

Restoring Estuarine Habitats and Resources: An Oyster Example

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Key Chesapeake Bay Species and Habitats

Species

- Blue Crab
- Menhaden
- Striped Bass
- Shad and River Herring
- Oysters

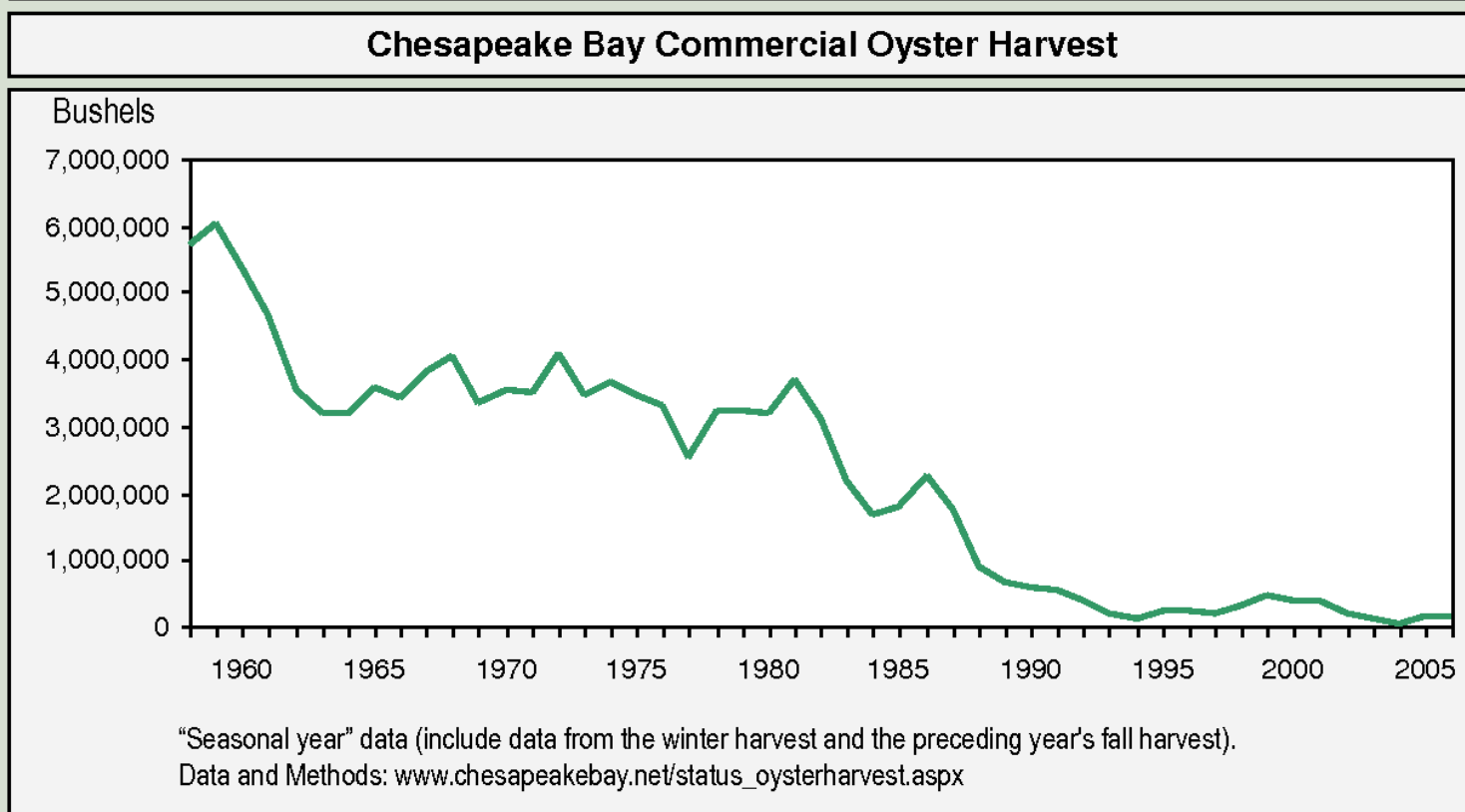
Habitats

- Tidal wetlands, marshes, and shorelines
- Submerged Aquatic Vegetation (SAV)
- Beach and dunes
- Oyster reefs



