

NOAA Restoration Day Overview

- A day in the field for NOAA employees to give back & get muddy!
- Participate in a variety of activities
- Organized by NOS & NMFS
- 7th annual event
- Occurs in two different states -- Maryland and Virginia
- One of the largest voluntary federal employee sponsored environmental stewardship events in the Bay watershed



Why NOAA Should Help the Chesapeake Bay

- It is a nearby national treasure that needs our help
- NOAA supports coastal habitat restoration
- Contributes to the NOAA mission
- Great way to learn more about NOAA science, see demonstrations, and meet new people
- NOAA staff enjoy field work – it's fun!



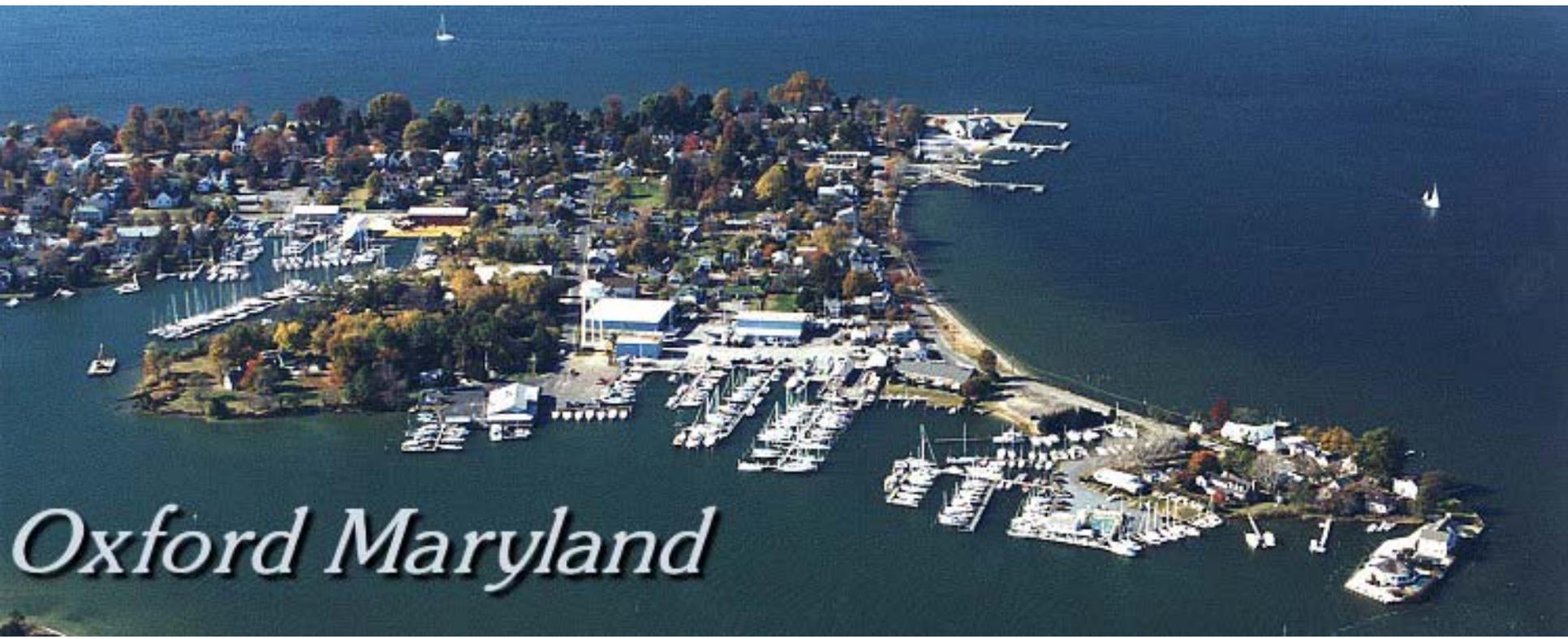
NOAA Restoration Day: Past Locations



- **2009** - Otter Point Creek, Abingdon, MD. Component of the Maryland Chesapeake National Estuarine Research Reserve. **130 volunteers.**
- **2008** - Chesapeake Bay Environmental Center (CBEC). Grasonville, MD. **150 volunteers.**
- **2007** - Jug Bay, Upper Marlboro, MD. Component of the Maryland Chesapeake National Estuarine Research Reserve. **180 volunteers.**
- **2006** - Trent Hall, MD. Benedict, MD. **100+ volunteers.**
- **2005** - Webster Air Field in St. Mary's County, MD. **110 volunteers.**
- **2004** - CBEC. Grasonville, MD. **+90 volunteers.**

