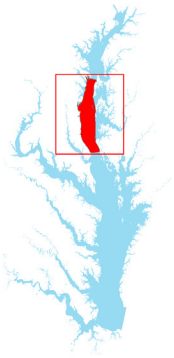
Potentially Attainable

Chesapeake Bay Mainstem (CB4MH)

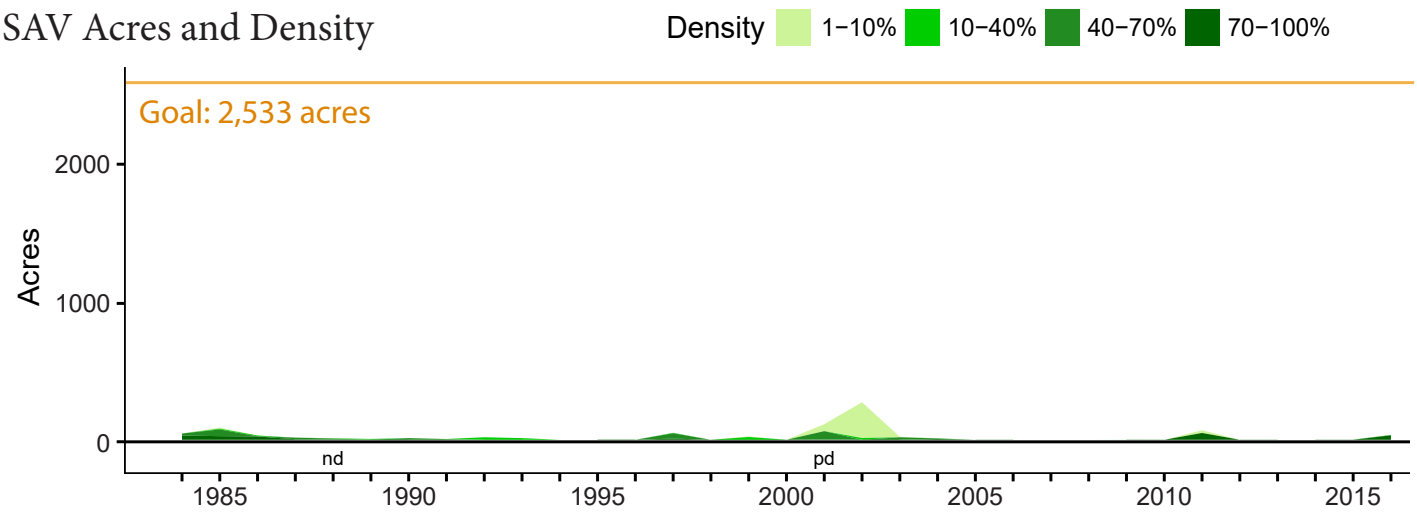


Minimal submerged aquatic vegetation (SAV) has been observed over the course of the annual Chesapeake Bay-wide aerial survey in an area of the mainstem Bay from the Bay bridge to just above the mouth of the Patuxent River.

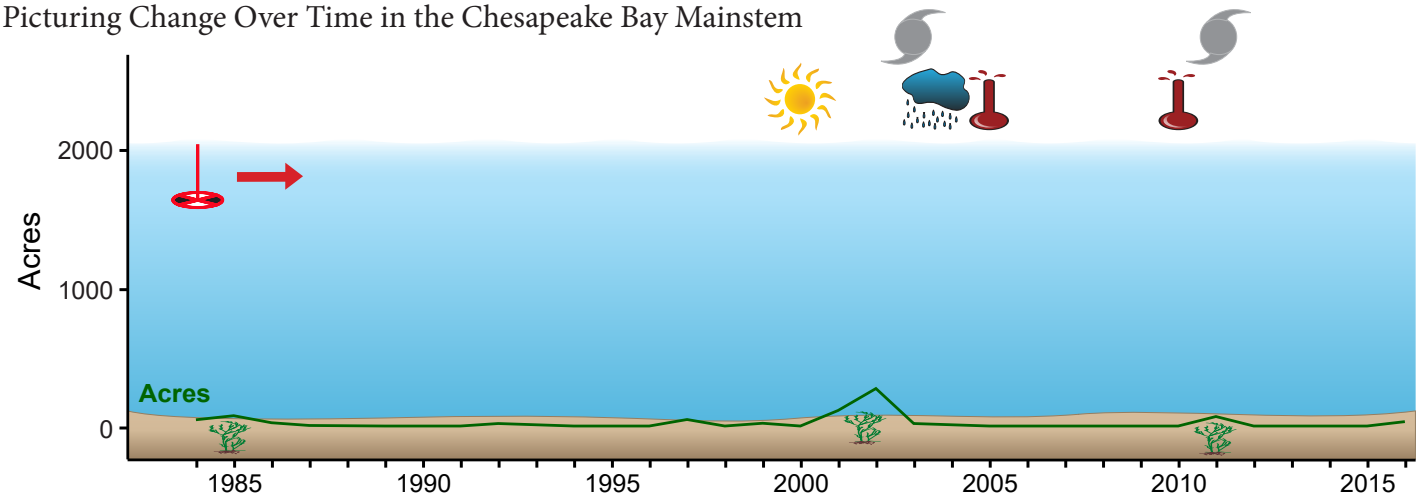
Executive Summary

Almost no SAV has been reported in this segment over the course of the Bay-wide aerial survey. The area represents a region of the Bay where SAV recovery may be particularly challenging because of exposure to wind and wave energy. The SAV restoration goal of 2,533 acres has never been attained, and only horned pondweed has been observed here near Poplar Island.

SAV Acres and Density



Picturing Change Over Time in the Chesapeake Bay Mainstem



Key

- Drought 1998-2002
- Wet Period 2003-2004
- Heat Events 2005, 2010
- Hurricane Isabel 2003
- Hurricane Irene and Tropical Storm Lee 2011
- Poor Water Clarity
- Ongoing Event
- Horned Pondweed

Potentially Attainable

Take Home Points

Goal - Potentially Attainable

The goal of 2,533 acres has never been achieved and can only be reached with significant improvements in water clarity.

Historical Coverage

SAV not well documented

Based on historical imagery, this section of the Bay once supported expansive beds of SAV, possibly including both fresh-water species and more salt-tolerant species. These beds were probably lost due to Tropical Storm Agnes in 1972. Horned pondweed is the only species recorded from this area since 1984 and it was observed on very few occasions at Poplar Island.

Key Events

Tropical Storm Agnes

The passage of Tropical Storm Agnes in June 1972 probably resulted in the loss of any remaining SAV beds in this segment.

Vulnerability/Resilience

Water clarity and salinity

This segment has poor water clarity during the spring and summer due to high nutrient and sediment levels. Salinity fluctuations may also affect SAV abundance here.

Management Implications

Nutrient and sediment reductions

Managers will need to focus on improving water clarity by reducing both sediment and nutrient loading.

References

Stevenson and Confer 1978; Orth and Moore 1983, 1984; Moore et al. 2000, 2004; Orth et al. 2010a, 2017; Patrick and Weller 2015; Lefcheck et al. 2018

www.vims.edu/bio/sav/SegmentAreaChart.htm (abundance data)

www.vims.edu/bio/sav/maps.html (species information)

www.eyesonthebay.org (Maryland water quality data)