

Environmental Monitoring Collaborative (EMC): Spring Meeting
RI Department of Environmental Management, Room 300
Meeting Minutes and Notes
May 29, 2014

Members Present: Nicole Rohr, Sue Kiernan, Tom Uva, Paul Gonsalves, Matt Ladewig, Amie Parris, Linda Green, John Torgan, David Murray, James Boyd, Tom Borden, Bob Stankelis, Marci Cole-Eckberg, Hal Walker, Chuck LaBash

Attendees: Michelle Peach, Elizabeth Herron, Dave McLaughlin, Pam Reitsma, Judith Swift, Caitlyn Whittle, Ames Colt

Nicole Rohr opened the meeting by welcoming the EMC participants and thanking them for their participation. She then initiated a round of introductions followed by an update from each EMC member present on their summer 2014 monitoring plans, specifically if there were any changes to the established protocol.

Summer 2013 Monitoring Plans

Sue Kiernan reported that all of the usual programs at DEM will continue this summer. The Rotating basin strategy is targeting 42 stations, and will complete the second cycle around the state. Also, DEM has established a Twitter Account if anyone is interested in following.

DEM will also be monitoring some targeted items. They will target the monitoring of metals in freshwater rivers and nutrient criteria because better data may help remove some rivers from the lists of impaired waters. A limited survey of aquatic invasive species will also be conducted.

Shellfish areas in the upper Narragansett Bay that have likely been impacted by the combined Sewer Overflow will be monitored to see if closure line for area B can be moved north to reflect an improvement.

DEM continues to work on a water quality management plan, as well as collaborate with Save The Bay and the Narragansett Bay National Estuarine Research Reserve on developing salt marsh monitoring strategy.

The annual agreement with U.S. Geological Survey (USGS) has been renewed but, because of the collision of rising costs with limited capacity, Sue Kiernan expects this will be trimmed back. She anticipates groundwater elevation measurements will continue with some scaling back on river monitoring. The scope of work will be decided at a June 11th Coordination Team meeting. USGS is doing statistical analyses of data for aspects like cutting winter month stations with no impact on trends/loads. They are currently not talking about cutting a station completely.

DEM is also finishing assessment listing methodology document and the statewide assessment for 2014 in 2015.

Nicole Rohr raised the idea of adding a USGS representative to the EMC and, hearing no objections, she will work with Ames Colt to move that forward.

Hal Walker reported that the U.S. EPA Atlantic Ecology Division will continue their research and monitoring efforts but they do not have long term data they currently contribute to the EMC report.

Ames Colt elaborated on Sue Kiernan's report of funding for USGS. The Coordination Team was given \$250,000 a year from OSPAR fund for economic and environmental monitoring, and that full amount is currently being dedicated to stream gauge network and water monitoring that USGS does. The cost of the monitoring is rising though, and the question remains, how much of the CTs other funds should we tap into to keep those contracts going? There are several projects the CT is funding in 2015 and can only afford about \$41,000 out of general fund for USGS and may be able to pull \$20,000 more out for one year only. Starting in FY 2016, the management of the finances for the CT will change and at that point the USGS will take about 2/3 of the budget.

Currently, USGS stream gauges are being funded by the CT at about \$291,000, but it is not enough. Should all of CT funding go to stream gauges? We all see a lot of monitoring needs that are not met but we have felt that the USGS work is so essential that we should fund it.

Sue Kiernan pointed out that when RI DEM has had an opportunity at state and federal levels to help out, it has done so. There have been national letters signed by the federal congressional delegation, etc. RI DEM will raise the issue of stream gauges during the budget process in a couple of months. It is a dilemma because the State does not view it as a funding need because the CT covers but the CT never intended for its funding to be a permanent solution. Tom Uva also stresses the importance of stream gauges as a core activity each year.

Tom Uva reported that the Narragansett Bay Commission (NBC) will continue the monitoring they have done in the past. He also highlighted that all of the data they collect can be viewed on NBC's snapshot website (<http://snapshot.narrabay.com/app/>). NBC is likely to expand plankton monitoring in upper Narragansett Bay, and have met with Dr. Ted Smayda of URI's GSO to discuss what monitoring should occur. NBC monitors nitrogen compounds and the data become available on the website fairly quickly.

