Eelgrass and Bay Scallop Restoration in Virginia's Seaside Bays

Eelgrass and Bay Scallop Restoration

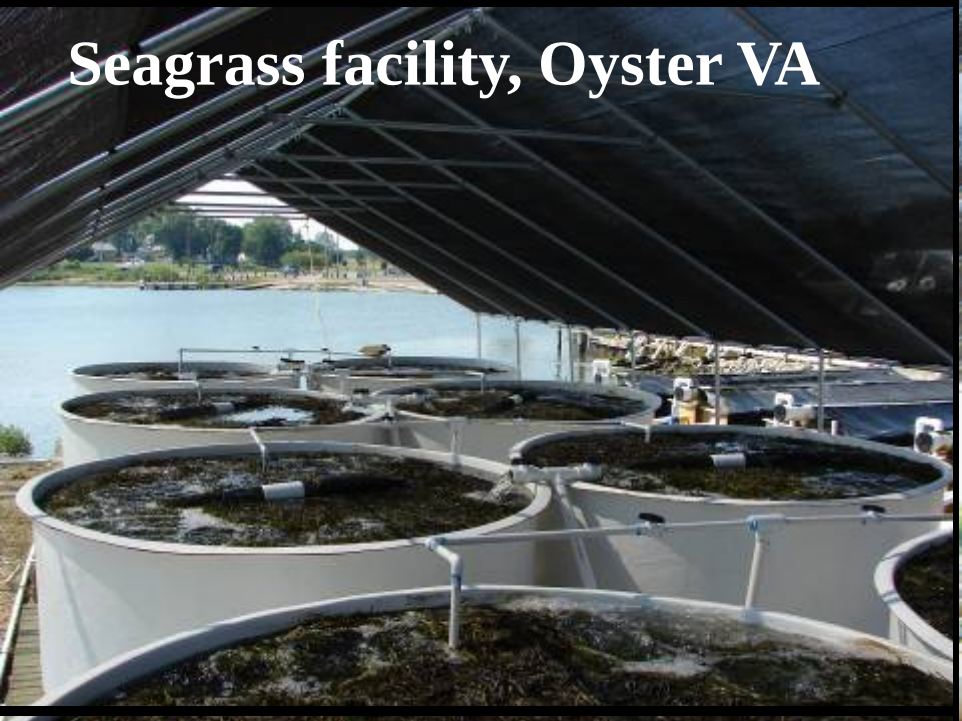
- VA was major producer of bay scallops 1920-1932
- Led nation in 1930 with 1.8M lbs ~91M scallops
- Scallop production and eelgrass abundance decline 1930-31
- 1933 Hurricane – no eelgrass habitat, no bay scallops

