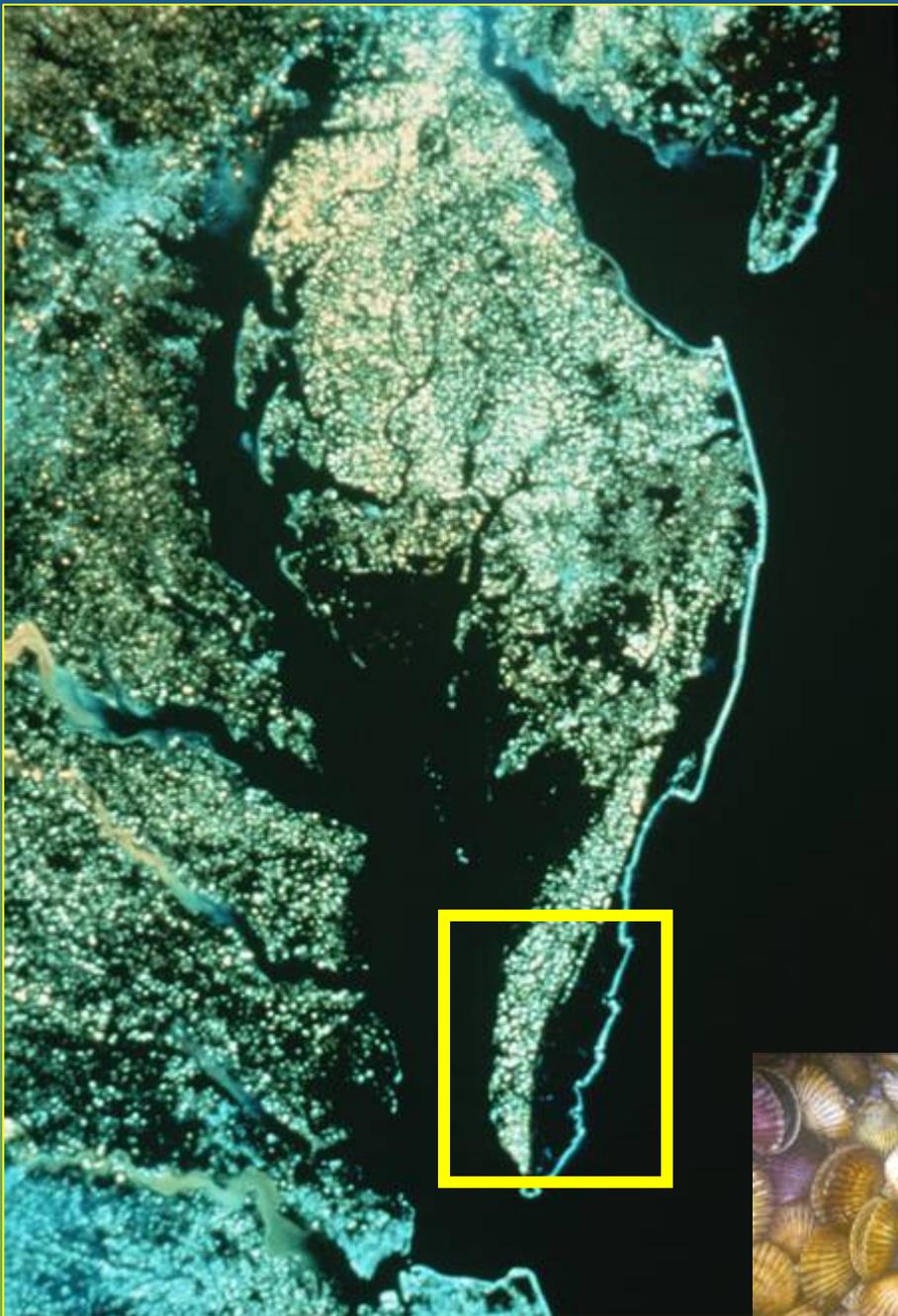


Seagrass Restoration In Virginia's Coastal Lagoons

GOAL

Re-establishment of eelgrass to the
Virginia's coastal lagoons and the
ecosystem services this community
provided

