

Status and Trends of SAV



**Status and Trends of
Submerged Aquatic
Vegetation in
Chesapeake Bay 1984 to
Present**

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Tidal Fish Advisory Commission

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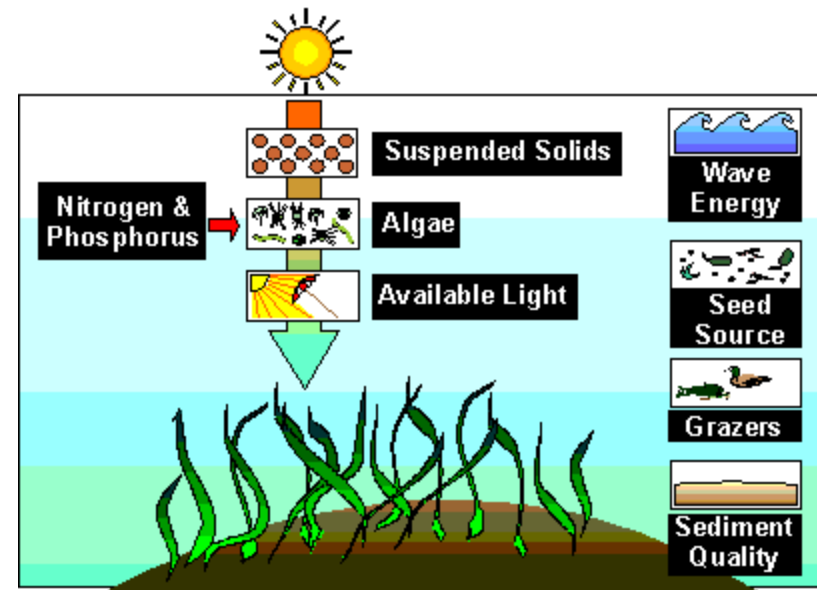
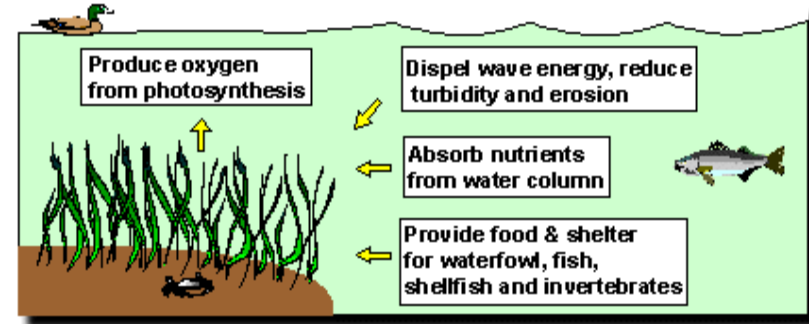
Topics to be covered

- **SAV 101**
- Patterns in SAV distribution over time and space
- Persistence
- Challenges and Opportunities

Status and Trends of SAV

What is SAV and why do we care?

- There are at least 17 different species of vascular plants that live part, if not all, of their lives completely submerged in Chesapeake Bay
- SAV provides services
 - Food for waterfowl and other things
 - Habitat (i. e. blue crab, prey items for other things we like to eat)
 - Improves water quality
 - (Uptake and sequester nutrients, add DO, reduce turbidity, dissipate wave energy)
 - Indicator for water quality, since SAV are sensitive to both improvements and degradation in water quality