Historical Oyster Harvests

Oyster: Commercial Harvest



Executive Order Oyster Goal

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Goal:

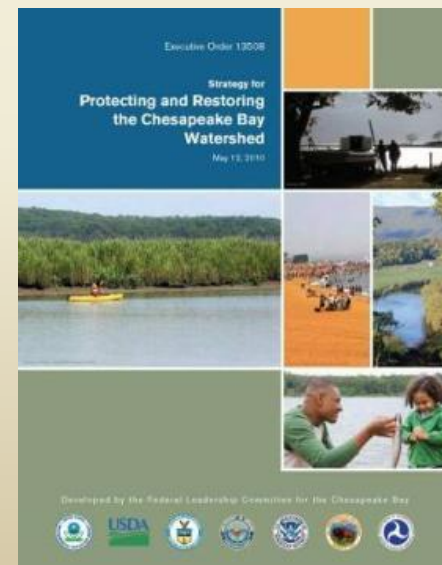
Restore native oyster habitat and populations in 20 out of 35-40 candidate tributaries by 2025. (Current condition: 0 tributaries with fully restored oysters populations; several with successful living oyster reef habitat)

Desired outcome:

Restore a large oyster population, capable of supporting a **sustainable fishery and providing valued ecosystem services** throughout much the Chesapeake Bay.

Assumption:

Implicit in the goal of restoring 20 tributaries is the notion that working on a **tributary scale** will be necessary to achieve sufficiently large changes in oyster populations.



Executive Order Oyster Actions

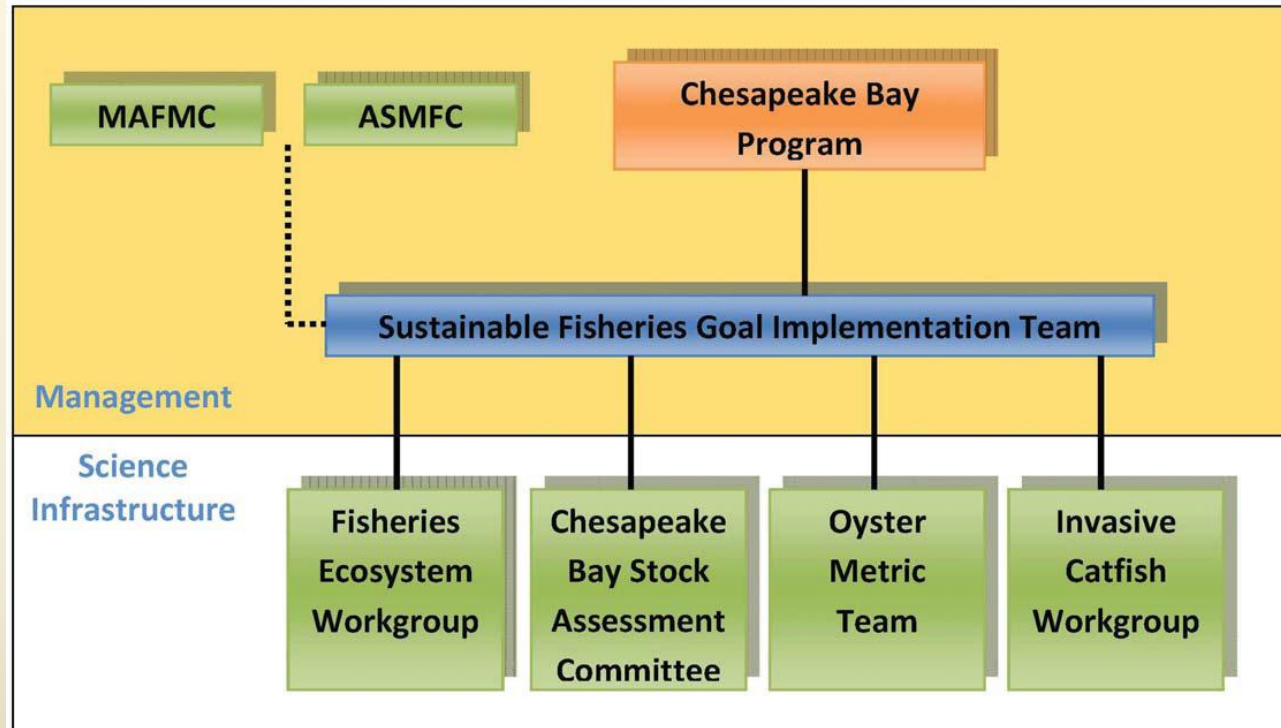
Actions:

