

THE DEVELOPMENT, APPLICATION AND MONITORING OF WATER QUALITY CONDITIONS FOR SAV GROWTH IN SHALLOW COASTAL BAYS AND ESTUARIES.

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The impacts of excess nutrient and sediment inputs on seagrass and other submerged aquatic vegetation (SAV) in estuarine and coastal bay systems are largely related to their effects on reduced light availability for SAV growth. Attainment of specific water clarity criteria related to SAV designated use of shallow waters has therefore become an important component of coastal, shallow water management. In the Chesapeake Bay the historical distributions of SAV have been used to define the shallow water designated use boundaries, the application depths to which the water clarity criteria are applied within these boundaries, and the goals for SAV restoration or recovery. For example, in regions where SAV historically grew to maximum depths of 2m, as quantified on aerial photography dating back to the 1930s, the water clarity targets and SAV restoration goals would typically be greater than other areas where SAV historically grew to depths of 1m. Measurement of the attainment, or lack thereof, of these specific water clarity criteria in SAV designated use areas has required the development and application of high frequency spatial and temporal monitoring of these areas. In the Chesapeake Bay and Virginia and Maryland coastal bays, high frequency, spatial monitoring of water clarity in shallow water areas has been accomplished using fixed station as well as flow-through monitoring systems placed on small vessels. Results for 2003 demonstrate that these monitoring efforts are effective and differences in water clarity attainment among areas with current populations of SAV, areas that historically supported SAV, and overall shallow water, SAV designated use areas can be detected.

Management Implications in the Barnegat Bay/Little Egg Harbor and Mullica River/Great Bay Systems:

- Provide tools for setting and measuring attainment of water clarity criteria for SAV designated uses.
- Provide mechanisms for setting SAV restoration goals.