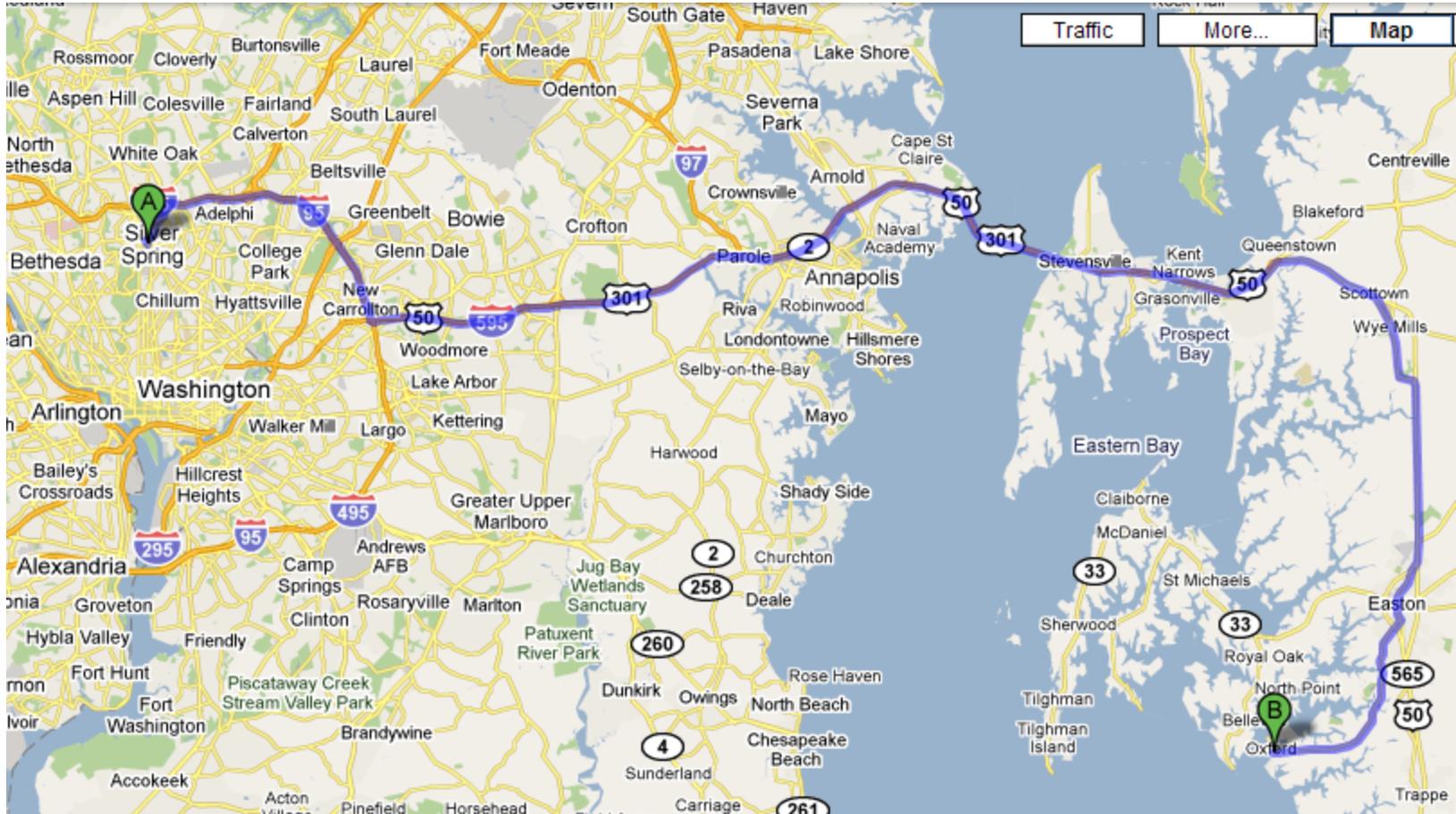
2010 Event Location

- NOAA Cooperative Oxford Lab
 - First-time at a NOAA site: NOS/NCCOS lab
 - Other partners at lab: MD DNR and Coast Guard
 - Research: Ecosystem Health Assessment, Habitat Suitability Modeling, and Pathogen Monitoring



Oxford Maryland

Silver Spring to Oxford



- Approximately 1.5 hours from Silver Spring, MD
- On the eastern shore of Maryland

NOAA Cooperative Oxford Lab



904 South Morris Street. Oxford, MD



Save-the-Date & Activities

- **Date:** Tuesday, June 15, 2010
 - Time: 9am – 4pm (all day, rain or shine)
- **Potential Activities:**
 - Planting switchgrass (dune grass) grown within 22 NOAA office tanks
 - Native oyster restoration
 - Digital elevation mapping activities
 - Fish seining and sampling
 - Planting wetland plants in tidal ponds
 - and more...