NBC continues to monitor urban rivers weekly and they operate two sondes. NBC is also adding a new portable sonde in order to learn more about what is going on in the shoal area. NBC is applying for many grants with one of the large grants being the sustainability grant to be kicked off with RI DEM and the CT this fall. The sustainability grant is very large and has had much input.

Paul Gonsalves reported that Statewide Planning is not conducting any specific monitoring right now but looking at the longterm importance of monitoring. Statewide Planning is working with RI DEM to update the water quality management plan, which will specifically include the expansion of monitoring in the future for long term goals.

Tom Borden reported that the Narragansett Bay Estuary Program is not conducting environmental monitoring itself, but is in the midst of a request for nutrient management projects in the greater Narragansett Bay Watershed in both Rhode Island and Massachusetts. This grant program is part of the Southern New England Coastal Watershed Restoration Program. The United States Environmental Protection Agency received \$2,000,000 in funding to address projects in the coastal waters and watershed lands spanning from Westerly, Rhode Island to Pleasant Bay, Massachusetts. This area includes the watersheds of Narragansett Bay, Buzzards Bay, the Islands, and southern Cape Cod. The Request for Proposals for Narragansett Bay has been posted on NEIWPC's website at: <http://www.neiwpc.org/contractors/opportunities.asp>. For projects within the Buzzards Bay watershed, see: <http://restore.buzzardsbay.org/grants.html>.

Judith Swift commented that the URI Coastal Institute gets many requests for funding to be used in monitoring. It may be worth considering working with the Metcalf Institute to do a summer focus with their journalists on monitoring, especially with journalist Corey Dean in residence at Brown. Perhaps an opportunity to get a complete story on monitoring during the summer of 2015?

Bob Stankelis reported that NBNERR is planning to monitor the four fixed sites as usual. In addition, NBNERR will be conducting intensive salt marsh monitoring and elevation mapping, and enhancing this monitoring in a couple of places with partners. NBNERR is beginning to work with CRMC on invasives of submerged aquatic vegetation. The Reserve is also monitoring a handful of unfunded terrestrial projects as well as tick monitoring.

NBNERR and Save The Bay held a salt marsh symposium in April 2014 and it was very beneficial. Bob is not sure if there will be a formal written summary but information is being compiled for the NBNERR website, an issue of the Bay Journal, and then peer-reviewed publications. The hope is to reach an even broader audience.

David Murray and collaborators at Brown University will continue spatial surveys this summer targeting neap tides. The group is attempting to target more of the impaired areas and potentially hypoxic events. However, there currently is no funding for working up the data. The NBEP provided some funding to work up the 2005-2013 data and this will be available in a manageable, downloadable summary file so others can start to utilize it. The group has good confidence that the anomalies have been removed. Sue Kiernan agrees it was well-spent money. The data are especially useful for model validation. Some students will work on 2014 preliminary data and there is a targeted effort to improve the chlorophyll data. Sue Kiernan highlighted that with changes in the NBEP, Chris Deacutis will not be directly involved in surveys anymore, but there will still be good coordination between this and the fixed site network. David Murray's group has access to three boats this summer through DEM, Brown, and Save The Bay. Tom Uva offered boat assistance to the Brown group if needed and David Murray offered to share a program that Phil Howell developed to smooth out data.

Aside from the monitoring, David Murray commented that after the oil spill several years ago one of the comments was that there wasn't enough monitoring for baseline. Then, the 2003 fish kill occurred and the lack of baseline data was again commented on. It is important to focus on monitoring as a way to compare pre- and post-event data in order to tell what has changed in the environment. Tom Uva supported. TNC – focused on ecological services of restoration projects specifically juvi finfish and shellfish productivity from constructed oyster reefs. Ninigret and Quanni. Add five stations on block island great salt pond for finfish monitoring. Monitor the eco surfaces of the Narrow River Fits in with a regional and national focus. Will be doing DO and other standard water quality measurements.

