

Rhode Island Environmental Monitoring Collaborative
Comments and Prioritization of FY 2007 Budget Requests
21 November 2005

Program and Coordinating Agency	Budget Need FY 2007	Rank: 1 - Essential 2 - Important 3 - No Opinion	Reason Why This Essential or Important?	What Are the Implications of Not Funding This Now?
<i>Fixed-site monitoring in Narragansett Bay (DEM)</i>	\$239,000	Essential - 4 Important - 0 No Opinion - 4	<ul style="list-style-type: none"> • Primary source of data to evaluate success of nutrient reduction strategy; time-series data essential to applying new dissolved oxygen criteria; data relied on to track vulnerability to hypoxic events during the summer and coordinate response planning with towns; helps meet EPA CWA mandate. • Must be fully ramped up to assess response of Bay to programs that are reducing nutrient inputs. • Must be vigilant to conditions that could lead to extensive hypoxia and resulting fish and shellfish deaths • This is primary source of baseline data to characterize important aspects of Bay water quality • The state needs access to real time data and staff to review this data DAILY. This data allows scientist the ability to "take the pulse of our coastal waters" • Long term ecological data, discerning if mgt efforts are causing any changes 	<ul style="list-style-type: none"> • DEM will not be able to deploy critical stations during 2007 sampling season. • Failure to measure water quality conditions expected to change as WWTF implement upgrades. This data can not be captured at a later date. • DEM will lose ability to track Bay vulnerability to hypoxic events; e.g. fish kills. • How will we know if changes to WWTF and CSO are working? • The network of buoys will diminish, as will our ability to monitor current water quality of the Bay • The DO data allows the state to predict potential major ecological problems, such as fish kills.
<i>Dissolved oxygen surveys (DEM/NBEP)</i>	\$42,500	Essential - 3 Important - 3 No Opinion - 2	<ul style="list-style-type: none"> • Funding needed to support surveys and process data. Helps define the extent and nature of hypoxic conditions in the Bay. • Provides extensive spatial coverage of DO. Buoys provide extensive 24-7 coverage. • This complements fixed site monitoring (above) • I'm not technically knowledgeable about this proposal but rated it as a #1 because it seems among the easiest to justify in terms of public interest, and because it can perhaps be most clearly connected to the impetus for the bay process in the first place...the G. Bay fish kill. And for all that, because it's relatively cheap. 	<ul style="list-style-type: none"> • Surveys expected to continue, but data processing won't occur, preventing timely use of information. • No such funding exists for this program • If funding is not available, the volunteer DO swat team surveys should be reinstated. • Limited data to date, widening data gaps

			<ul style="list-style-type: none"> • Targeted oxygen surveys help identify areas susceptible to fish kills • This program is important for the evaluation of hypoxic events in Narragansett Bay • Cost effective, need this data for informed decisions and early warning of fish kills 	
<i>Large river monitoring by USGS on a monthly basis (DEM)</i>	\$195,000	Essential - 5 Important - 0 No Opinion - 3	<ul style="list-style-type: none"> • Water quality monitoring on large rivers which receive WWTF discharges and are tributaries to coastal waters. Long-term (decades) data collection interrupted in 2002. Need to resume regular data collection on nutrients to help estimate loads to the Bay from the rivers. Helps comply with EPA CWA mandate. • These are essential data. Need to know what is entering the Bay from the big rivers. • Absolutely essential to monitor incoming nutrient loads • If funding is not available, the volunteer DO swat team surveys should be reinstated. • Long term ecological data, discerning if mgt efforts are causing any changes, flood predictions 	<ul style="list-style-type: none"> • Failure to resume this monitoring program leaves the state not regularly measuring nutrient loads into the Bay during a period of expected change in conditions. Data also used to assess status of major river/ watershed conditions. • Currently, samples are taken only 4 times a year, which is inadequate for the assessment of seasonal trends • Water bans when the well runs dry • Inaccurate flood predictions
<i>Rotating assessments of coastal waters (DEM)</i>	\$250,000	Essential - 2 Important - 4 No Opinion - 2	<ul style="list-style-type: none"> • Monitors waters not generally otherwise sampled (other than for shellfishing). 7 coastal ponds, 12 embayments are targets. Data needed to determine fishable/swimmable/aquatic health status of these areas. Helps meet EPA CWA mandate. • These are important areas biologically, have received little attention because they are kind of liminal, and apparently under a lot of pressure, so this gets a 2; however, there are a lot of other activities to which such statements can apply, so that's why it doesn't get a 1 • The fixed site network does not cover embayments or the coastal ponds • This is essential work that is necessary to determine the health of our states coastal waters • Continue work of national coastal assessment, many data gaps 	<ul style="list-style-type: none"> • Data gaps will remain for this portion of coastal waters. Delays in documenting water quality problems (which DEM suspects exist) and initiating actions to restore water quality. • These areas will lack critical water quality data • We will not know how we are doing at protecting and restoring our coastal waters