- Launch a Bay-wide oyster strategy (**Plan/Prioritize**)
- Restore priority tributaries (**implement**)
- Expand commercial aquaculture
- Collect and Organize Information (**monitor**)
- Use science to evaluate oyster restoration progress (**evaluate**)



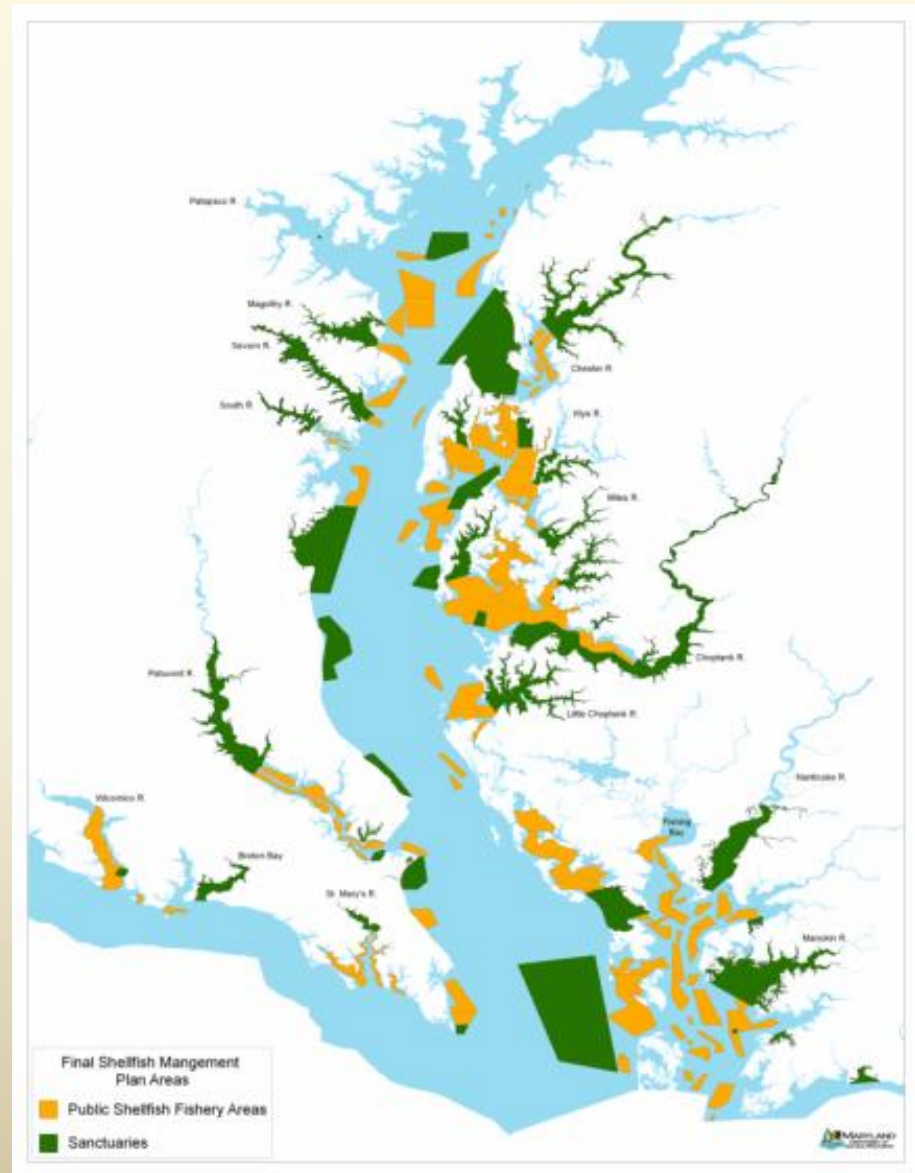
Launch a Bay-wide Oyster Strategy

- Establish coordination and oversight
 - Virginia Oyster Management
 - Maryland Oyster Restoration and Aquaculture Development Plan
 - U.S. Army Corps Native Oyster Restoration Master Plan
