

Nanticoke River (NANOH, NANMH, NANTF)



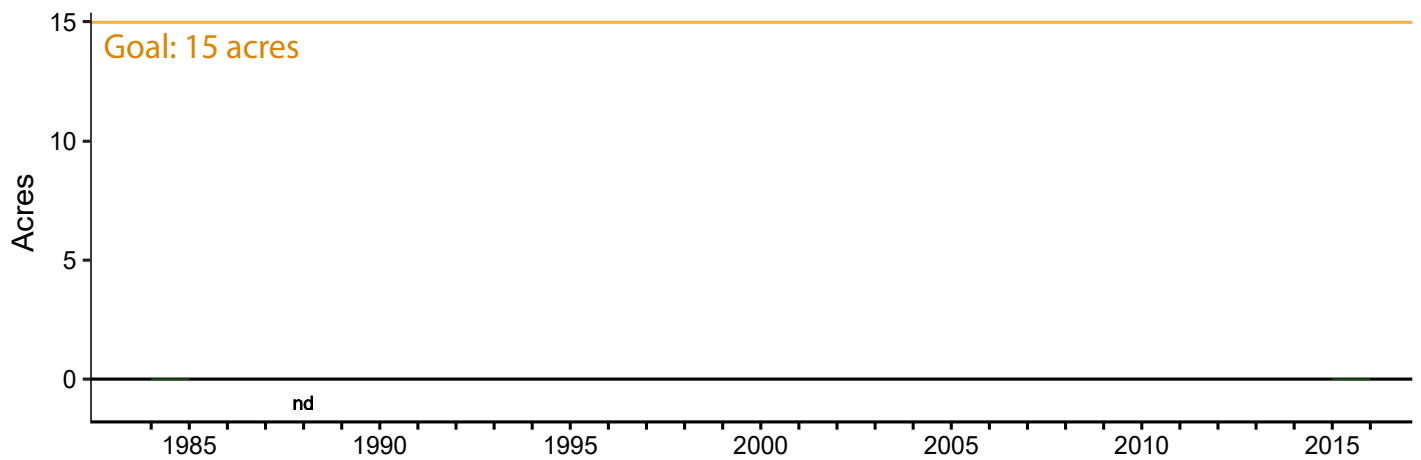
No submerged aquatic vegetation (SAV) beds have been mapped here during the annual Chesapeake Bay-wide aerial SAV survey.

Executive Summary

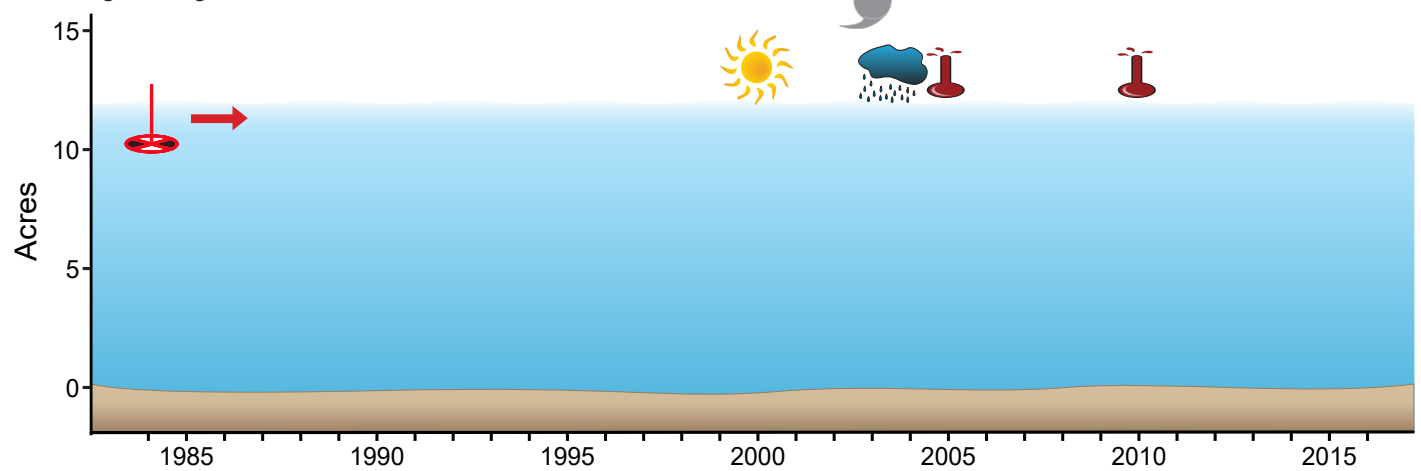
SAV may have been present in the lower Nanticoke River in the first half of the 20th century, but records indicate that it was no longer present by the 1970s. Anecdotal reports, however, indicate that freshwater species of SAV were present in the upper reaches of the Nanticoke River several decades ago and again recently. The restoration goal of 15 acres of SAV for this segment has never been attained but is potentially attainable if water clarity is improved and active SAV restoration efforts are undertaken to replenish the seed bank.

SAV Acres and Density







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



Picturing Change Over Time in the Nanticoke River



Key

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

Goal - Potentially Attainable

The goal of 15 acres has never been attained but is potentially attainable if water clarity improves and active restoration efforts are undertaken to replenish the seed bank.

Historical Coverage

No SAV recorded since the 1970s

Historical records indicate that both eelgrass and widgeongrass may have been present in the lower Nanticoke River in the first half of the 20th century. Additional surveys in the 1970s, however, found no SAV at any of the stations surveyed, and no SAV has been recorded in the lower Nanticoke River since. Anecdotal reports from the upper, freshwater reaches of the Nanticoke River, on the other hand, do suggest that freshwater species of SAV were present several decades ago and again recently. SAV may be limited in this river, particularly towards the mouth, because of steeply sloping river banks and a consequent lack of shallow water habitat. An abundance of adjacent marshland may also be limiting SAV abundance. Although marshes are highly efficient at filtering water, they often produce peat-rich soils and tannic water which have been negatively correlated with SAV abundance.

Key Events

Tropical Storm Agnes

Because eelgrass and widgeongrass may have been present in the Nanticoke River through the 1960s, but neither were found again in the 1970s, we can conclude that any remaining traces of it were eradicated with the extreme weather brought by Tropical Storm Agnes in 1972.

Vulnerability/Resilience

Water clarity

It may be possible for SAV, particularly widgeongrass, to colonize in some of the small creeks near the mouth of the river where the water is moderately salty, but this can only occur if improvements in water clarity are made. In the upper reaches of the river where the water is only slightly salty or fresh, it may be possible for freshwater species to become established.

Management Implications

Nutrient and sediment reductions; water and soil chemistry

Managers will need to focus on improving water clarity by reducing both sediment and nutrient pollution and concentrating restoration efforts in the shallow water habitat of the lower Nanticoke River as well as in appropriate areas of the upper Nanticoke River. Adjacent marshland does not preclude the possibility of SAV becoming established, but any restoration efforts should initially be limited to small-scale plantings to determine if the sediment and water chemistry are conducive to SAV survival.

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)