Marci Cole Ekberg reported that Save The Bay will be working with NBNERR on a statewide salt marsh monitoring strategy that follows up on RISMA and will incorporate portions into the strategy a three-tier approach. They will be seeking funding for implementing the strategy. Save The Bay is also working on a final report for CRMC that can be shared with us as well. The last overflights for salt marsh and eelgrass were in 2012 and Save the Bay will start looking for funding to do them again next year. SAV task force recommends 3-5 years between overflights.

Marci Cole Ekberg expanded on details from the workshop and stated that the possibility of repeating it every two years has been discussed. Summary of the presentations will be in a July/August Bay Journal issue.

Matt Ladewig and ESS Group, Inc. will continue to support DEM with stream monitoring and cyanobacteria monitoring work. While not directly related to environmental monitoring, Matt Ladewig described a current project on Block Island Springhouse Pond on a coastal bluff. The bluff has been eroding and there is a possibility that the pond will not be there much longer. ESS is working with Block Island Land Trust to explore preserving the pond. They are beginning monitoring of the pond to learn more about it.

Caitlyn Whittle reported that there is no substantial monitoring in this area by EPA. Sue Kiernan added that the Chelmsford lab is collaborating with DEM and DEP to target the Palmer River watershed. They are working on source identification tracking in coordination with shellfish monitoring with an overarching focus on bacteria. This work is in response to requests from both RI and MA. The Chelmsford lab is also doing some bathymetry work in RI

Michelle Peach (attending for David Gregg) said that the Rhode Island Natural History Survey is updating the RI freshwater monitoring assessment plan and it should be complete in the next few weeks. She would like to ask this group for review and comments. Nicole Rohr said that she could help circulate any draft documents for comments. RINHS is still determining their field monitoring components for this season.

Amie Parris reported that the RIDOH beach sampling schedule will stay pretty much the same. Urban beaches were not monitored last year because of uncertainty in funding but RIDOH is picking back up all five stations this year. There are a few changes in urban beach

monitoring this year though: RIDOH is not monitoring Gaspee Point because NBC already does so. RIDOH is adding Stillhouse Cove instead.

RIDOH is also working with East Providence this year to hopefully open Sabin Point as a licensed beach next summer. Sabin Point would be the first licensed urban beach in RI. There is currently a pipe that discharges onto the beach but have received a grant to fix the pipe by end of the summer. East Providence is excited about the grant and possible licensing. Sabin Point could be highlighted in next year's report.

RIDOH collected 1600 samples last summer and will increase to 2000 this year. RIDOH is also working with RIPDES and stormwater monitoring around Oakland Beach – a few 24,000 levels were monitored last summer and beach closed for weeks at a time. The project will be looking at what species (human, animal, etc.) that the bacterial contamination comes from. Pam Reitsma highlighted the success of sewage sniffing dogs in other places. U.S. EPA is working to get that accepted as a methodology and it has been approved in the Great Lakes region. It is more affordable and instant method. U.S. EPA Boston has some low cost testing kits/field kits and Save the Bay uses those for 32 sites in a source tracking study from Providence to Warwick and DOH will be analyzing that.

Tom Uva raised a question about tracking illnesses. RIDOH tracks all illnesses that are reported (for every 1 reported it is estimated that 142 aren't reported). Outbreaks are reported to CDC national program with "outbreak" defined as more than two individuals in two different houses. There are less than 5 water-related illnesses a year reported to RIDOH and there has never had an outbreak in marine waters.

U.S. EPA has promulgated new draft criteria for saltwater licensed beaches that mandate how monitoring will occur. In the past, there has been flexibility in the protocol from state to state. There are over 30 pages of requirements that must be met in order to receive FY2015 funds. This is a big deal because U.S. EPA is the sole funding source for the RI Beach Program.

One of the proposed changes that would have the biggest impact is the lower of the closure criteria from 104 to 60, which U.S. EPA believes correlates to 32 illnesses per 1000 people. Amie Parris looked at the 2012 data and there were 111 closures, but if the proposed U.S. EPA change would have been in effect, RI would have had over 200 closures. RIDOH is concerned that the change would lead the public to feel that water quality is getting worse, which is not necessarily the case. RIDOH has submitted comments.