<p><i>Rotating basin assessments of rivers and streams (DEM)</i></p>	<p>\$360,000</p>	<p>Essential - 1 Important - 4 No Opinion - 3</p>	<ul style="list-style-type: none"> • Will eliminate one of largest gaps in existing water quality data (64% of rivers are unassessed for aquatic life purposes). Important to identifying water quality problems and screening for potential pollution sources. Lays the groundwork for follow-up studies via the TMDL program. Helps meet EPA CWA mandate. • I did not make this a priority because I think it is not well enough developed to rank above the many better developed priorities. • This is important work that is necessary to determine the health of our states rivers and streams. • Needs for monitoring strategy and to have all rivers assessed fairly uniformly, instead of charismatic rivers getting most of the assessment funds 	<ul style="list-style-type: none"> • Lack of water quality data information on rivers and streams, delaying identification of problems that require abatement and may threaten public health (pathogens). • We will not know how we are doing at protecting and restoring our waterways • Drought conditions worsened by water withdrawals, long term damage to fish and their habitat
<p><i>Expansion of beach monitoring - freshwaters (DOH)</i></p>	<p>\$100,000</p>	<p>Essential - 2 Important - 4 No Opinion - 2</p>	<ul style="list-style-type: none"> • Important to public health protection. • Helps meet EPA CWA mandates. • This has direct public health implications. • Among the easiest to justify in terms of public interest; I wouldn't say it's essential because it's not being done now and the state seems okay with that risk. • It seems as though that DOH has done a good job monitoring our freshwater beaches • HEALTH currently has no funding to manage/monitor freshwater beaches. A risk based sampling design should be used to determine sampling frequency and intensity, similar to the system currently used for saltwater beaches. It is essential that this risk-based approach be taken because the freshwater beaches encompass a high proportion of at-risk bathers (i.e. small children). Many of the freshwater facilities licensed by HEALTH are children's camps. • Growing use of freshwater beaches 	<ul style="list-style-type: none"> • For freshwaters, HEALTH will continue some level of beach monitoring but will not do so in a strategic risk –based approach that has been successfully applied in coastal waters. • If funding is not received facilities will continue to collect samples and the department will react to any exceedances of the swimming standard and/or illness complaints. Sampling will not be conducted on the basis of risk (unknown), but facilities will be required to collected baseline (monthly) data. • Increased risk of exposure to contaminants
<p><i>Lake & stream monitoring (URI Watershed Watch)</i></p>	<p>\$80,000</p>	<p>Essential - 2 Important - 2 No Opinion - 4</p>	<ul style="list-style-type: none"> • Funding intended to ensure that data from this large program would continue to be collected and provided to state programs. DEM relies on this program for data on lakes. Helps meet EPA CWA mandate. • This is a up and running system of proven 	<ul style="list-style-type: none"> • Not providing state funding to this program leaves it reliant on other variable sources, which does not provide stability for the long-term. • breaks the link of long term collection, potential staff layoff, once the ball is dropped

