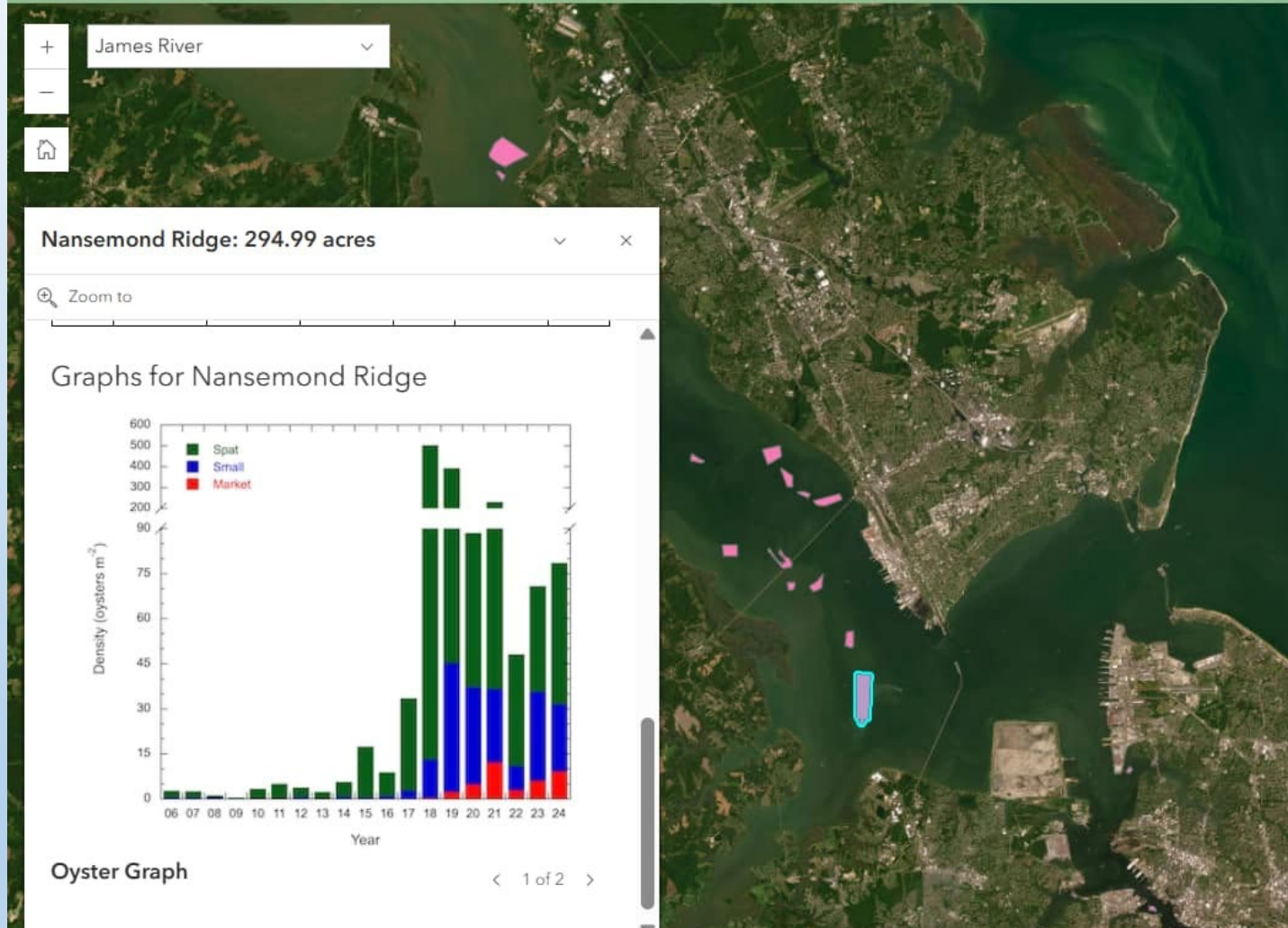
# Oysters, Heroes, and Disasters

## Virginia Oyster Stock Assessment and Replenishment Archive (VOSARA)

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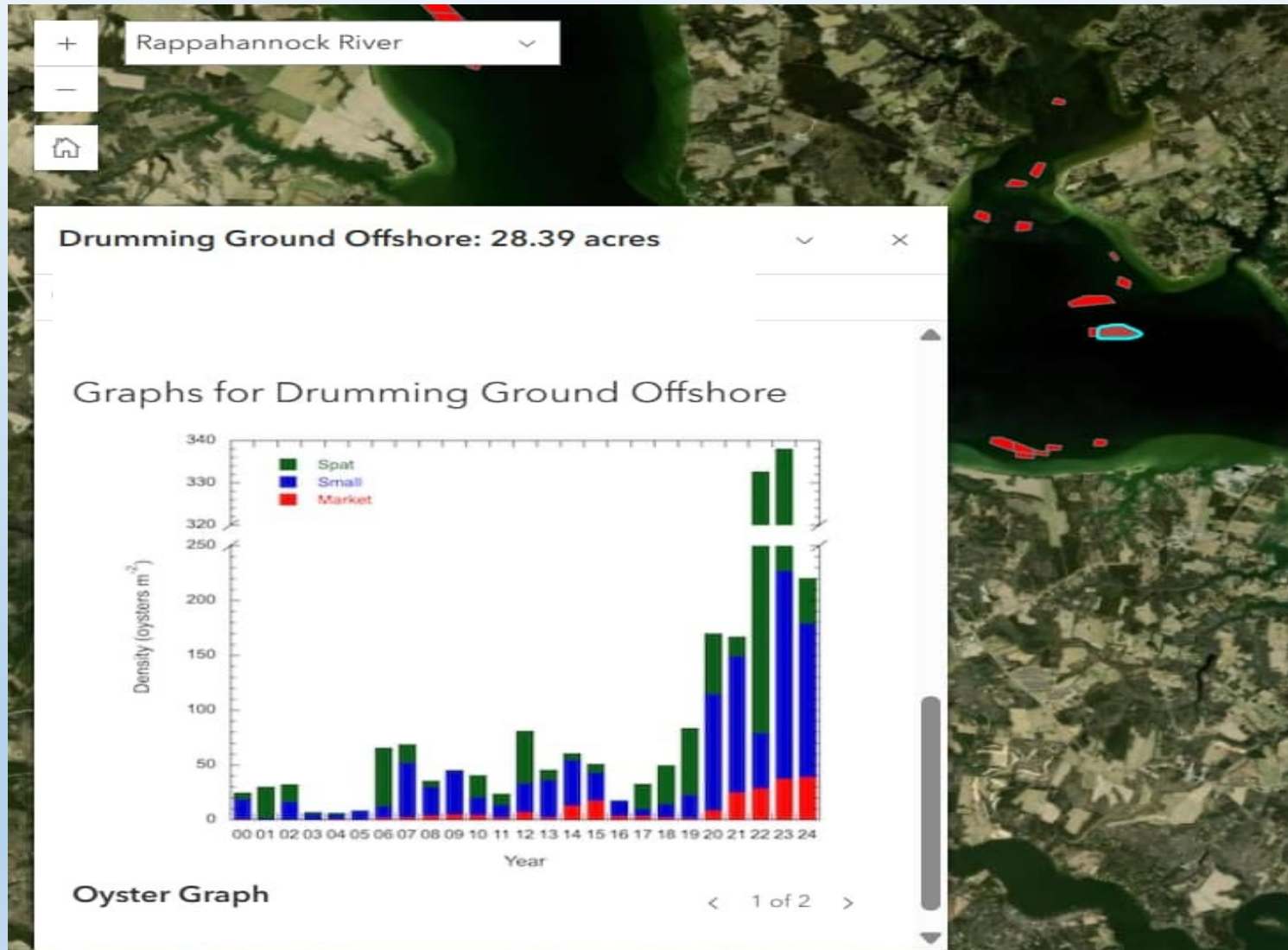
- More spat = more small oysters the next year (year 2).
- More small oysters should = more market-size oysters the following year (year 3).
- DOES NOT HAPPEN!

## Virginia Oyster Stock Assessment and Replenishment Archive (VOSARA)



Typical Harvest Graph for hundreds of public oyster reefs.

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Typical Harvest Graph for hundreds of public oyster reefs.

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**Water cannons used to spray fossilized shell on working oyster grounds on the James River.**

