

Table 1. Priority Group 1 Studies for 2023 Municipal Alliance Funding				
Study Name	MAAM 2022 Expenditure	MAAM 2023 Request	Study Description	Notes
Estuarine Water Quality Monitoring	\$41,000	\$64,000	Expanded temporal and/or spatial scope of ongoing estuarine water quality monitoring program for a more comprehensive understanding of water quality patterns.	MAAM would be providing a portion of overall study cost (~\$170k); other funds would come from DES and other non-MAAM municipalities.
Light Array Program	\$29,000	\$42,000	Continuation of work that started in 2021 and will continue annually. Provides high resolution data on the light environment in the estuary and fills an important data gap.	Overall study cost increased for 2023 monitoring year is for increased maintenance or arrays, based on 2021-2022 field experiences.
External Advisors: Monitoring Program Review	\$25,000	\$10,000	Funding for engaging external advisors to review and provide guidance on the overall monitoring program.	Decreased cost from last year based on 2021 billings and advisor engagement level.
Tier 1 Seagrass Monitoring <sup>1</sup>	\$75,000	\$75,000	Continuation of annual aerial imagery mapping of seagrass in GBE.	
Storm Add-On to Eelgrass Stressor Project	\$5,000	\$91,000	Implementation of a study to investigate the impacts of storm events and inputs on water quality in GBE. This study would collect data to help fill an important data gap.	Preliminary workplan and budget provided by B. McDowell. The cost shown here is for the first year of a two-year plan.
5% Contingency		\$14,100	Budget for additional unanticipated costs. Discretionary contingency not included.	
<b>Group 1 Total</b>		<b>\$296,100</b>		

<sup>1</sup>MAAM also provided \$53k for Tier 2 seagrass monitoring in 2022. In 2023, PREP expects to use base funds for that effort.

<b>Table 2. Priority Group 2 Studies for 2023 Municipal Alliance Funding</b>				
<b>Study Name</b>	<b>MAAM 2022 Expenditure</b>	<b>MAAM 2023 Request</b>	<b>Study Description</b>	<b>Notes</b>
Turbidity Monitoring	\$60,000	\$67,000	Work will focus on collecting data on turbidity and light attenuating components, expanding on data collection conducted in 2022. This study will collect important data on non-nutrient stressors and light dynamics.	Preliminary workplan provided by A. Matsuoka
Macroalgal Dynamics Synthesis and Recommendations		\$25,000	Work will focus on compiling, reviewing, and synthesizing work done to date related to green and red macroalgae in GBE, identifying data gaps related to macroalgae as potential stressors to eelgrass, and development of a monitoring plan to close data gaps (if needed).	Cost depends on anticipated scope, which could be decreased. Work may be done by PREP/UNH researchers or could go out to bid.
Tributary Discharge Measurements		\$5,000	Estimating river discharge measurements on the Belamy, Great Works, and Salmon Falls Rivers. This study is a stated commitment in MAAM AMP.	The workplan for this study has not been developed yet. Based on the proposed cost, it appears PREP's approach will likely be to get discharge estimates, rather than by installing gaging or other continuous recording equipment.
5% Contingency		\$4,850	Budget for additional unanticipated costs. Discretionary contingency not included.	
<b>Group 2 Total</b>		<b>\$101,850</b>		

**Table 3. Priority Group 3 Studies for 2023 Municipal Alliance Funding**

Study Name	MAAM 2022 Expenditure	MAAM 2023 Request	Study Description	Notes
Tier 3 Seagrass		\$33,000	Continuation of annual Tier 3 Seagrass (aka SeagrassNet) monitoring program, a long-term project which includes monitoring seagrass plant condition, temperature, and light at fixed transects.	Not sure if or how PREP plans to fund this if MAAM declines to.
Estuarine Water Quality Monitoring Equipment		\$20,000	Funding would be used to buy new sondes for continuous data collection at the estuarine water quality locations.	MAAM would be providing a portion of overall study cost (~\$100k); other funds would come from Infrastructure/CARE and/or DES and EPA.
Mussel Watch	\$7,300	\$10,000	This study will build on the previously conducted NOAA Mussel Watch study and will involve collection and analysis of bivalve tissue as a measure of toxic constituents in the water column. This study may help identify potential non-nutrient eelgrass stressors.	PREP would like to make this data collection effort part of its base annual monitoring program, with an expanded list of contaminants and more sites. Not sure if or how PREP plans to fund this if MAAM declines to.
Shoreline Hardening Survey		\$15,000	A survey to determine the location and extent of hardened shoreline in GBE. Shoreline hardening impacts hydrodynamics, sediment movement, and water quality, all of which can impact eelgrass health. Results of this survey could help inform the analysis and interpretation of the water quality and hydrodynamic studies, and may be useful in identifying and management of non-point source stressors.	This study does not need to be conducted annually; PREP recommends a frequency of 5–10 years.
5% Contingency		\$3,900	Budget for additional unanticipated costs. Discretionary contingency not included.	
<b>Group 3 Total</b>		<b>\$81,900</b>		