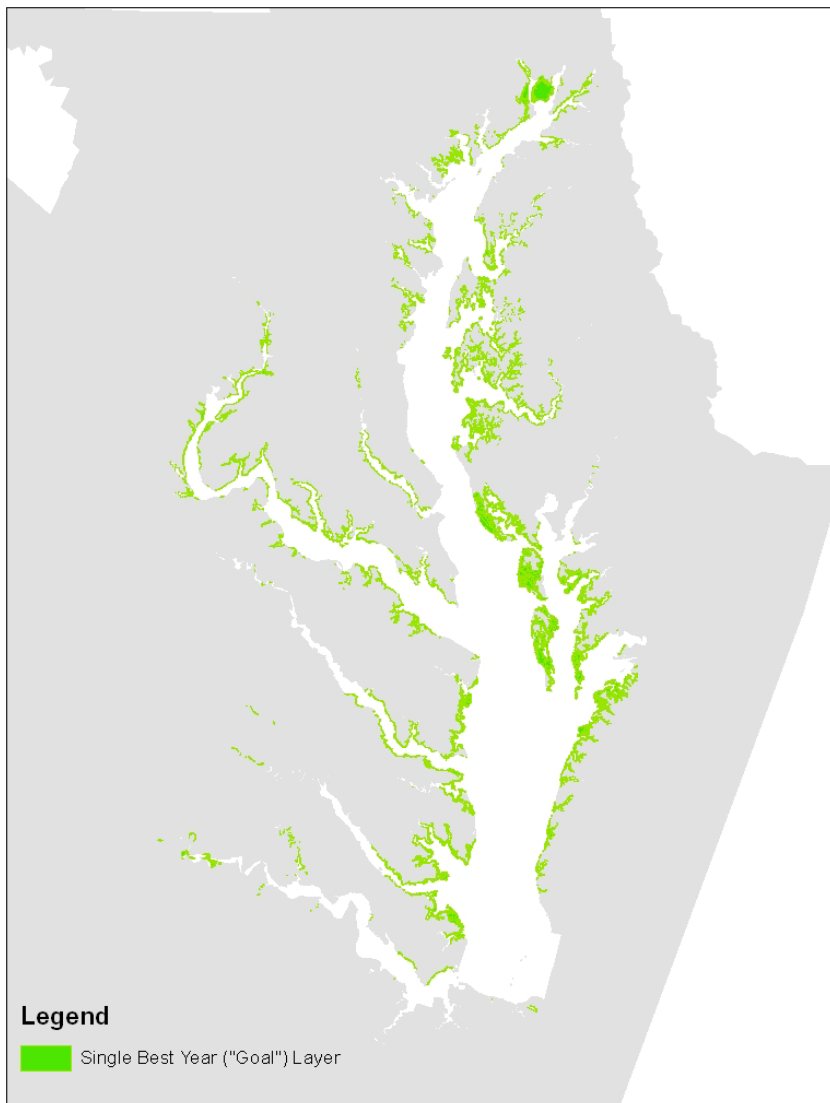


Topics to be covered

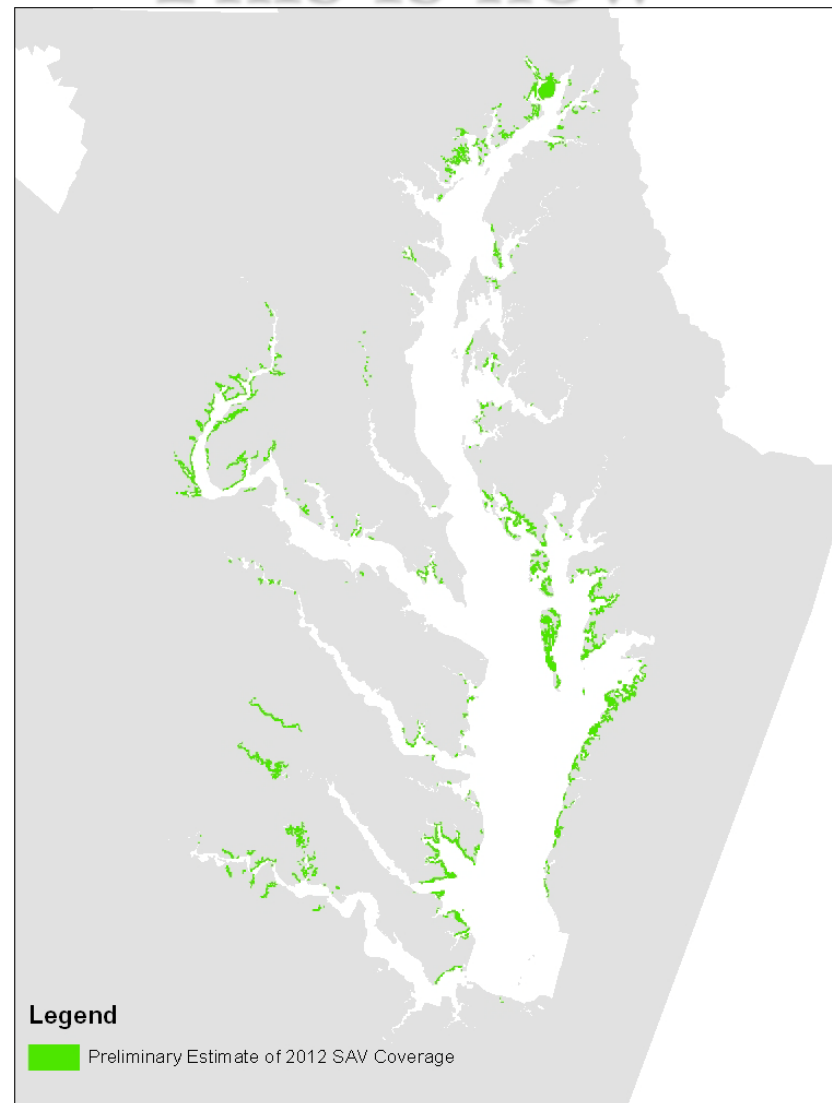
- SAV 101
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That was then