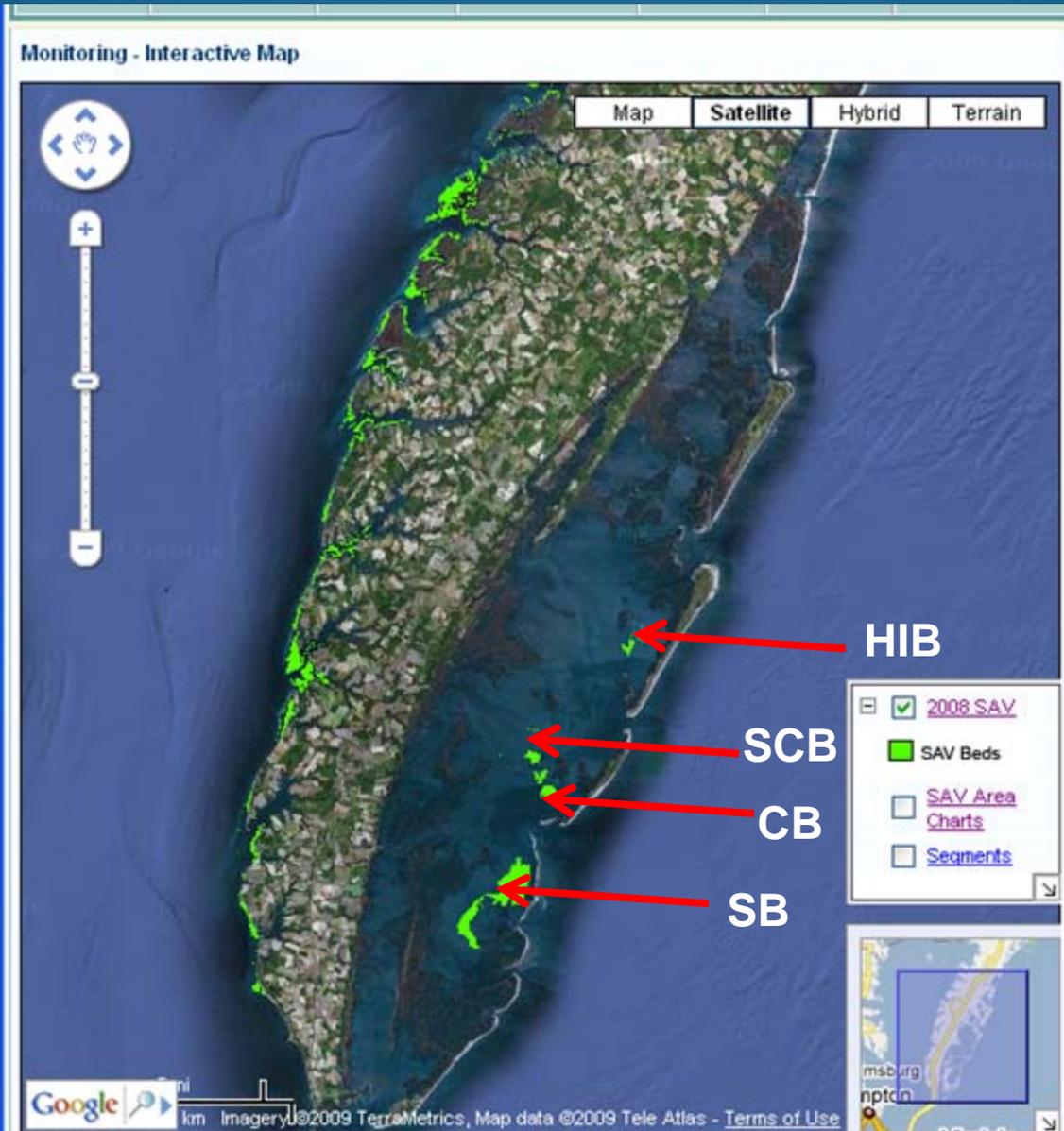


Bob Orth
VIMS

SCALLOP HARVEST

| Year | Harvest (lbs) | Dollars | Today's \$\$ |
|--------------------------|--------------------------|----------------|-------------------------|
| 1925 | 360,732 | 74,272 | 902,405 |
| 1929 | 1,145,598 | 207,883 | 2,554,882 |
| 1930 | 1,824,948 | 147,564 | 1,773,719 |
| 1931 | 1,226,478 | 78,990 | 1,031,609 |
| 1932 | 658,584 | 80,090 | 1,153,296 |
| 1933- present | 0 | 0 | 0 |

Elgrass restoration has occurred in 4 major bays South Bay (SB), Cobb Bay (CB), Spider Crab Bay (SCB) Hog Island Bay (HIB)



Seed Based Eelgrass Restoration





SEASIDE HERITAGE SEAGRASS

Community Restoration Program

VOLUNTEERS NEEDED

for
**The Largest Seagrass Restoration in
the World!**

South Bay off Oyster, Virginia

© Dave Harp

CALLING ALL RECREATIONAL DIVERS AND SNORKELERS

We are looking for 100 local community volunteers to collect up to 20 million eelgrass seeds.



