

Pocomoke Sound, Maryland (POCMH-MD)



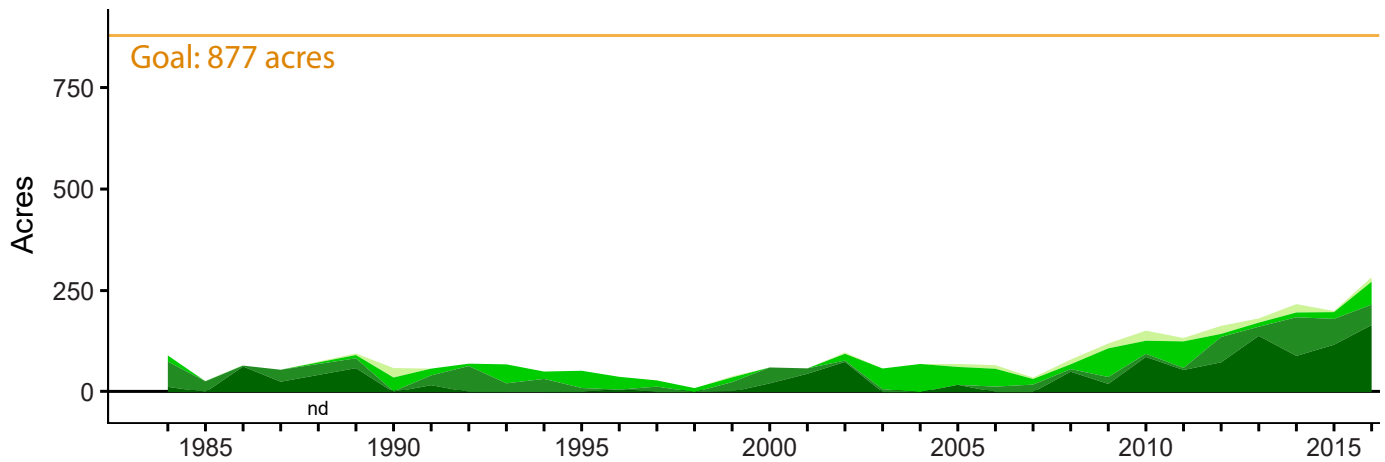
Moderately dense submerged aquatic vegetation (SAV) beds consisting primarily of eelgrass and widgeongrass exist along the north shore of Pocomoke Sound, Maryland.

Executive Summary

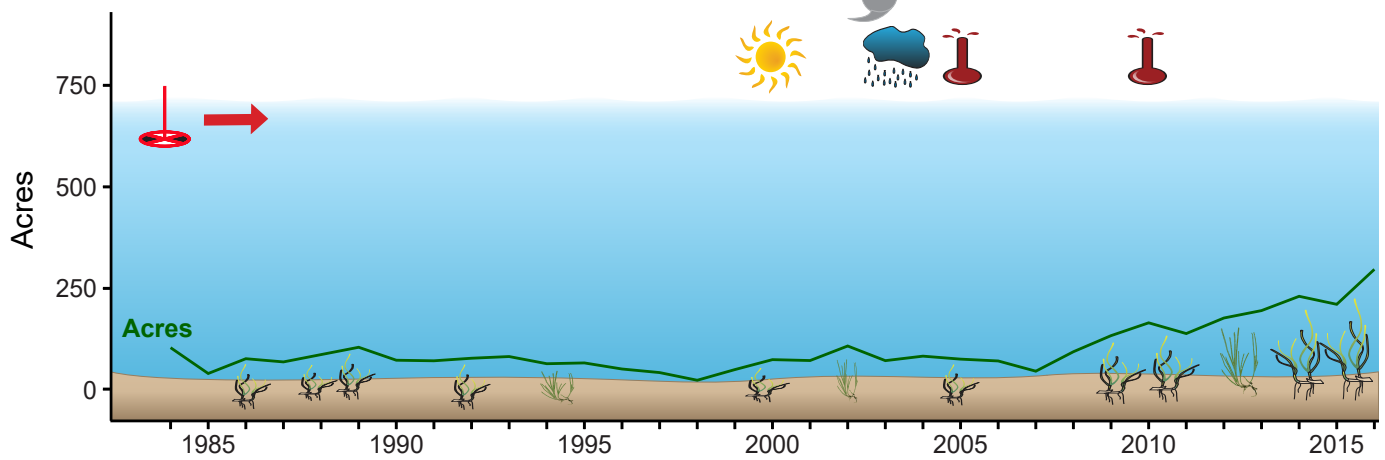
SAV beds consisting of dense eelgrass and widgeongrass once dominated the extensive shoal areas along the north shore of Pocomoke Sound, Maryland, with maximum coverage observed in the 1960s. Since the Chesapeake Bay-wide aerial survey began, SAV has fluctuated but shown an overall increasing trend since 2007, reaching the highest levels in 2016. Fluctuations in SAV abundance were driven by improvements in water quality, hot summers and a resurgence of widgeongrass. The restoration goal of 877 acres of SAV acres for this segment has never been attained, but is potentially attainable if water clarity improves.

SAV Acres and Density

Density ■ 1-10% ■ 10-40% ■ 40-70% ■ 70-100%



Picturing Change Over Time in the Pocomoke Sound, Maryland



Key

| | | | | | |
|--|------------------------|--|-----------------------|--|--------------|
| | Drought 1998-2002 | | Hurricane Isabel 2003 | | Eelgrass |
| | Wet Period 2003-2004 | | Poor Water Clarity | | Widgeongrass |
| | Heat Events 2005, 2010 | | Ongoing Event | | |

Goal - Potentially Attainable

The goal of 877 acres of SAV in Maryland's portion of the lower Pocomoke Sound has never been attained but is potentially attainable if water clarity improves and the recent expansion of widgeongrass continues.

Historical Coverage

Historical and recent distribution well known

The 1930s eelgrass epidemic had a dramatic effect on eelgrass in the Bay. Recovery, however, was rapid from growth and expansion of the plants that persisted, and historical records indicate that abundance reached peak coverages in the 1960s during an extended dry period. Coverage data collected during the Bay-wide aerial and ground surveys show beds of eelgrass and widgeongrass along the north shoreline of Pocomoke Sound. Although eelgrass was once the dominant species observed here, recent SAV recovery and expansion between 2012 and 2016 has been primarily of widgeongrass, with distribution reaching peak coverage in 2016.

Key Events

Tropical Storm Agnes

In June 1972, Tropical Storm Agnes caused the loss or reduction of almost all SAV beds in this segment. SAV remained very sparse in this segment through the early 2000s.

Vulnerability/Resilience

Water clarity

Periods of varying rainfall in the 1980s and 1990s influenced water clarity and facilitated the changes noted in SAV distribution.

Eelgrass is susceptible to heat events; widgeongrass currently dominates here

Although some eelgrass has persisted in Pocomoke Sound, it is a cold-water SAV species susceptible to heat events, such as those experienced in 2005 and 2010. Widgeongrass is much more tolerant of temperature fluctuations and extremes and has consequently become the dominant plant here. Widgeongrass populations, however, can be highly variable on an annual basis.

Management Implications

Nutrient and sediment reductions; oyster aquaculture

Managers will need to focus on improving water clarity by reducing both sediment and nutrient pollution. Managers will be unable to do much about temperature as this is a global issue, but by improving water clarity, plants may be able to tolerate periods of warmer water. In addition, managers may have to address the emerging issue of oyster aquaculture if it is initiated in this region.

References

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