			<p>value.</p> <ul style="list-style-type: none"> • Not enough information to judge • Very cost-effective, Provides critical data to State and EPA, only source of long tem (and short tem) lake monitoring in RI, lakes gaining in popularity for recreation alternative to crowded beaches, part of state monitoring strategy, and will provide essential context for EPA's National Lakes Assessment monitoring 	its hard to pick up!
<i>Fish tissue monitoring - freshwaters only (DEM)</i>	\$105,000	Essential - 4 Important - 2 No Opinion - 2	<ul style="list-style-type: none"> • Large data gap that has public health implications. Current fish consumption advisories are limited due the historic lack of a program in this area. Helps meet EPA CWA mandate. • We need to know what is and is not the risk to public health from mercury contaminated fish. • Among the easiest to justify in terms of public interest. It is my understanding that this is also EPA mandated. I'm not sure after one statewide survey whether it needs to be annual. Could this be budgeted as a once every 5 or 10 years thing? • The DOH has issued warnings that the fish in our states freshwaters may not be safe to eat for various pollutants, such as mercury. I do not feel that routine monitoring is crucial at this point. If something needs to be cut, this can go. • This is an extremely important issue that has been chronically un/under funded. We currently have very little capacity to test fish tissue data throughout the state. HEALTH's Office of Risk Assessment has been working with DEM to develop a plan and feels very strongly that this issue needs to be funded. This testing will help identify waterbodies where fish consumption advisories should be issued to minimize the impact to the public. • Important for human health concerns 	<ul style="list-style-type: none"> • Public will continue to catch and consume fish that contain unacceptable levels of mercury and possibly other contaminants. • Failure to fund this project will continue to put the public's health at risk through the consumption of contaminated fish. • May find out after the fact that we have been consuming unsafe and unhealthy levels of contaminants
<i>RIEMC administrative coordination and support</i>	\$66,000	Essential - 5 Important - 2 No Opinion - 1	<ul style="list-style-type: none"> • Necessary for to achieve the mission of the RIEMC. • RIEMC can not do the work it needs to do without staff support. 	<ul style="list-style-type: none"> • RIEMC activities will be greatly constrained. • The whole Bay bill system is unlikely to retain even the impaired effectiveness it has now much longer without some support.

			<ul style="list-style-type: none"> • How can we do anything without doing this first? • Before all else, commitment here necessary to advocate for and coordinate all monitoring activity • We can accomplish much more with staff!!! It is imperative that someone be hired to work on these important issues full time. • Activities cannot be continued with funding, time/funding being borrowed from other programs right now 	<ul style="list-style-type: none"> • Lack of coordination between monitoring programs. Duplication of effort. Loss of potential synergy. • Without staff we will accomplish much less!!! • RIEMC activities falter or end or are unable to meet goals
<i>Development of an invasive species monitoring plan (RINHS)</i>	\$150,000	<p>Essential - 2 Important - 3 No Opinion - 3</p>	<ul style="list-style-type: none"> • Planning for monitoring bioinvasives is needed. • Every forum that has reviewed this recommendation has agreed it is of the highest priority. • This is important because there are serious potential consequences for failing to do at least some basic invasives planning, but I wouldn't say it's essential because it's not being done now and the state seems willing to risk those consequences. This might be one area where significant progress could be made with partial funding and so partial funding should be a #1. • It is much more cost effective to identify an invasive species and eliminate it before the species takes over an entire terrestrial or aquatic system. • Growing problem in aquatic ecosystems 	<ul style="list-style-type: none"> • Unprepared to effectively respond to the emergence of invasive species which can, once widely distributed, have significant economic consequences. • This is a game of Russian roulette. The longer we delay developing a monitoring and response plan, the greater the chances an invasive plant or animal will arrive and flourish. Control will cost a huge some of money. • How do you quantify the difference in risk with a plan and without one? The consequences of not doing invasives planning immediately may be that a particularly destructive species gets a foothold in the state and costs millions of dollars in economic damage or control costs. That could happen even with a plan, but it is less likely. Also RI will remain badly positioned to mitigate environmental deterioration from invasions already underway but not yet statewide, such as Japanese Knotweed. We will not be participating in regional early warning systems, research on prevention and control, or leveraging existing invasives monitoring and control efforts, all of which would improve RI's chances against problem species. There will be no consideration of the invasives threat in the many plans for new shipping regimes in the Bay. In short, our ability to manage our environmental resources will be diminished or abdicated to other parties (Mass., federal, commercial) who do not necessarily have the economic and cultural value of RI's environment as their top priority. • Pay now or pay much more later. • Missed momentum with other state & national