How to Participate?

- **Volunteer soon!!** RSVP required by June 1st
 - Available on a first-come, first-served basis
 - Space is limited, there is usually a waiting-list
 - Seek prior approval from your supervisor to participate
 - NOAA staff only! (no kids or family members)



- **For More Information or to Volunteer:**

Michele.Winowitch@noaa.gov or

Alison.Hammer@noaa.gov

See: <http://restorationday.noaa.gov>





Growing & Planting Switchgrass (*Panicum*)



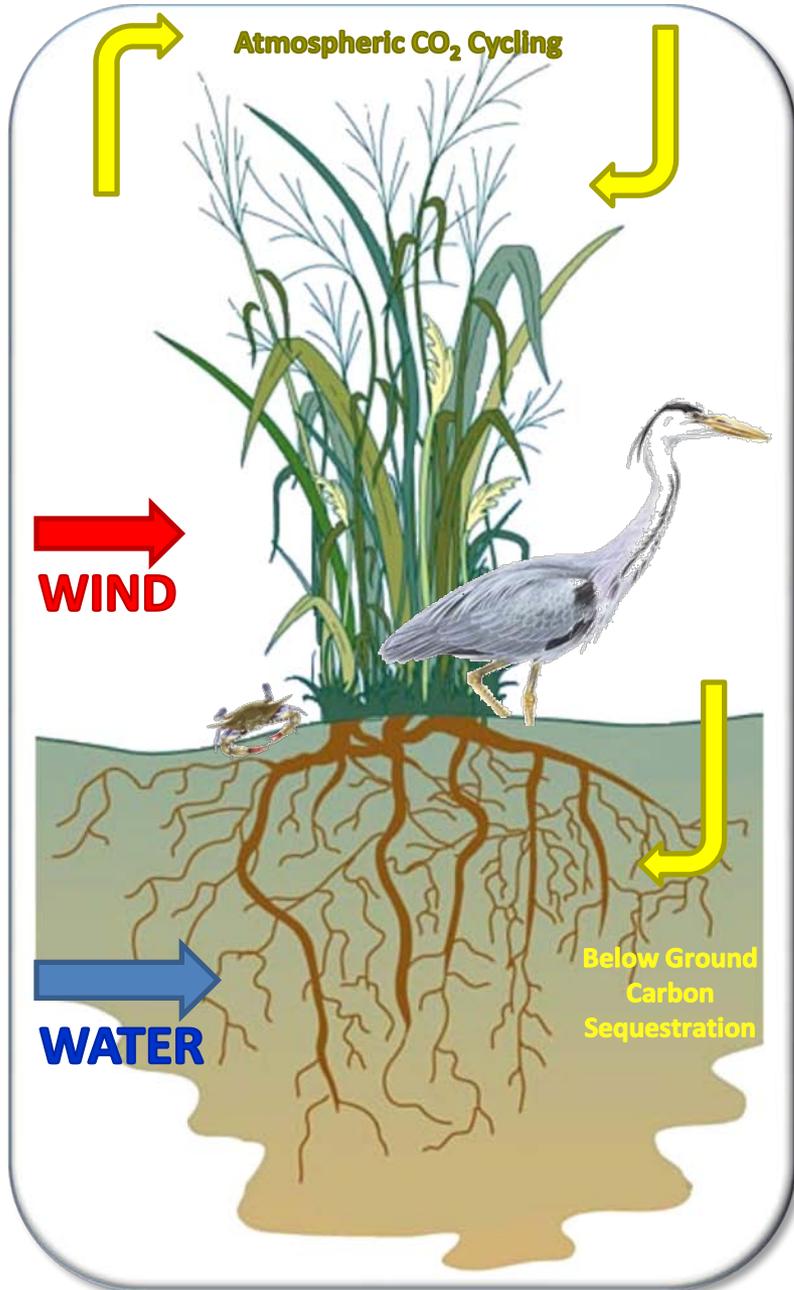
*Presentation by Peter Bergstrom &
Alison Hammer, NOAA, for 2010
NOAA Restoration Day, Oxford, MD*

What is Switchgrass?