© TNC

Eelgrass is a simple, ribbon-like seagrass that once thrived in the Atlantic coastal bays of Virginia's Eastern Shore. In 1933 an outbreak of disease and a major hurricane virtually wiped it out. The Seaside Heritage Seagrass Community Restoration Program has been conducting highly successful efforts to restore eelgrass in the nearby Atlantic coastal bays since 1999. *Come be a part of the largest seagrass restoration in the world!*



© TNC

WHO: Volunteer recreational divers and snorkelers.

WHAT: Collecting reproductive shoots containing seeds from the eelgrass plants. The water will be about waist deep, so swim fins are not necessary, but wetsuits and hoods are recommended.

WHEN: Late May to mid-June. Tentative dates are from May 31–June 16. The seed collection will be timed around low water and trips will last 4-5 hours.

WHERE: In the seagrass meadows of South Bay off Oyster, Virginia.

A training workshop for interested volunteers will be held Tuesday, May 13, 2008 at 7:30 p.m. at the Anheuser-Busch Center for Coastal Research in Oyster, Virginia. Volunteers will be trained on how to identify the reproductive shoots and how to collect and bag them.

You must pre-register in order to participate in the restoration project. You can pre-register at the training workshop or by contacting

Jennifer Rich, volunteer coordinator, at 434-951-0572 or jrich@tnc.org.