 - NOAA funding and technical support



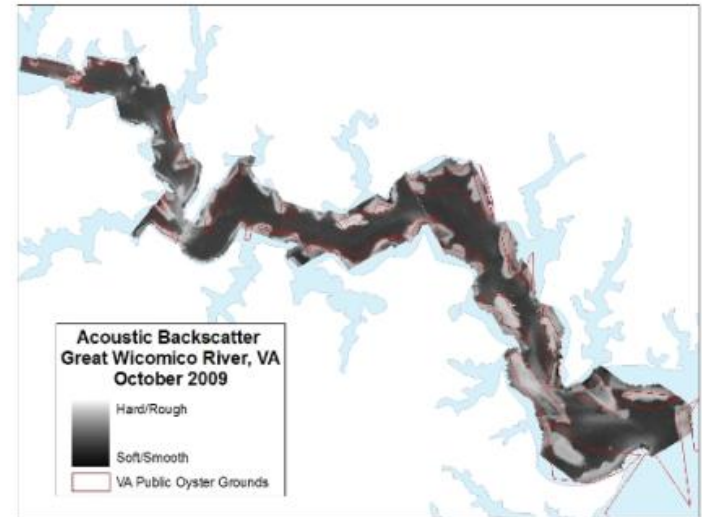
Restore priority tributaries

- Conduct restoration projects in Maryland and Virginia Tributaries
 - Ramp up ecological restoration
 - Enhance existing projects
 - Focus and target areas most likely to succeed



Restore priority tributaries

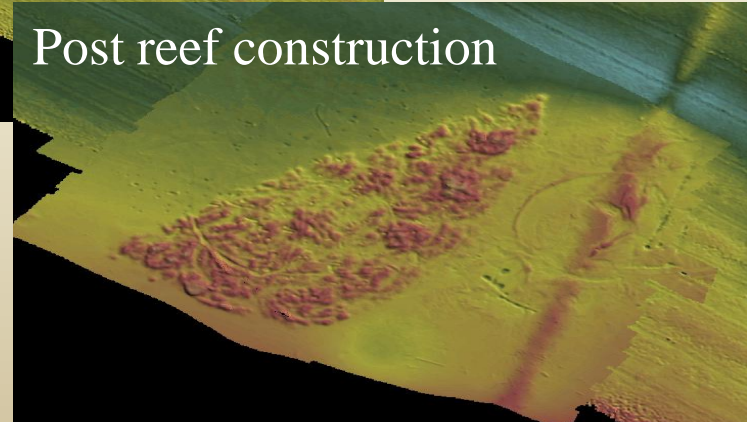
- Provide high resolution mapping and spatial data products
 - Side scan, multibeam sonar and video
- Oyster restoration
 - Project siting & post evaluation