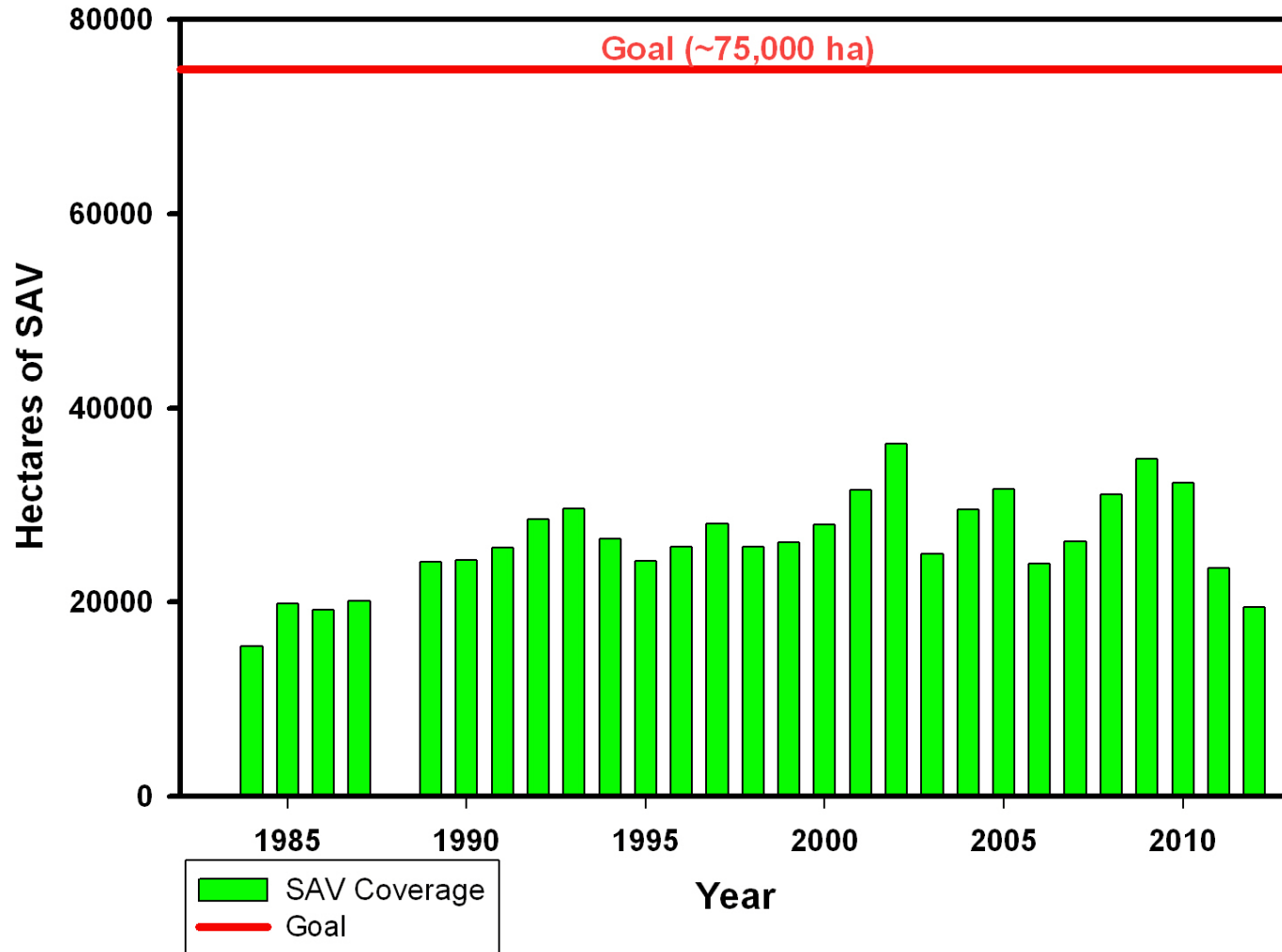
This is now



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