RIDOH is also concerned that the changes require a switch from 24 hour testing to QPCR 3-hour test which is very expensive and would cost hundreds of thousands of dollars to get the lab up to speed.

There was a lengthy discussion on the proposed changes by U.S. EPA to beach monitoring with some of the highlights including:

- The proposed change states that all pathogen samples must be collected within 30 days, while now sampling occurs May to October.

- The previous 104 level was only based on fever causing illnesses but the proposed 60 standard is based on a variety of illnesses including fever, GI, skin, eyes, etc. So, the proposed change is based on the same risk level but includes more illnesses and is based on epidemiological work.
- RIDOH is looking for clarification on phasing in implementation of final rules in order to be able to work toward the changes. Connecticut estimates that it would take then about four years to implement the proposed changes and the time would be partially dictated by public comments.
- RIDEM would also need to go through a rule-making process to change the standard from 104 to 60 because 104 is in the regulation.

Caitlyn Whittle added that she was on a call with Amie and counterparts a few weeks ago to discuss issues and they are waiting to see what comes out of it. Amie Parris highlighted that these changes could be significant and RIDOH would have less than a year to make all of these revisions to get any of the money.

RIDOH is nearly finished with their website on fish consumption advisory. The website will provide recommendations for consumption levels on species and also the data will be available. Marci Cole Ekberg asked if there is a plan to add saltwater fish to the website. Amie Parris said she is not sure because while there is some data on marine fishes there is not nearly as much as freshwater.

RIDOH is applying for a three-year environmental health tracking grant through CDC with the goal to build a database that merges environmental data with public health data. It is also in the plan to add some climate change and water quality data. Sue Kiernan highlighted that some firewall issues that RIDEM has had for RIDOH to be aware of.

The RIDOH health lab will work this summer to validate methodology and testing for cyanotoxins and they just secured an LCMS machine that can do this analysis. RI will then be able to submit lake samples at a much cheaper cost starting at the end of this summer or next summer. Matt Ladewig asked if it would have multiple toxin capabilities. Amie Parris said yes but she is not sure of the exact ones it will be capable of yet.

Linda Green at URI Watershed Watch underscored the importance of “old” data. URI WW has started their sampling season with roughly the same number of sites as in the past. Some private organizations are having trouble coming up with the \$600 annual fee to cover the cost of the monitoring.

URI WW is working with EPA Region 1 on a cyanotoxin monitoring project. Coastal Fellows will compare normal chlorophyll monitoring procedure with some more high-tech methods to get a better idea of cyanobacteria in freshwater resources. The cyanobacteria project will start middle of June.

URI WW is also working with URI GSO professor Rainer Lohmann to expand plastics monitoring at about 30 sites.

Linda Green also commented that at the recent National Water Quality Monitoring Conference volunteer monitoring coordinators discussed their rebranding of “volunteer monitoring” as “citizen science” for a number of statewide programs. This is because of the surge in numbers of “citizen science” programs and the seeming popularity of its name. Elizabeth Herron voiced that URIWW considers volunteer monitoring the merging of citizen science and long term stewardship. Participation in some citizen science programs is attractive because it does not involve a personal commitment to long term monitoring as programs such as URIWW does. A recent exhaustive search and survey by Kris Stepenuck of WI determined that there are ~340 parent or stand alone volunteer programs nationwide, 9 or 10 that are strictly service providers, and about 1400 affiliated volunteer monitoring programs that are part of a larger monitoring program, with a total of ~ 1800 programs nationwide. There is a high concentration in New England. This is much higher than previous guestimates of 800-1200 programs overall. There are links to all of the parent and service provider programs at <http://www.usawaterquality.org/volunteer/VolunteerMonPrograms/index.html>

URI WW, along with other groups, is working on jellyfish monitoring using a smartphone app with Carolyn Carp. Currently, they are trying to get a website set up. Tom Uva and David Murray also participating with this effort.

Heather Stoffel reported that URI GSO is conducting the same monitoring as in the past with no planned changes.