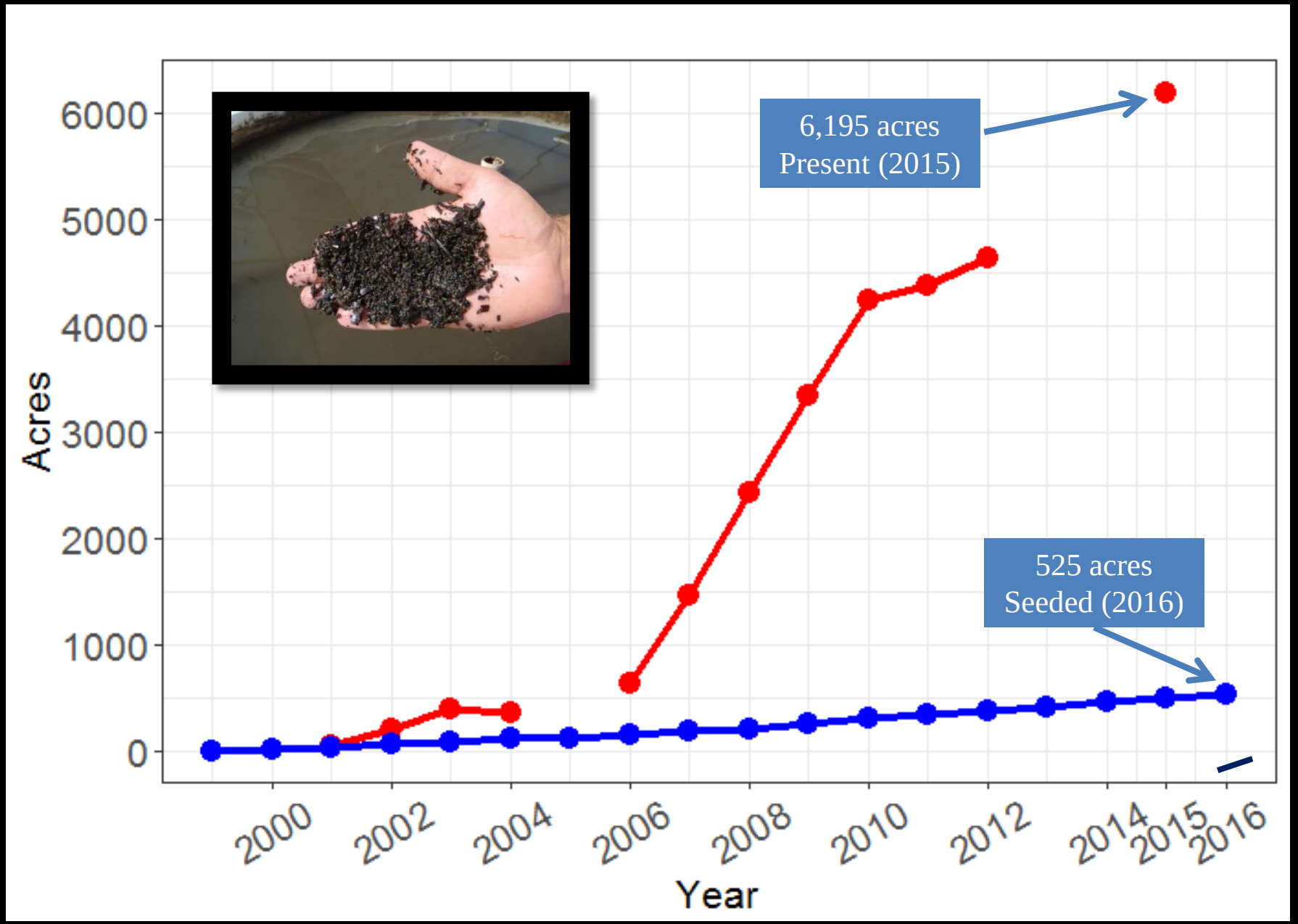
- Seaside Partnership formed in 2001 to reverse loss of oyster reef and eelgrass habitat lost in previous century
- Joined VIMS' efforts to restore eelgrass after nearly 70 years absence
- First funded by VA CZM Program then significantly supported by NOAA

Shoot collection by volunteers

Mechanical Seagrass Harvester

Seagrass facility, Oyster VA




6,195 acres
Present (2015)
525 acres
Seeded (2016)
Acres
6000
5000
4000
3000
2000
1000
0
2000
2002
2004
2006
2008
2010
2012
2014
2015
2016
Year

6,195 ACRES

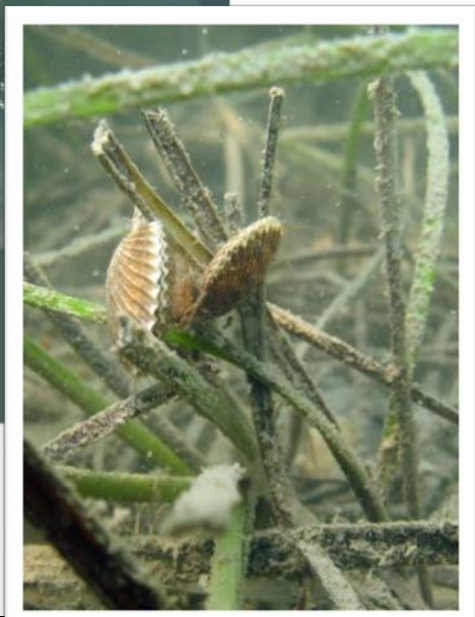
Largest Seagrass Restoration in the World!