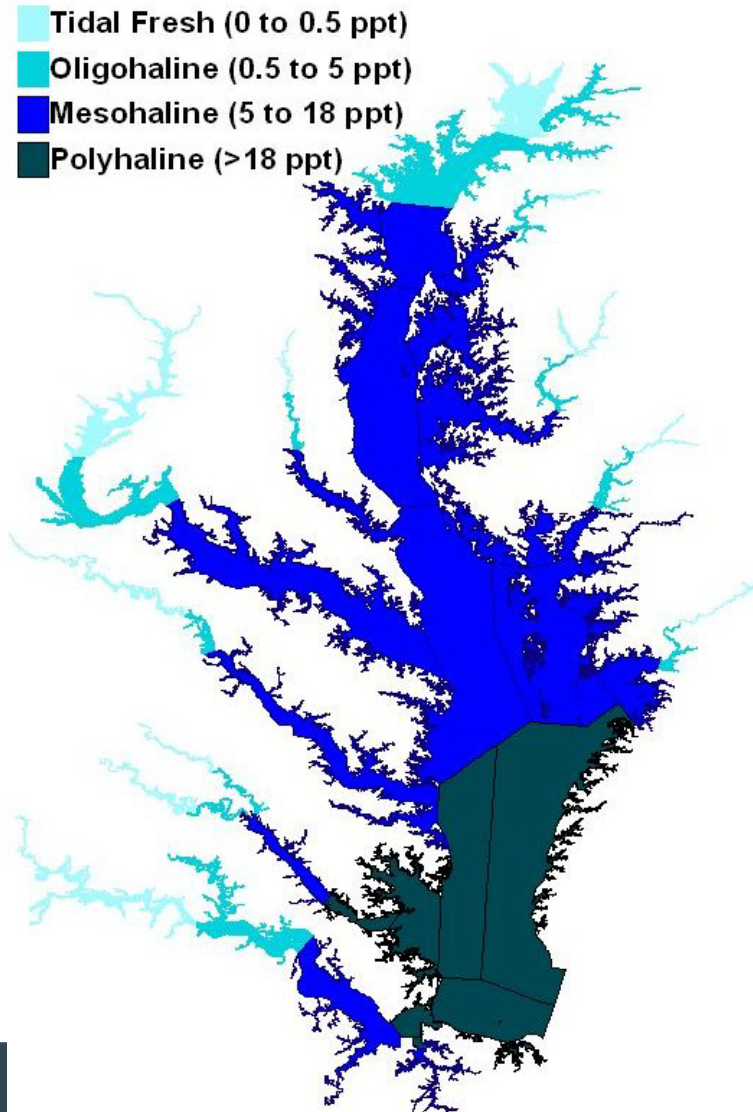
Progress towards the 185,000 acre Goal

