Update of the Chesapeake Bay SAV Restoration Goal: Alignment with Chesapeake Bay Water Quality Standards and the TMDL

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SAV Goal Issue

- Chesapeake Bay Program staff identified a difference between the 2003 SAV goal target (185,000 acres) adopted by Chesapeake Bay Program partnership and the existing SAV target acreage goal based on the sum of State/DC adopted Chesapeake Bay water quality standards (192,000 acres) used in the TMDL.

Request for Decision

- Alignment of the outdated 185,000 acre Chesapeake Bay SAV restoration goal with the TMDL that is based on State water quality standards (192,000 acres).

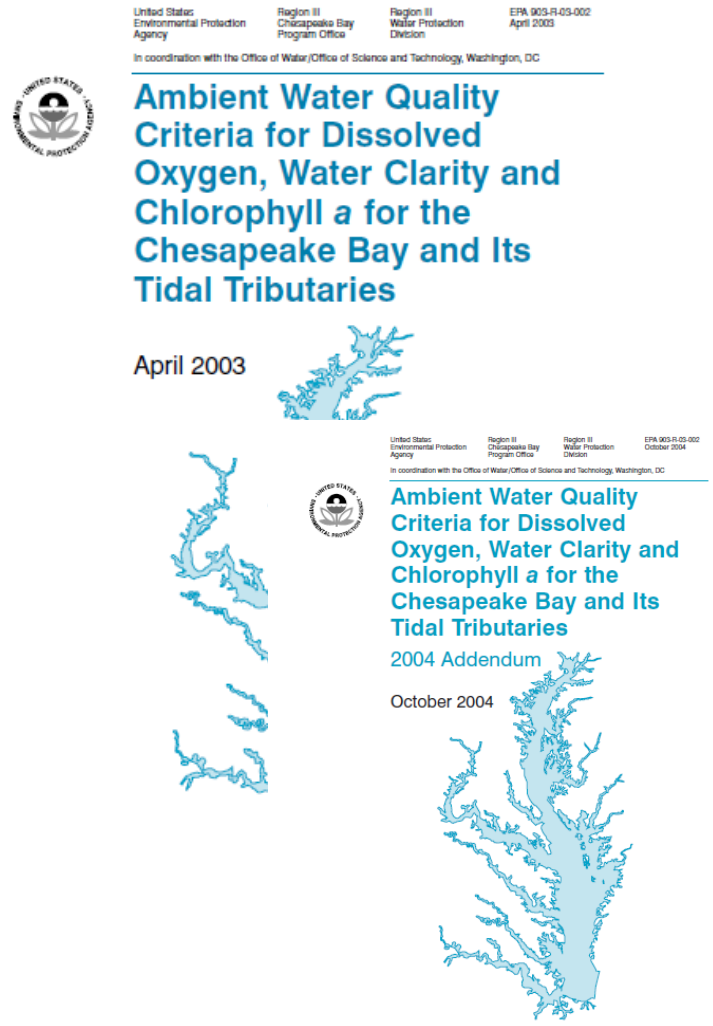
Quick History

- In 1993 the Chesapeake Executive Council formally adopted the Tier I SAV restoration target as the Chesapeake Bay Program's first quantitative living resource restoration goal (Chesapeake Executive Council 1993).

  - Refinements were made to the Tier I restoration goal as a result of a reevaluation of the historical SAV aerial survey digital data sets. The revised Tier I goal total was 113,720 acres.

Publication of the 185,000 acre goal

- The basis, derivation, revision and adoption of the 185,000 acre bay-wide submerged aquatic vegetation (SAV) acreage goal and associated assessment protocols is established in 2003 and 2004.
  - Documentation: U.S Environmental Protection Agency Region III's April 2003 publication of *Ambient Water Quality Criteria for Dissolved Oxygen, Water Clarity and Chlorophyll a for the Chesapeake Bay and its Tidal Tributaries (Regional Criteria Guidance)* and accompanying volumes of technical support documentation, e.g. U.S. EPA 2004.



2004: New information supported establishment of the water quality standards

- U.S. EPA 2004 (Oct) highlighted that:
  - *'Since the 2003 publication of both the Regional Criteria Guidance and the Technical Support Document, new information has become available to the watershed jurisdictions and EPA in support of state adoption of SAV restoration goal…acreages.*
  - *This new information will also help the four jurisdictions with Chesapeake Bay tidal waters to adopt consistent, specific procedures for determining attainment of the shallow-water bay grass designated uses into their regulations.*