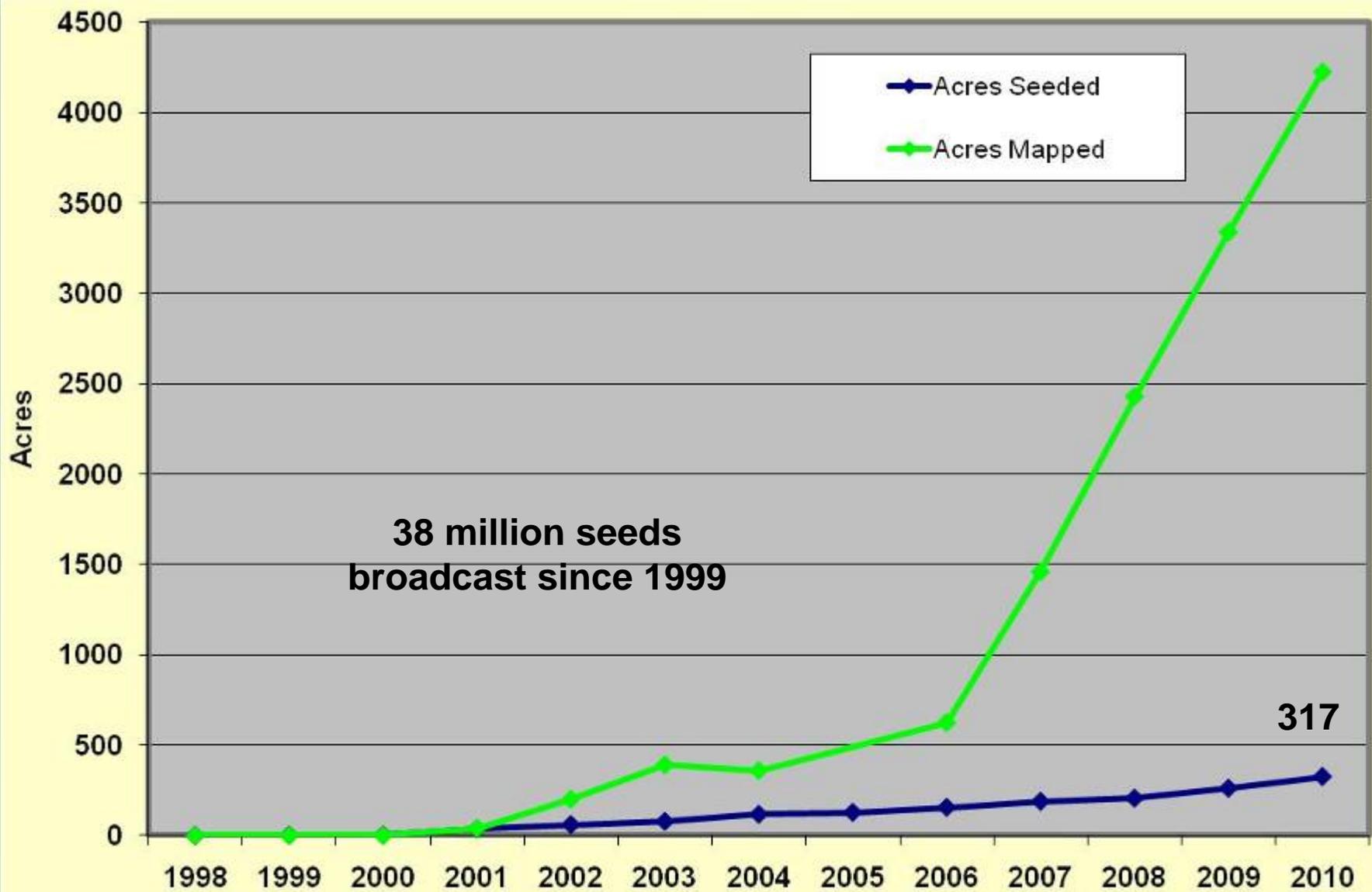


SEED DISPERSAL

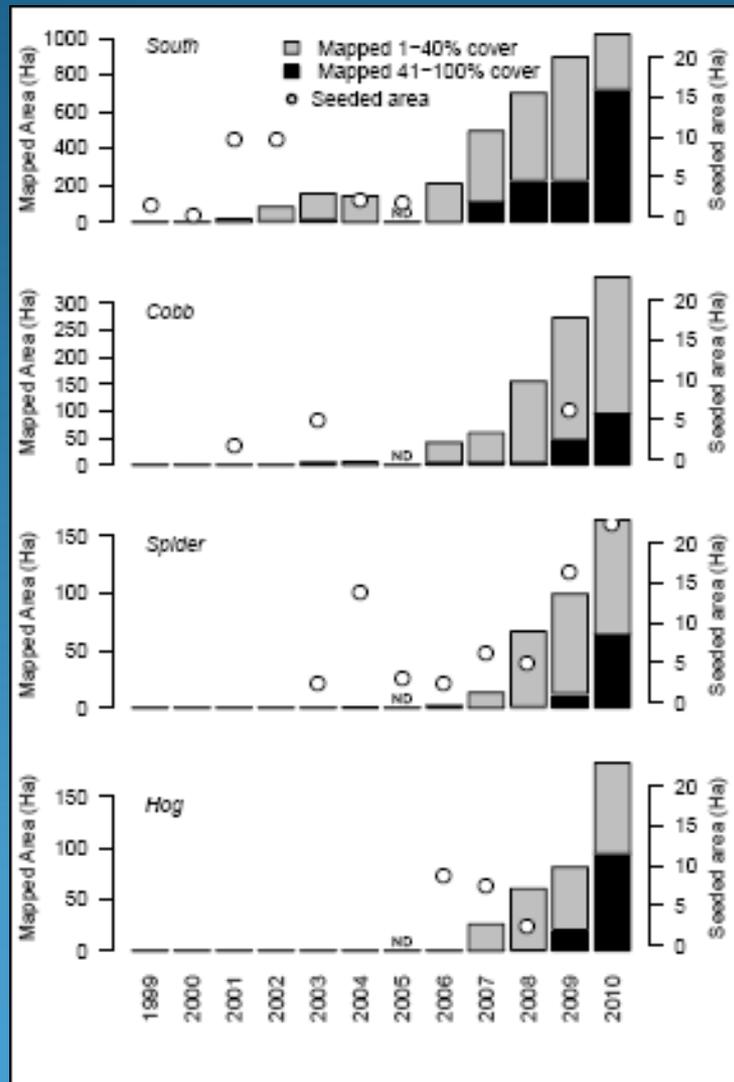
Seeds broadcast, settle rapidly, and become incorporated quickly into the sediment, not far from where the seed settles.