				efforts
<i>USGS streamflow monitoring (WRB)</i>	\$242,000	Essential - 5 Important - 1 No Opinion - 2	<ul style="list-style-type: none"> • Expansion of gages will generate streamflow data useful to several state agencies. • These data are required by anyone tracking nutrients entering the Bay from the rivers. • There is value to many resource management agencies for this single investment. • It is hard to see how anyone can say anything about the health of the bay watershed without these data, plus doing it guards the value of a large prior investment and the data are needed for urgent water supply planning questions. • Without sufficient stream flow data, we cannot monitor nutrient inputs to the rivers and the Bay. • This is one of the largest data sets available and this monitoring should be maintained. • Document flow conditions with increasingly variable precipitation 	<ul style="list-style-type: none"> • Less data available to support management decision-making in certain watersheds. • Not funding this will mean that we continue to have insufficient data • Interruption of data critical to assessing pollutant loadings • Loss of flood prediction capability
<i>Emergency response data review (RIEMC)</i>	\$11,350	Essential - 0 Important - 5 No Opinion - 3	<ul style="list-style-type: none"> • Process would identify the gaps between what we know and what we want to know in responding to emergencies. • This is just a good investment; it wouldn't necessarily be a crisis if it were put off, but it might. • This is important, but not a critical monitoring initiative. 	<ul style="list-style-type: none"> • Delays formulation of monitoring strategies to collect data needed to support emergency response programs. • The problem here is similar to invasive species planning. If there is a crisis, you'll really regret not spending such a small amount on preparedness. If there isn't, then you'll think you were very clever. Ask the mayor of New Orleans how that calculus worked out for him. • If not funded, the low cost of this project can be absorbed by individual agencies.
<i>Monitoring development grants program (RIEMC)</i>	\$125,000	Essential - 0 Important - 5 No Opinion - 3	<ul style="list-style-type: none"> • Could be directed to make strategic enhancements in existing monitoring programs by accessing expertise not available in state monitoring programs. • This just doesn't seem that urgent. • It is important to have funds available to encourage the development of new demonstration monitoring projects and to have the ability to fund monitoring initiatives that should arise after the fiscal year budget 	<ul style="list-style-type: none"> • Many of the monitoring activities required of the RIEMC in statute and recommendations made by the SAC will not happen should this not be funded. • Inability to investigate new technologies of fund special monitoring initiatives not clearly identified at the time of budget preparation.

			has been finalized	
<i>Database capacity assessment (RIEMC)</i>	\$53,000	Essential - 3 Important - 4 No Opinion - 1	<ul style="list-style-type: none"> • Needed to achieve the goal of processing and providing access to data in a timely manner. • First, better coordination and dissemination of data is one of the activities specifically envisioned by the writers of the Bay bill so it should be done. Doing a coordinated review and plan now is a good investment because there are many nascent efforts for database consolidation. • Invest early on in a database framework that will increase data sharing and communication among monitoring participants. • Data needs to be available for peer review now. Our state's best minds are crying out for the data and we need to fast track this, rather than studying the issue for an extended time. • Need a way to coordinate data from agencies and get it out to those who need it 	<ul style="list-style-type: none"> • Delays data system improvements that could enhance the sharing and use of information among state agencies and other stakeholders. • It wouldn't necessarily be a crisis if it were put off but doing so would reduce the ultimate value of doing it at all since other initiatives would have gone forward in the absence of state-wide coordination and we'd just have to learn to live with the results. • Loss of value in monitoring data due to lack of use, inaccessibility, or lack of awareness of their existence. • We need to work together to seek other funding mechanisms, such as the recently posted EPA grant. Two of the Coordination Team sister agencies have separate grant projects being funded under this program. A comprehensive grant proposal should be submitted that details the needs for the entire state.

Activity	# Votes Essential	Cost	Running Cost
Large river monitoring by USGS on a monthly basis (DEM)	5	\$ 195,000	\$ 195,000
RIEMC administrative coordination and support	5	\$ 66,000	\$ 261,000
USGS streamflow monitoring (WRB)	5	\$ 242,000	\$ 503,000
Fixed-site monitoring in Narragansett Bay (DEM)	4	\$ 239,000	\$ 742,000
Fish tissue monitoring - freshwaters only (DEM)	4	\$ 105,000	\$ 847,000
Dissolved oxygen surveys (DEM/NBEP)	3	\$ 42,500	\$ 889,500
Database capacity assessment (RIEMC)	3	\$ 53,000	\$ 942,500
Development of an invasive species monitoring plan (RINHS)	2	\$ 150,000	\$ 1,092,500
Lake & stream monitoring (URI Watershed Watch)	2	\$ 80,000	\$ 1,172,500
Expansion of beach monitoring -freshwaters (DOH)	2	\$ 100,000	\$ 1,272,500
Rotating assessments of coastal waters (DEM)	2	\$ 250,000	\$ 1,522,500
Rotating basin assessments of rivers and streams (DEM)	1	\$ 360,000	\$ 1,882,500
Emergency response data review (RIEMC)	0	\$ 11,350	\$ 1,893,850
Monitoring development grants program (RIEMC)	0	\$ 125,000	\$ 2,018,850