Hog Island Bay

Spider Crab Bay

Cobb Island Bay

South Bay




Rite in the Rain

Bay Scallop Restoration Initiated 2009

- NOAA ARRA Grant to investigate methods
- VIMS established first VA broodstock with scallops collected from NC
- Scallops introduced to system annually through:
  - Larval dispersal
  - Free planting
  - Caged deployment

VIMS ESL Hatchery
Algae culture
Broodstock conditioning
Spawning
Larval feeding 0-9 days
Private Hatcheries utilized as well

Larval Dispersal

Larval Setting Tanks

VIMS, Cherrystone Aquafarms, and TNC all experimenting with more efficient setting techniques


Free Planting
Juveniles

VIMS South Bay
Cage lines

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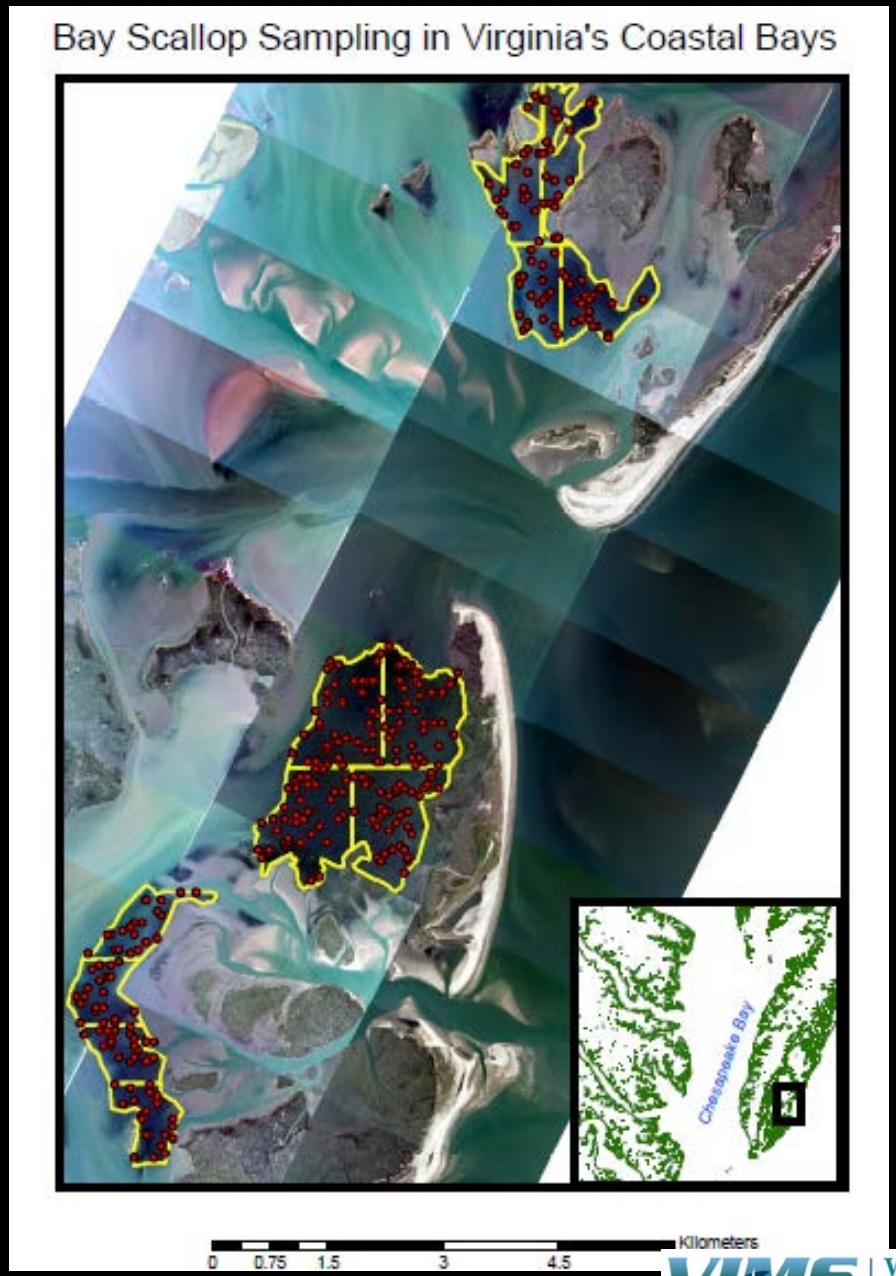
Virginia Institute of Marine Science