Orth et al. 1994. Seed dispersal in a marine macrophyte: Implications for colonization and restoration. *Ecology* 75:1927-1939

Acres seeded and acres mapped for all 4 coastal bays through 2010



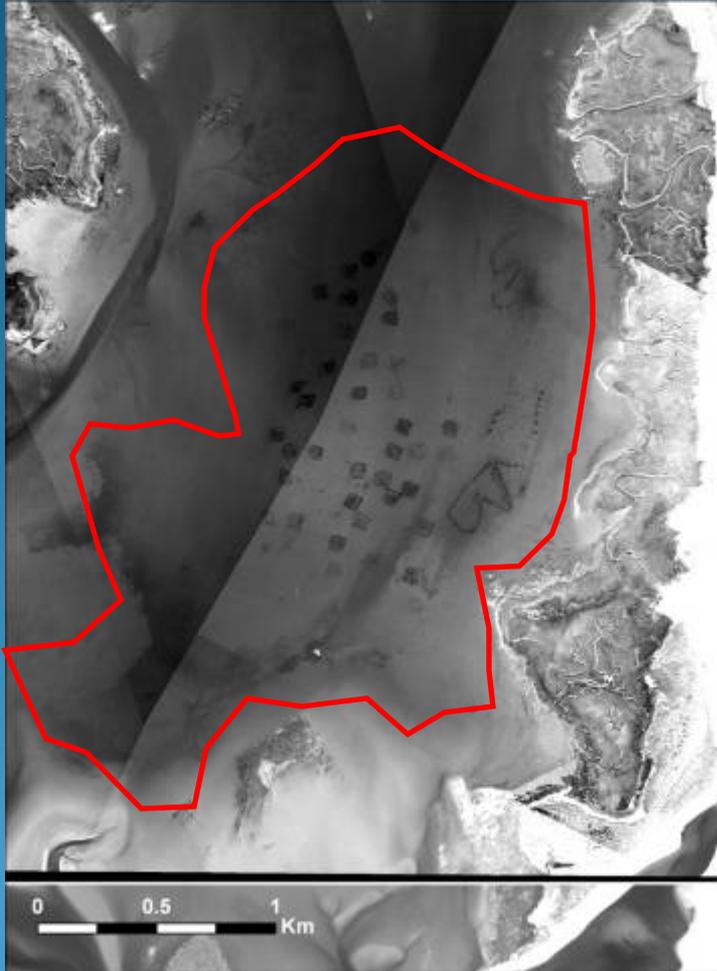
Number of hectares mapped in four coastal bays (2001-2010) in two density classes versus number of hectares seeded in particular years.