Total SAV Coverage



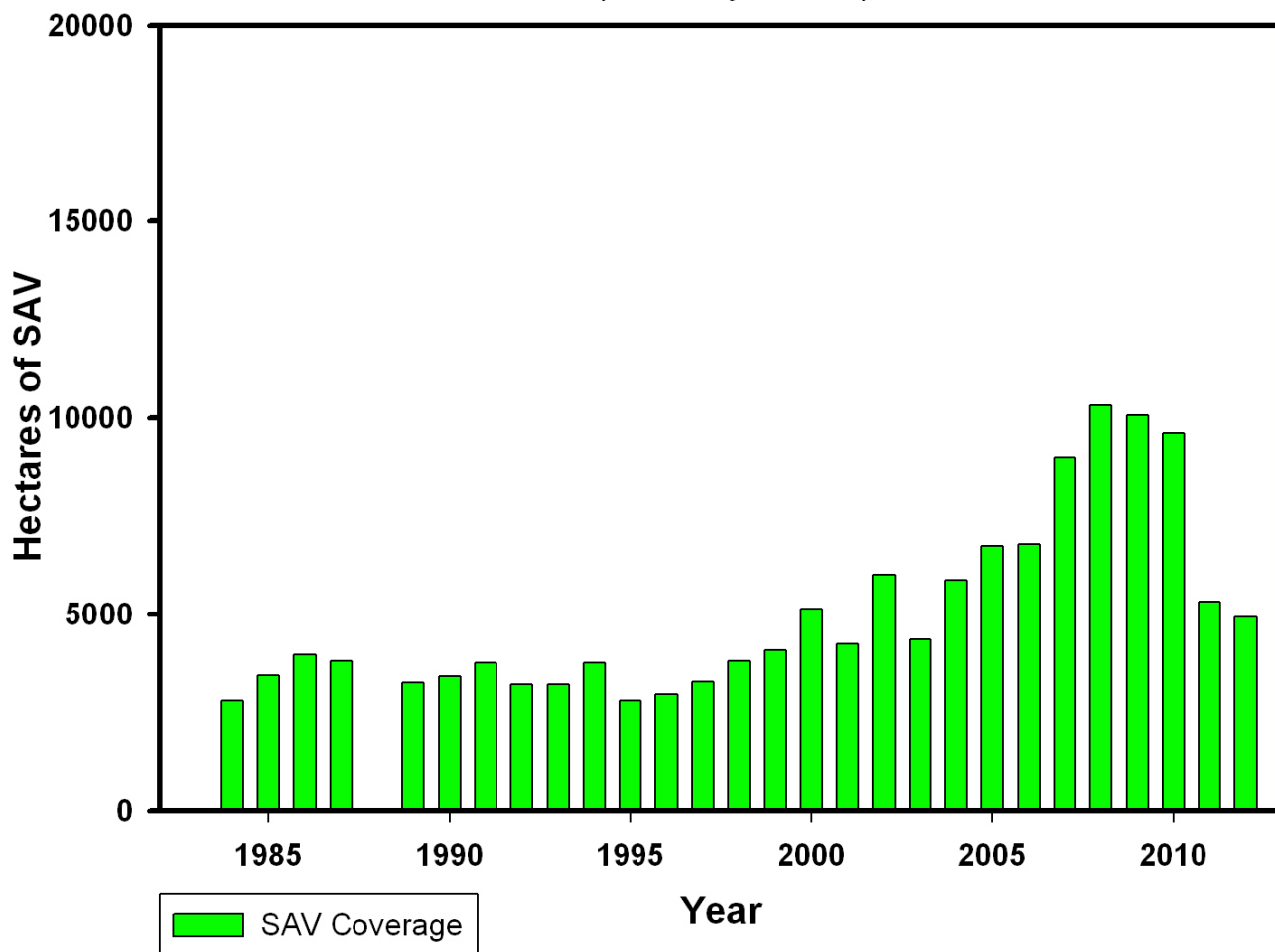
Status and Trends of SAV

**Baywide
numbers lose the
subtleties we see
in SAV
distribution
patterns**



Status and Trends of SAV

Tidal Fresh Segments
(Salinity < 0.5)