- An “emergent” wetland plant (most of it grows in air)
- It’s a “facultative” wetland plant which means it can also grow in uplands (unlike *Spartina*)
- Native, perennial prairie grass



WHY IS SWITCHGRASS IMPORTANT?



Removes carbon dioxide from the air as it grows. Switchgrass "recycles" CO₂ with each year's cycle of growth and use. Each acre of switchgrass can sequester the equivalent of 5 tons of CO₂ each year.

Switchgrass grown for biofuel production produced 540 percent more energy than needed to grow, harvest and process it into cellulosic ethanol, compared with just roughly 25 percent more energy returned by corn-based ethanol according to the most optimistic studies.

This perennial adds organic matter—the plants extend nearly as far below ground as above. Switchgrass holds onto the soil to prevent erosion and decreases wind flow and evaporation.

Provides ideal cover for ground-nesting birds and invertebrates

Buffer strips of switchgrass, planted around wetlands, could remove soil particles, pesticides, and fertilizer residues from water before it reaches the Bay.

Pest and disease resistance; can serve as a buffer to existing annual crops -- corn, soybeans, wheat -- by reducing pest invasion can limit the need for chemical applications.

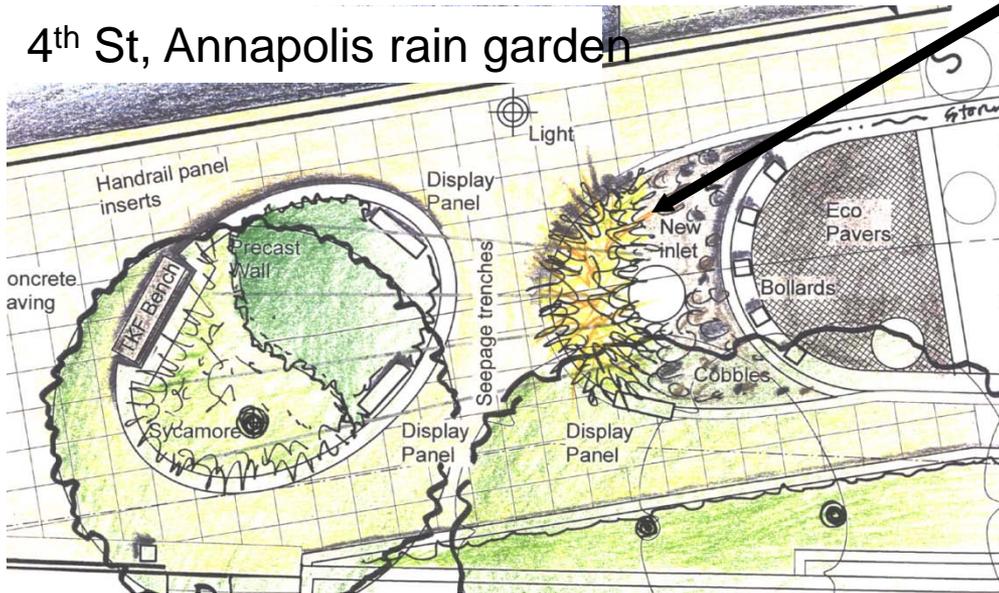
Tolerance of poor soils and wide variations of soil pH; Low fertility needs and drought and flood tolerance.



These grasses will be planted in the Chesapeake Bay during NOAA Restoration Day activities on June 15

Switchgrass in rain gardens provides drought tolerance

4th St, Annapolis rain garden



Switchgrass in rain gardens



Why are we growing & planting switchgrass?

- To help stabilize the sediments on the “back side” of the living shoreline that was just built at the Oxford lab (see next slide)
- To learn how to grow it better; a number of groups that used to grow and plant SAV could do this instead
- To make more people aware of this valuable wetland plant