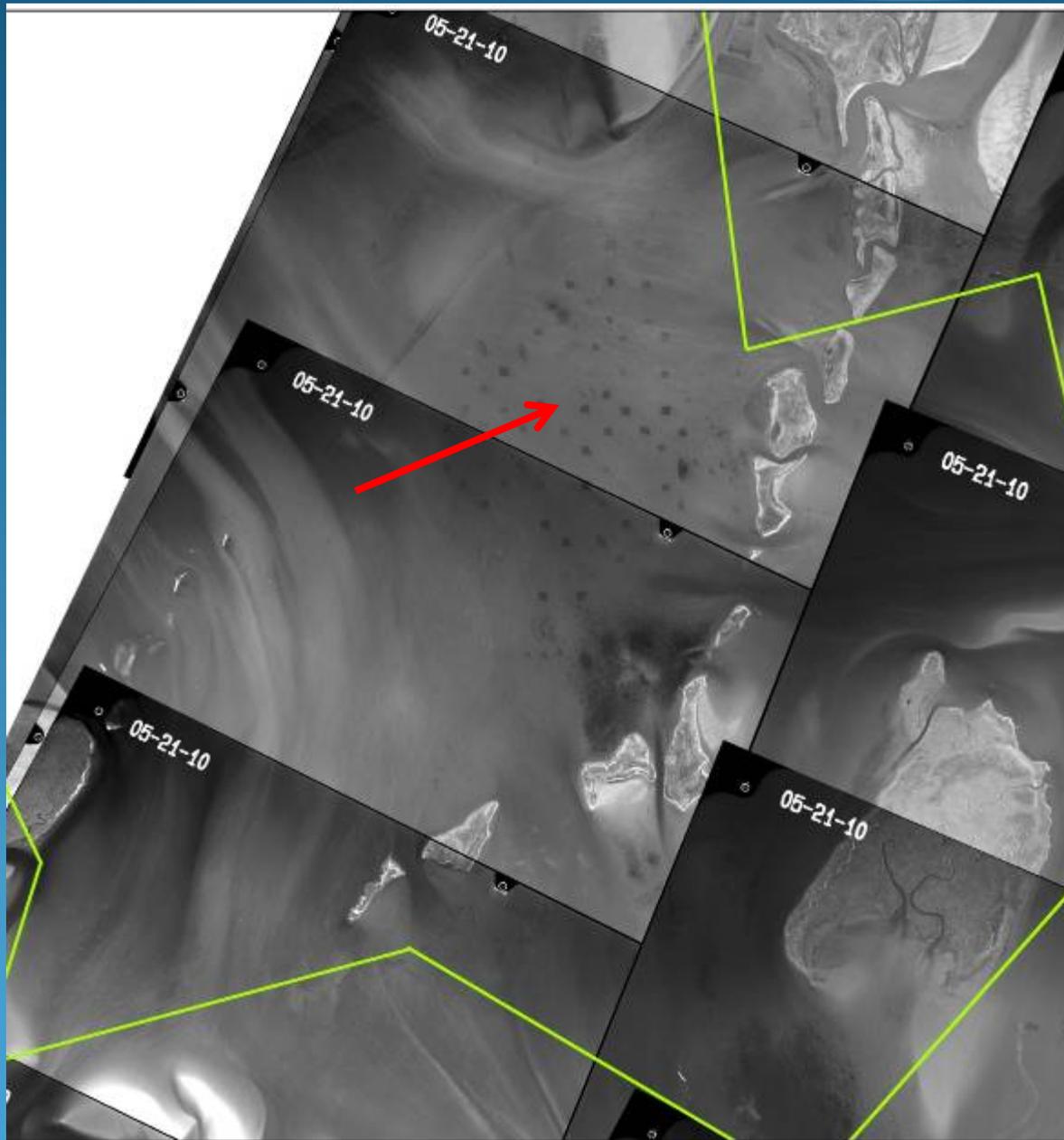
South Bay eelgrass changes from 2004 to 2010 (inside red polygon) (aerial photographs from 12,000 ft)