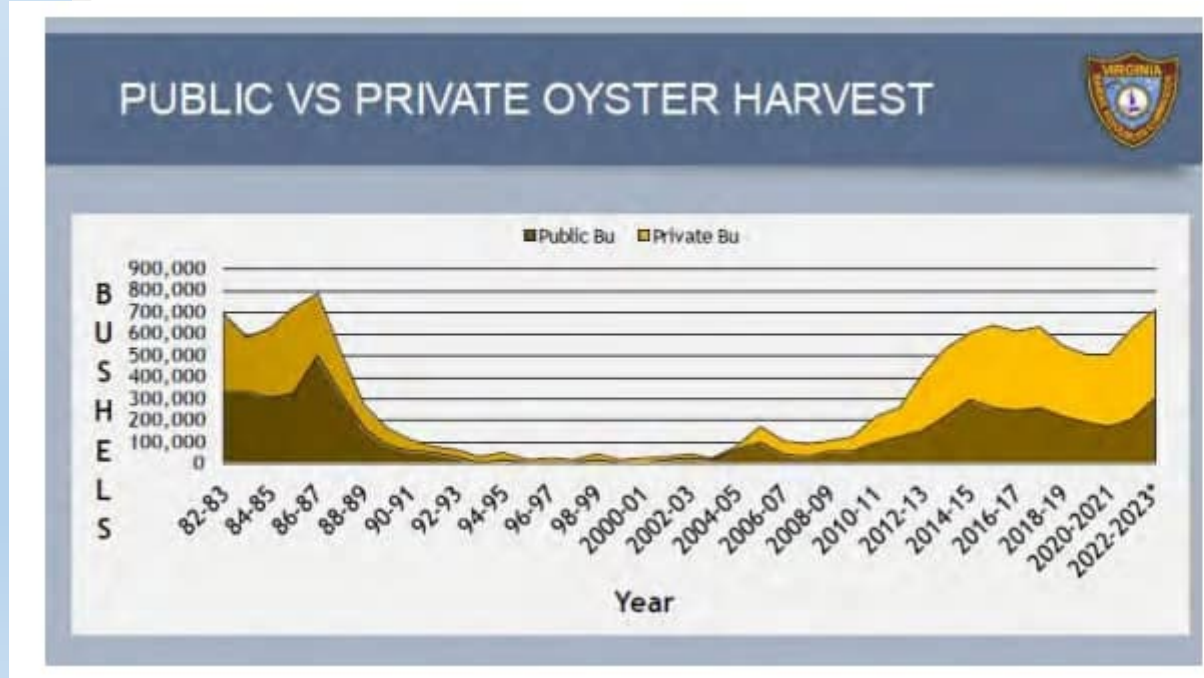
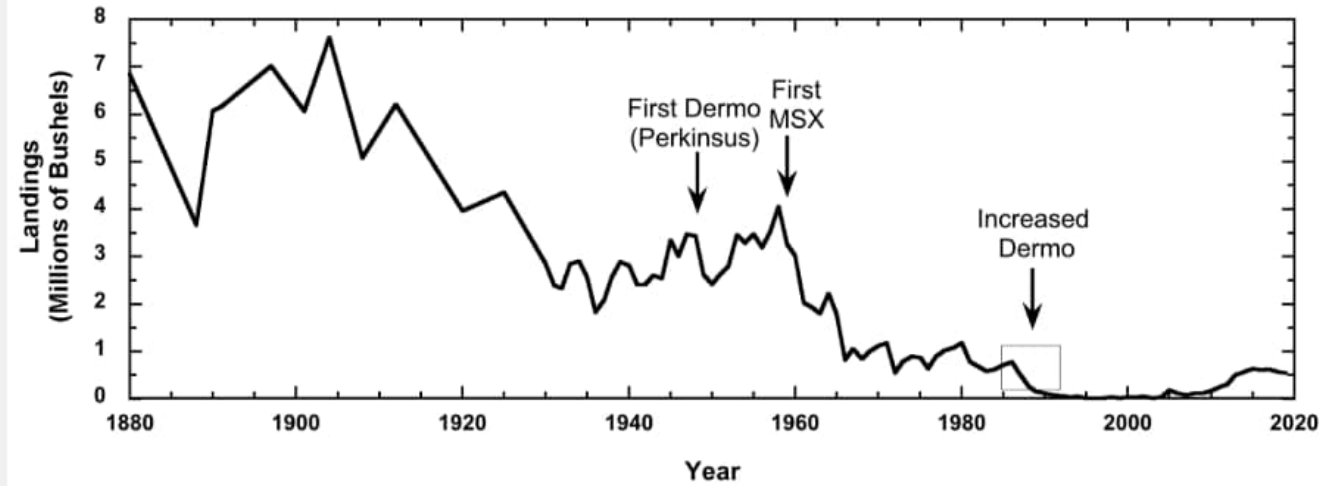
# Oysters, Heroes, and Disasters

## Vic's Takeaway from Jim Wesson's talk, 2-21-2026

- Wild oyster harvests > aquaculture
- Wild spat set increased in 2010+/-.
- ~10% of wild oyster spat mature to 3 inches (market size)
- Not enough natural cultch
- Open or closed; does not matter
- Some disease resistance evident
- Shells expensive, mining running out
- Reefs do not self-propagate
- Leased grounds not fully used
- Limited oyster ground space
- US residents do not like working aquaculture on shorelines

# Oysters, Heroes, and Disasters

Virginia oyster landings 1880-2019



1982-2023

Plot provided by Andrew Button, Virginia Marine Resources Commission (VMRC) Deputy Chief of Shellfish Management