SAV distribution over time and space wrap up

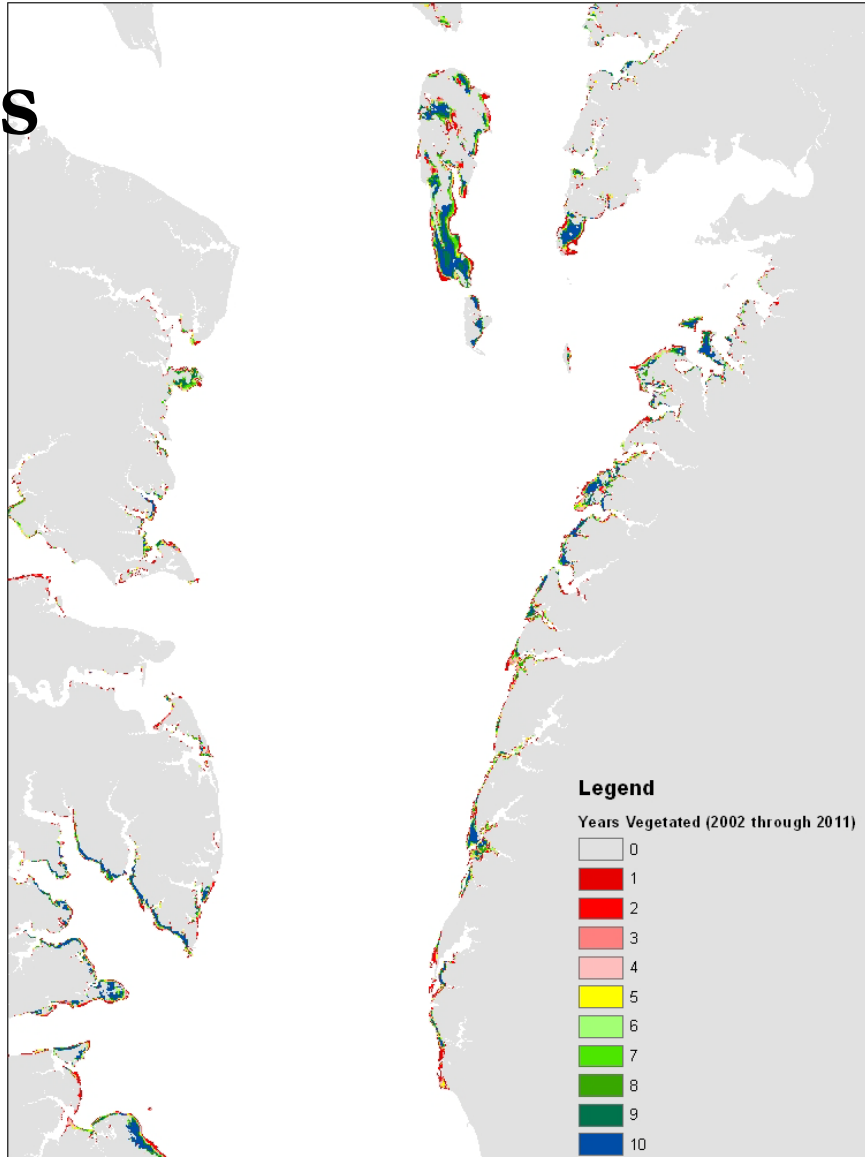
- We have a long way to go to meet our ultimate 185,00 acre goal
- There is high variability, but SAV does exhibit regional patterns
- Peak distributions were
 - 1993 in the polyhaline Bay
 - 2002 in the mesohaline Bay
 - 2005 in the oligohaline Bay
 - 2008 in the tidal fresh Bay
- Over the last 10 years, 21 segments have passed SAV goals, with another 4 coming very close
 - Mostly tidal fresh and oligohaline segments

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- SAV 101
- Patterns in SAV distribution over time and space
- **Persistence**
- Challenges and Opportunities

Status and Trends of SAV

There are places
within the Bay
that are always
vegetated



Persistence wrap up

- Even when there have been dramatic challenges to SAV (heat stress in the lower Bay, tropical storms in the Upper Bay, general water quality issues), places have remained vegetated
- It's these persistent SAV beds that provide the materials necessary (seeds, tubers, plant fragments etc.) to fuel re-vegetation when conditions get better.

Topics to be covered

- SAV 101
- Patterns in SAV distribution over time and space
- Persistence
- **Challenges and Opportunities**

Challenges and Opportunities

- **The single best way to preserve and enhance SAV communities is to improve water quality**
- **Protecting existing beds, particularly the refuges mentioned above, is also extremely important**
 - **Be smart about marine construction, boating, fishing and other uses of the Bay.**
- **Where possible, attempt direct restoration (planting)**
 - **Carefully design planting programs to learn as much as possible to do it better the next time**

Challenges and Opportunities

- Our existing understanding of the relationship between SAV and water quality is sufficient for explaining persistence or declines of existing SAV populations
- However, it has become apparent that better water quality conditions are necessary to go from having no grass to having grass
 - Effort underway to determine these conditions

When all the pieces are in place dramatic results can occur

- For example, the work done by VIMS in the seaside bays on the DelMarVa Peninsula
 - The single most successful SAV restoration project EVER
 - The VA seaside bay project represents 73% of all SAV directly restored (seeded or planted) WORLDWIDE