Chuck LaBash reported that the URI Environmental Data Center continues to work with RI Statewide Planning and RIGIS to serve up geospatial data through public facing websites. Two new statewide datasets released through RIGIS were interpreted from the 2011 Statewide 0.5 foot 4-band orthophotography (contractor Photo Science, Inc):

- 1) The 2011 Land Use and Land Cover serves as an update to the 2003-2004 dataset. The minimum mapping using is 0.5 acre and the classification system is a modified Anderson Level III consistent with the 2003-2004 and 1988 Statewide Land Use/Land Cover datasets.
- 2) The 2011 Impervious Surface dataset updates the previous rendition developed from 2003-2004 conditions. This is a raster dataset with a 2-foot pixel resolution representing paved surfaces and other manmade features such as buildings, roads, sidewalks, driveways, parking lots, swimming pools, tennis courts, compacted dirt roads, athletic tracks, and water treatment facilities.

This spring a new statewide orthophoto data set was flown (contractor Fugro EarthData, Inc.) at 1-foot pixel resolution, it is in QA/QC and should be available for distribution in the fall. The URI EDC/RIEMA forum on The Role of GIS in Emergency Management was held last month with the support of the URI CI.

URI EDC is finishing up a project with USGS and DEM to develop a pilot looking at migrating national hydrography data classifications (currently at 1:24,000 scale for RI) to a higher resolution hydrographic basemap (1:5,000). There was some discussion on the statewide GIS blanket agreement and annual licensing fee. Shane White, RIGIS Coordinator at RI Statewide Planning was mentioned as the person to direct questions to.

Other updates

Nicole Rohr reminded EMC members to send along any surveys for the 2013 report that had not been completed yet. She also introduced Terri Breeden, a URI MESM student who will be working this summer to develop the EMC report. Terri Breeden will be emailing the members to ask for clarification of and additional information for the report. Her email is tbreeden@my.uri.edu.

Ames Colt reminded the EMC members that the RIEC3 final draft report came out earlier this month with a meeting to discuss the final version tomorrow. Several of the goals are items that impact and/or could dovetail with the EMC. Specifically, Goal 7 applies to science and technical advisory technical committee that will keep committee abreast of work related to climate change and resiliency. The report lists the types of tasks they are seeking to accomplish with the monitoring of changes in the environment – natural and built – to track investments and outcomes and changes due to climate change. Goal 7.4.1 strengthens and expands existing EMC. Ames Colt highlighted that the state law that created this collaborative actually includes terrestrial concerns and there is potential in the law to fortify the EMC and expand into climate change. We need to continue emphasizing that climate change has been a top priority in Rhode Island across many sectors for some time. There is not a strong need to create new working groups and councils unless we really feel like it is needed.

Nicole Rohr would like to include case studies in report that have a strong tie in with climate change. Sue Kiernan mentioned that Dave Vallee has great factoids. David Murray would like to see a case study on the increase precipitation and stormwater runoff issues. Sue Kiernan believes there is an opportunity to feature shellfish in a case study because the interstate shellfish compact is looming due to increased detection of certain types of bacteria. Amie Parris said that the deadline for this in aquaculture oysters is July 1.

Tom Borden provided an overview of the NBEP RFP for nutrient projects in the area of Westerly to end of Cape Cod. There is currently \$2 million with recommendation by President Obama for \$5 million next year, which is subject to Congressional approval and appropriations. This is a great opportunity for a geographically based funding source. Two page preproposal due June 9th and consideration will be given to on the ground projects for this year or setting up for on the ground project in the next year. Tom Borden will send around more information via email following the meeting.

Nicole Rohr, Tom Uva, and Sue Kiernan mentioned a survey from DEM. It may not directly apply to many of the groups represented by RI EMC member but there is an open ended question at the end that is about what records you would like to be able to get from the department. Nicole Rohr will send around more information by email.

Tom Uva would like us to consider a day long workshop to show results of the monitoring in the winter. This could be an event we invite press to in order to get more focus on the importance of monitoring. There was strong agreement that this is something members would be interested in participating in. Nicole Rohr, Tom Uva, and Sue Kiernan will work with the other EMC members to plan something for the end of the year once there has been an opportunity to evaluate the data.

Meeting adjourned at 11:00 AM.