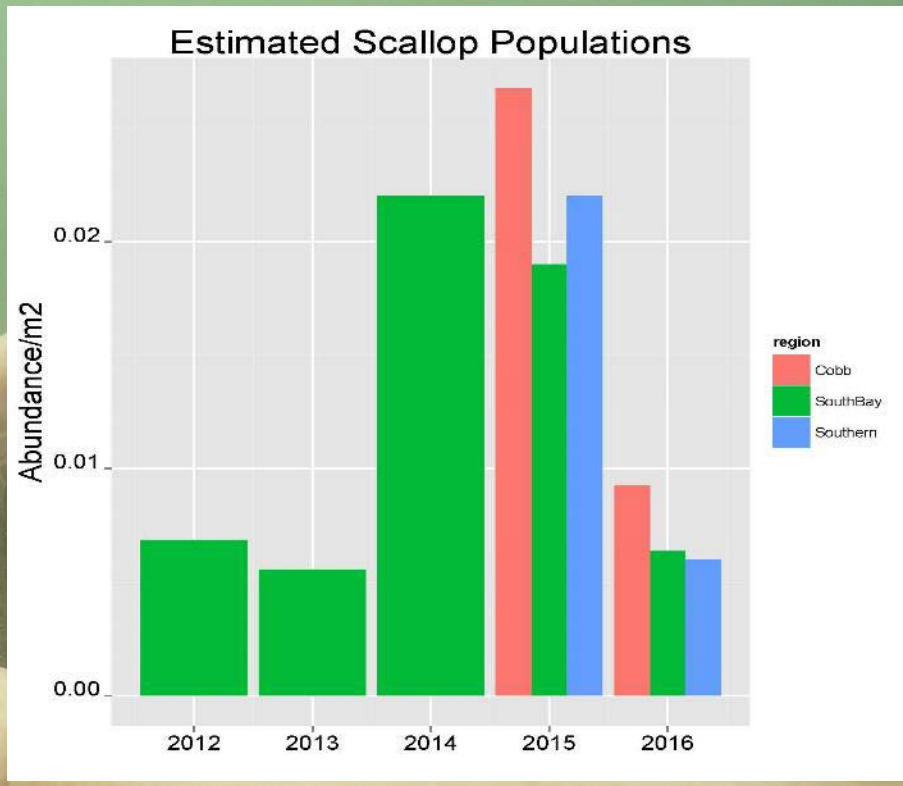
Annual Scallop Survey

2015 and 2016 Assessment Info
3 locations
4 segments/location
20/40 sites/segment
50 m^2 of seagrass checked
16,000 m^2 of bottom

(4 acres searched for scallops by hand)



VIMS | William & Mary
Virginia Institute of Marine Science



Florida Gulf Coast (FL FWCC)

0 – 0.01 /m^2 = Collapsed

0.01 – 0.1/m^2 = Vulnerable

0.1 – 1/m^2 = Stable

>1/m^2 = sustainable

Cobb Bay: 779.4 acres, 107 scallops found/4000 m^2 = 84,376 scallops = 0.027/m^2

South Bay: 1354.2 acres, 151 scallops found/8,000 m^2 = 103,444 scallops = 0.019/m^2

South Bay South: 603.0 acres, 88 scallops found/4,000 m^2 = 53,688 scallops = 0.022/m^2

Future Possibilities?