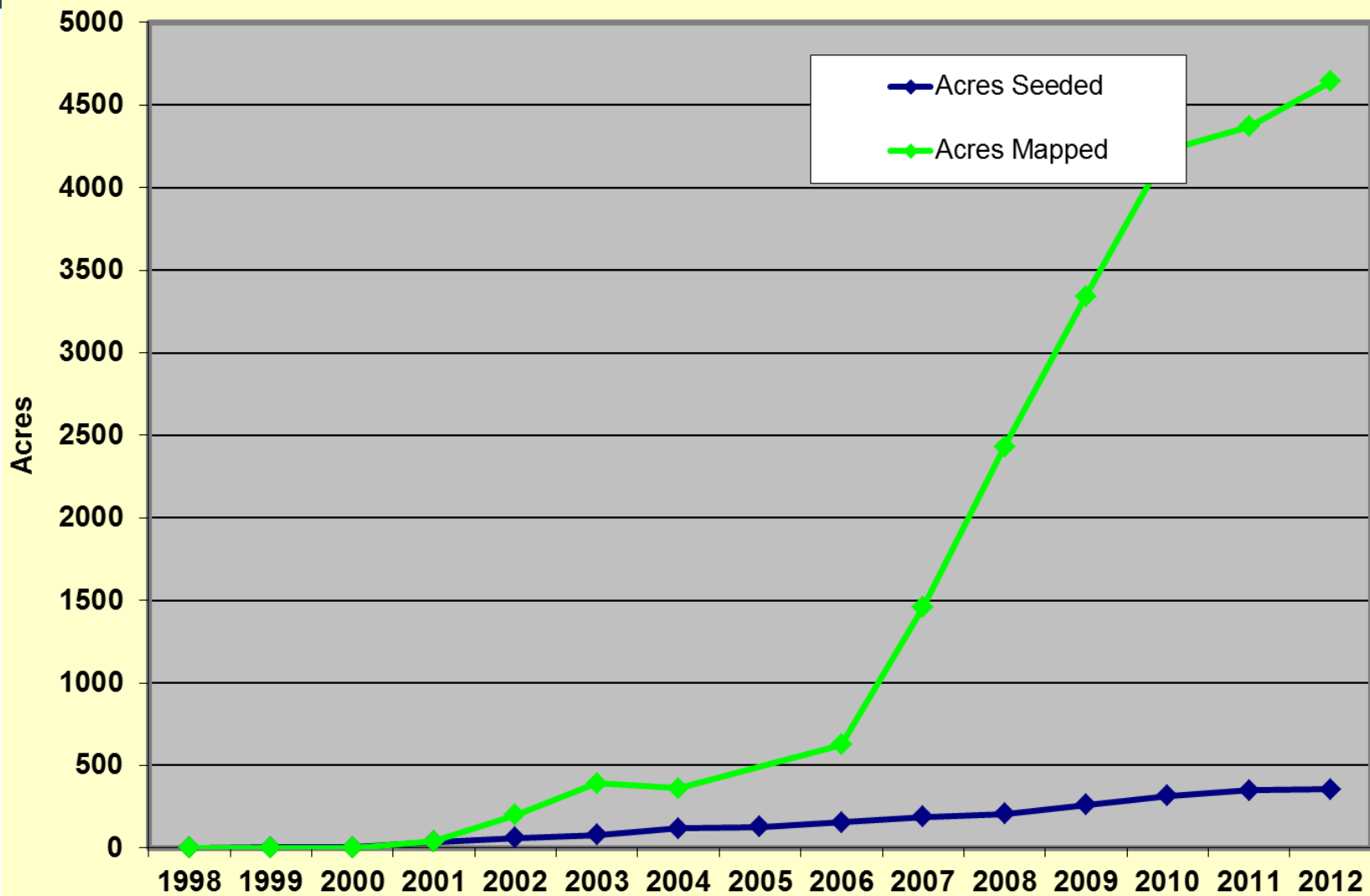
Seed Based Eelgrass Restoration Effort

Volunteers Collecting Eelgrass Seeds



MARYLAND DEPARTMENT OF NATURAL RESOURCES

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In Summary

- SAV populations are well below what we know the Bay has been able to support in the past
- However, some regions have surpassed their goals in recent history, so restoration is possible
- Water quality is the biggest driver of SAV distribution in the Bay
- Direct SAV restoration can work and can be part of the habitat restoration mix. We need improved understanding of what is needed to go from bare bottom to SAV bed and most importantly better water quality

A frog is camouflaged on a sandy riverbed, surrounded by twigs and green plants. The frog's skin is mottled brown and tan, blending perfectly with the surrounding environment. The water is slightly turbid, and the overall scene is a naturalistic depiction of a frog in its habitat.

Thanks for your attention