Planting location



Note: this site is on the York River; the one at Oxford is smaller

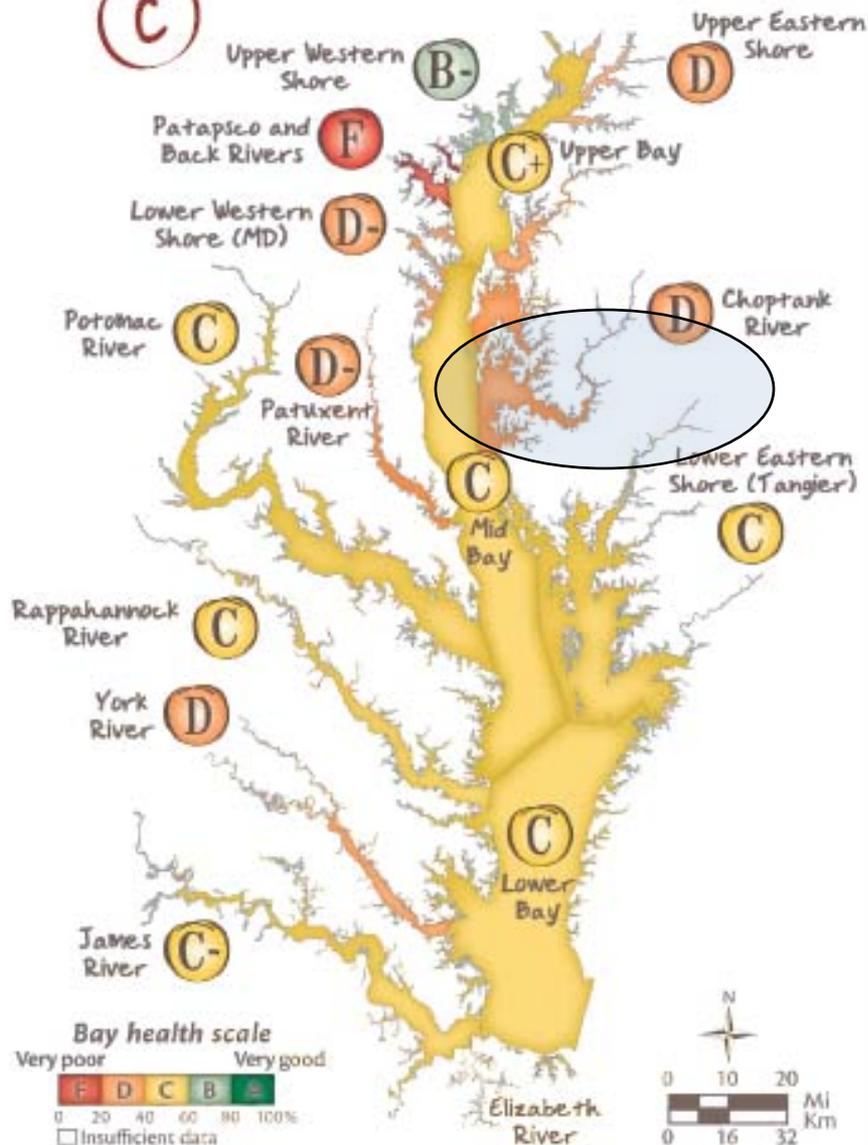
Procedure for Switchgrass

- Everyone will receive loose seeds (dry) in 3 zip lock bags.
- Put seed bag in the fridge if not planted today —label so they do not get thrown away!
- When ready to plant, carefully spread the seeds in one bag over the 50 cells in one tray, then add more soil to the top of the cell
- Bottom water by bringing water in the tub about 1" above the bottom of tray

CHESAPEAKE BAY 2009 REPORT CARD

Overall score:

C



2009

aquatic health by trib basin;
Choptank River did poorly, as it did last year (D).

Oxford is on a tributary, the Tred Avon, which now has little SAV, like the Choptank. This is why we are not planting SAV there.

NOAA Switchgrass Timeline 2009

- March 24: Workshop; Plant in systems soon after
- April-June: Grow-out
- Tues. June 15: Plant at Oxford living shoreline project during NOAA Restoration Day
- June-October: Monitoring



Review of past SAV planting

- 2004- CBEC, Prospect Bay
- 2005- Webster Field, St. Mary's River
- 2006- Trent Hall, Patuxent
- 2007-Jug Bay, Patuxent, wild celery
- 2008-CBEC, Marshy Creek, wild celery (some survival)
- 2009-Otter Point Creek, wild celery & water stargrass, very deep water at planting and mud flat when checked in Sept; some survival; will check in 2010

Otter Point Creek SAV, 2009



The future

- If switchgrass grows well this year, we may grow & plant it again next year on Restoration Day
- We'll also suggest it to community watershed groups as a project they could do next spring, using equipment bought to grow SAV
 - **Thanks to Steve Ailstock and Mike Norman, Anne Arundel Community College, Arnold, MD for providing the seeds and the growing instructions.**

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