

Adaptive Management Update

The Municipal Alliance for Adaptive Management (MAAM) was formed in the winter and spring of 2021 to facilitate and enhance community collaboration, stakeholder input, resource sharing, expertise, and efficient use of investment to better understand the factors influencing water quality in the Great Bay Estuary. MAAM's formation recognized the need to develop and implement an adaptive management approach in response to the Total Nitrogen General Permit (TNGP) issued for 12 regulated communities in New Hampshire that discharge either directly or indirectly to the Great Bay. MAAM's membership currently includes eight of the twelve regulated communities including Rochester, Dover, Portsmouth, Exeter, Epping, Newington, Rollinsford and Milton. MAAM holds regular public meetings providing a venue for presentations, project updates and general conversations and encourages all communities, state and federal regulators, researchers and other stakeholders, whether or not they are MAAM members, to attend and participate.

Over the last three years, MAAM communities have invested heavily in point source and non-point source reduction strategies to lessen Total Nitrogen (TN) loading to the Great Bay. Based on available data, MAAM community improvements since 2021 resulted in TN reductions of XXX lbs/yr from WWTF point sources and XXX lbs/yr from non-point sources. Though not specifically regulated under the TNGP, these improvements also resulted in substantial improvements to other water quality stressors including Total Suspended Solids (TSS) and Total Phosphorus (TP) loadings. These improvements are the direct result of the adaptive management approach implemented by MAAM's member communities and represent many millions of dollars of investments from those communities, with many more millions of dollars allocated toward future, pending projects.

MAAM communities have not only invested in the individual infrastructure improvement projects to address both point and non-point sources, but collectively MAAM substantially funded and actively participated in numerous initiatives and research collaborations with the Piscataqua Regional Estuaries Partnership (PREP) to further the goals of the adaptive management approach outlined in the TNGP. To date, MAAM directly funded \$1,428,240 towards these joint research initiatives, secured a \$1,000,000 Congressionally Directed Spending Grant for research of oyster bed and eelgrass health, and lead/supported several additional grant funded programs like the Great Bay 2030 water quality improvement projects. These initiatives are outlined in further detail in the MAAM's annual updates to its Adaptive Management Plan (AMP), that have been reviewed in meetings and submitted to the EPA.

The EPA's TNGP provides for and promotes an adaptive management framework to include ambient water quality monitoring, pollution tracking, and reduction planning/implementation along with creating a mechanism to review and revise approaches as we continue to develop a better understanding of the watershed. This review and adaptation process is essential for refining and advancing watershed-level water quality protection programs focusing on key stressors impacting the health of the Great Bay and supporting appropriate investments to advance those goals. Consistent with the concept of adaptive management, MAAM communities along with technical advisors and project partners, are reviewing the water quality monitoring, pollution tracking, and scientific research that has come from these efforts over the last three years. As outlined in the following AMP update, MAAM will seek to interpret findings and revise approaches as appropriate to further address the key stressors in the Great Bay watershed.