2004

2010

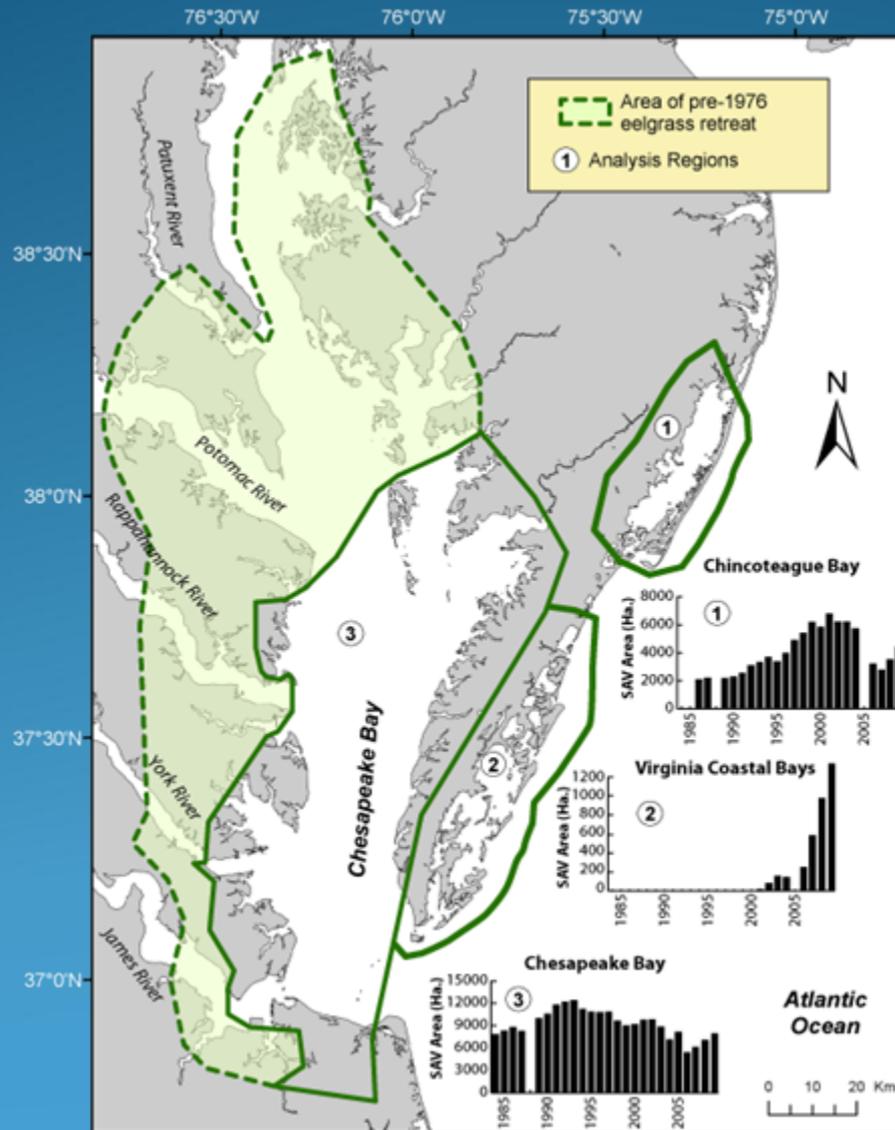


Aerial photographs from 12000 ft showing
 $\frac{1}{2}$ acre eelgrass plots in Spider Crab Bay



Changes in eelgrass abundance in Chesapeake Bay, Chincoteague Bay, and the Virginia Coastal Bays - 1984-2009.

(modified from Orth et al. 2010. Estuaries and Coasts 33:139-150.)



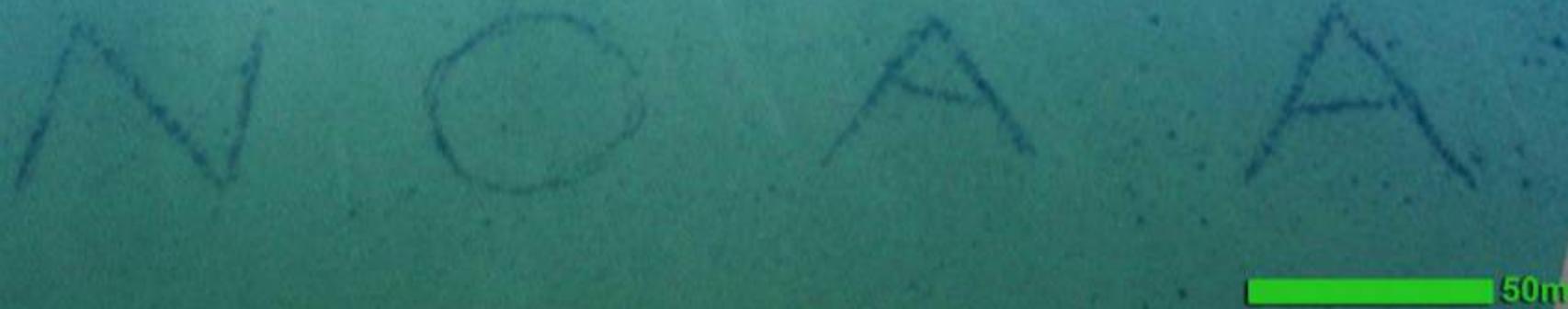
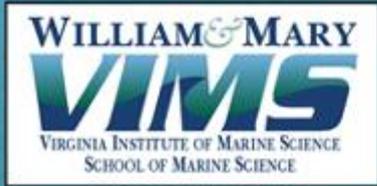
Bay Scallops Next?



South Bay- Nov 2010 faunal sampling (yellow dots)
with incidental live scallop finds



ACKNOWLEDGEMENTS



Oblique aerial imagery acquired in May, 2009 over Spider Crab Bay on the seaside of Virginia's Eastern Shore. The four letters "NOAA" were formed by eelgrass plants that grew from 50,000 seeds distributed by the VIMS SAV Restoration Program on 10/16/07 as part of a 6 year effort by the Virginia CZM Program's Seaside Heritage Program. Funding was provided by NOAA. (Photo by B. Watts)