Pre reef construction



Post reef construction



Expand Commercial Aquaculture

- Funding assistance to support watermen beginning aquaculture operations



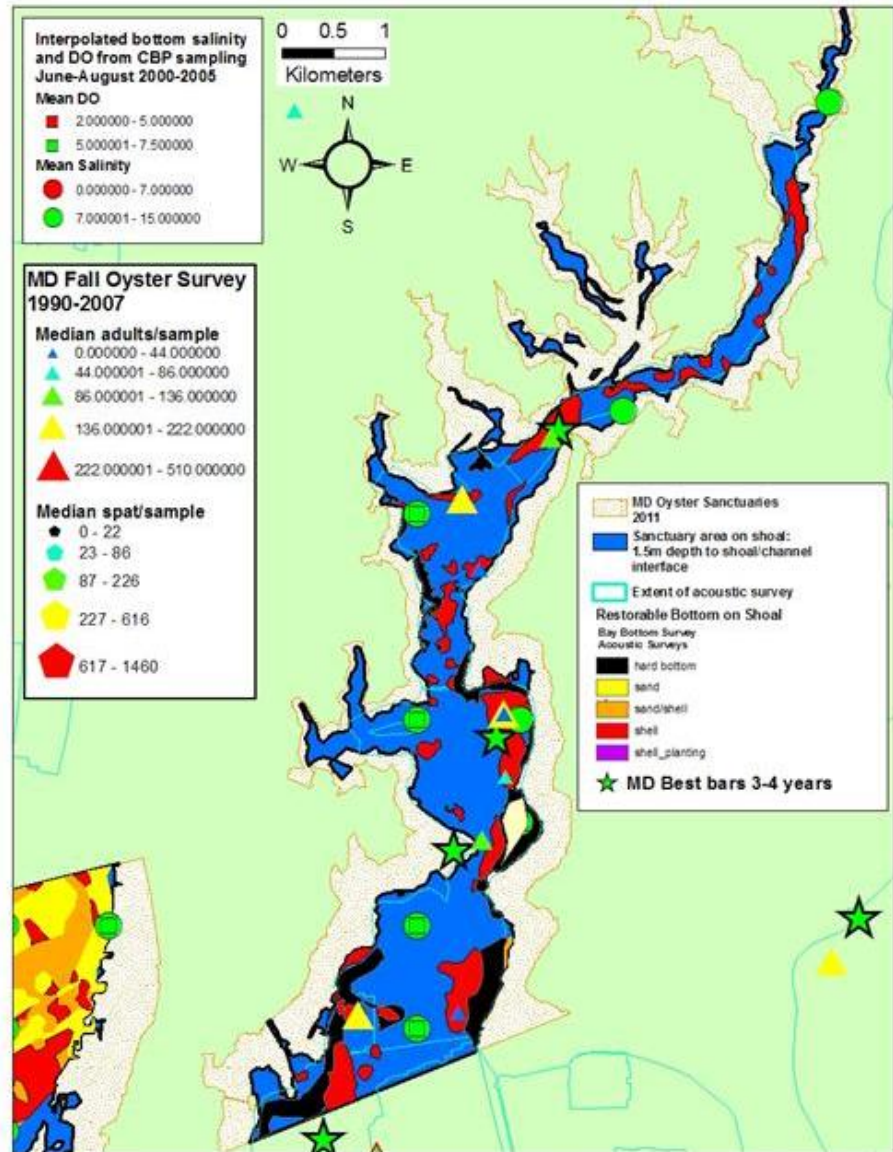
- Training and extension services



Collect and Organize Information

➤ Develop Oyster Data Tool

- Spatial visualization of oyster data
- Managers can pull up information for a given bar at the click of a mouse
- Facilitates targeting of new restoration and evaluation of past projects



Use science to evaluate progress

- Develop common success/performance metrics
 - Reef and tributary level targets
- The ultimate goals of oyster restoration are *functional*
 - a greatly enhanced oyster population
 - increased ecosystem services
 - a sustainable fishery
- Practical goals are *operational*
 - how much shell or spat-on-shell to plant in an area
 - how many reefs in an tributary
 - oyster abundance after a few years



Next Steps

Oysters

- Develop a list of priority tributaries using science based tools
- Support oyster research
- Quantify ecosystem services
- Address substrate limitations (decline in available shell)
- Be Adaptive!