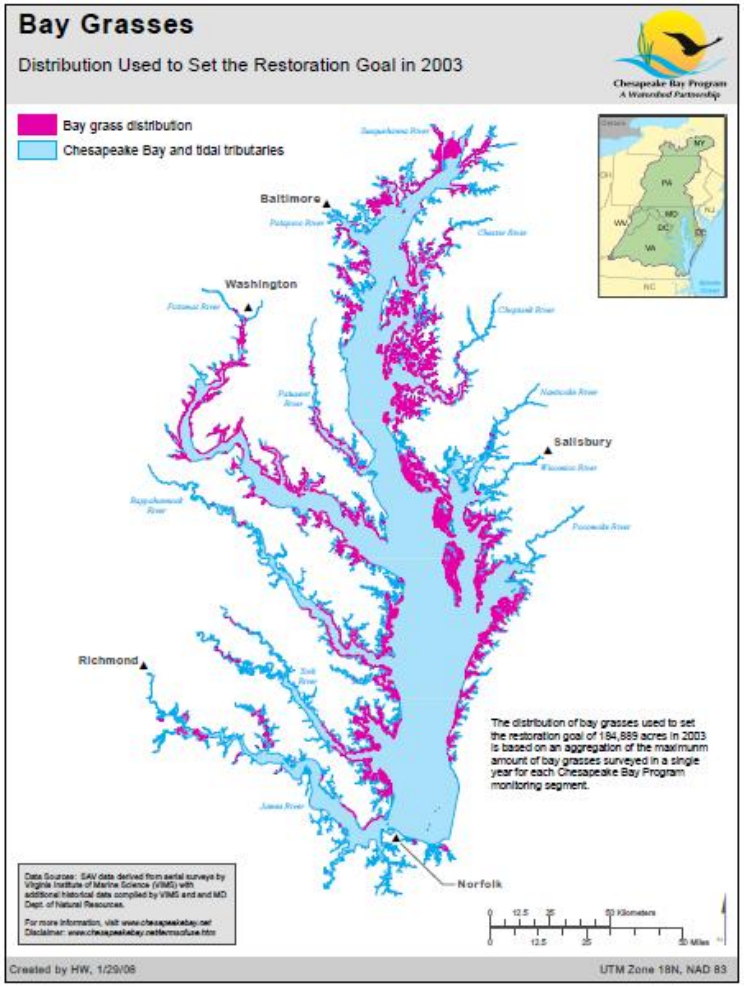
Segment acreage revisions: Single Best Year (SBY) measures were reassessed

- SAV was clipped to the shoreline.
- No bathymetry on “land”, so SAV on “land” was not counted.

New data became available after the 185,000 acre goal was set.

- For the addendum (after goal set), VIMS data for 2001 and 2002 used in setting state regulations:
  - **"2002 Chesapeake Bay SAV Abundance and New Baywide Restoration Goal** *Published: September 22, 2003:* In 2002, SAV coverage reached a record 89,658 acres - more than twice the level first recorded in 1978."

http://www.chesapeakebay.net/publications/title/2002_chesapeake_bay_sav_abundance_and_new_baywide_restoration_goal



New analyses + new data = improved science for developing water quailty standards acreages

- As recommended by EPA, the original Chesapeake Bay underwater grasses goal acreages by segment and the expanded restoration acreages were used. With few exceptions around the Bay, the water quality standards segment goals for SAV acres are equal to or greater than the segment acreage goals supporting the 185,000 acres.

192,000 acre goal evolved from the foundations of the 185,000 acre goal

Goal acreage basis for developing the Segment-specific Water Quality Standards	U.S. EPA 2008 Segment Count TMDL basis: 92 Management Segments
Segments where Water Quality Standards acres are **GREATER THAN OR EQUAL TO** the original 2003 CBP 185K goal acreages	85 (92.4%)
Segments where acreages were **lower** than the 185K CBP goals basis	7 (7.6%)

Summary

- In adopting segment-specific water clarity standards the Chesapeake Bay Program partners more accurately reflected segment SAV goal acreages from the aerial surveys.

- The 192,000 acre goal is better aligned with the method used in the annual aerial survey of SAV to assess the status of Bay grasses and track change towards attaining water clarity/SAV goals.

Request for Decision

- Alignment of the outdated 185,000 acre Chesapeake Bay SAV restoration goal with the TMDL that is based on State water quality standards (192,000 acres).

  - Documentation of the alignment will appear as: ***chapter v. Update of the Chesapeake Bay SAV Restoration Goal: Alignment with Chesapeake Bay Water Quality Standards in U.S. EPA (2014) Ambient Water Quality Criteria technical addendum.***

Thank you ☺

Single Best Year (SBY)

- No-grow zones were removed from the depth zones.
- For each segment's SBY, ascertain the deepest zone
  - containing >= 20% SAV coverage, or
  - containing >= 10% SAV coverage in at least 3 of the 4 five-year periods from 1978-2000 was determined.
- SAV was clipped to this application depth.
- The resulting SAV for each segment was merged into one layer.
- The final output was the Restoration Goal: 184,889 acres.

Why the Restoration Goal Acres and Regulation Acres Don't Always Match

- 2001 and 2002 surveys were added after Goal was set – Shallow Water Existing Use (1978-2002).
- SAV previously clipped by the shoreline or depth was added.
- (Both above are in the 2004 Addendum.)
- States selected what they wanted to use in the regs from what CBP provided or in a few cases selected their own acreage goal.