

**Environmental Monitoring Collaborative (EMC): Fall Meeting**  
**Narragansett Bay Commission Boardroom**  
**Meeting Minutes and Notes**  
**December 17, 2013**

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**Members Present:** Nicole Rohr, Sue Kiernan, Tom Uva, Ames Colt, Kenny Raposa, Marci Cole-Ekberg, Tom Borden, Amie Parris, Jim Boyd, Hal Walker, John Torgan, David Gregg, John King, Margarita Pryor, Matt Ladewig, Linda Green, Heather Stoffel

Nicole Rohr opened the meeting by welcoming the EMC participants and thanking them for their participation. She then initiated a round of introductions.

Ames Colt provided an overview of the EMC and its statutory obligations for reporting as well as his hope that the EMC will develop a comprehensive monitoring plan in the next year. He also gave a summary of the funding available by the Coordination Team to support EMC activities. The CT has \$250,000 per year for monitoring activities to be split between the environmental and economic monitoring collaboratives. These funds currently are supporting monitoring done by the United State Geological Survey under agreements with DEM and WRB. In addition, the CT currently commits \$70,000 out of the Bays, Rivers, and Watersheds, revenue fund for ventless trap lobster surveys and the USGS monitoring. USGS costs are going up but it is important that we make efforts to keep the stream gage program operational. Ames ended by stressing that a key component of hopefully getting more money for monitoring is to address the critical connection between monitoring and management in our EMC reports to the state legislature.

We then discussed general feedback on the 2013 EMC Report that covered the 2012 monitoring season. Dave Murray pointed out that he submitted some comments and corrections that were not incorporated in the final draft. He offered to make a greater contribution in that aspect on the future report. Tom Uva did highlight that this report goes through many rounds of editing but that this year we could strive to do a better job at running the final text by the section experts a final time. That was met with agreement. Sue Kiernan felt that the breadth of the report was great but that there are still some critical gaps such as freshwater fisheries. Tom Uva pointed out that this report is technically due in January according to the statute but we struggled to finish in September and that this is important from a budget point of view. Jim Boyd pointed out that submitting the report in the fall does coincide with the time that agencies are preparing their budgets for submission to the governor. Margarita Pryor requested we be mindful of the time it takes to compile and analyze the summer survey data; so, a fall report means we are reporting on data from two summers part (e.g. the fall 2014 report will cover 2013 monitoring data, not data from the 2014 summer). Ames Colt believes there are opportunities to go directly to the general assembly with the message for more funding for monitoring.

We then moved to short reports from each member on the 2013 monitoring season report.

Dave Murray reported Brown University monitoring efforts for dissolved oxygen in the Bay. He and his team conducted spatial surveys over the summer with 6 surveys on neap tides and they targeted tidal minimums. His team has the ability to conduct surveys based on buoy data and that is how they plan to adapt to reduced funding. This year had a wet spring and early summer which was similar to 2006, but with fewer hypoxic or low oxygen events. Progress! John King asked if the buoys have wind speed and direction. They do not but that information is available through port data and NBNERR, and Heather looks at that when she analyzes the data. The full analysis is available on their website.

Kenny Raposa from the Narragansett Bay National Estuarine Research Reserve reported on salt marsh monitoring to assess response to sea level rise at two sites on Prudence Island: Coggleshall and Nag Marshes. A handout was provided with more information but the take-home messages were that there is a decrease in high marsh habitat with the prediction that this habitat will be lost at Coggleshall by 2017, and there seems there may be more high marsh loss in the lower bay than the upper bay. NBNERR currently has a proposal to work on marsh mapping through the bay and to look at a change analysis from 2006 to 2012. Several questions were raised regarding marsh movement, potential uses for maps, and other research being conducted in salt marshes. Kenny and Marci are planning a salt marsh symposium for this spring that they hope will dive into many of these questions and help coordinate efforts around the region.

Marci Cole Ekberg from Save the Bay added that one aspect being looked at around salt marshes is potential nutrient input using land use analysis. They have noticed that there seems to be an opposite gradient of input with marshes in the north doing better than marshes in the south. This may be due more to tidal influences than nutrients. The RISMA – RI Salt marsh assessment protocol was developed last year. It has been used at 39 marshes over last two years to analyze vegetation composition and capacity of sediment. It is simple to implement and shows that large portion of marshes are covered with low marsh plant *Spartina alterniflora*. The goal is to implement RISMA every 3-5 years with a subset of gradient every year. STB takes the information generated and begins to implement adaptive management protocols. Margarita and John King highlighted the impact of mosquito ditches and subsidence on marsh migration in response to climate change.

Marcy also reported that not much is going on with eelgrass but STB does participate in seagrassnet monitoring each year. Previously, STB testing transplants, but the funding ran out and they are looking for more. They would like to re-groundtruth aerials flown last year but need funding for that as well. Overflights in 2015 are expected to cost \$80,000. John King inquired about temperature monitoring and approaching the threshold for eelgrass, Marci has that data but has not yet analyzed.

Amie Parris reported that funding for beach monitoring by the RI Department of Health was obtained once again from EPA for this year but next year is up in the air again. There were 1400 saltwater samples collected at 42 beaches but only 42 of those were from the Upper Bay at Fields and Sabin Points. An additional 400 samples were collected in Newport alone. They have not trended the data yet but will have results soon. Next year, Amie hopes to increase urban beach sampling, investigating areas of the Upper Bay that are not currently monitoring, and start

looking at secondary contact sites. Margarita also highlighted that monitoring secondary contact sites may also help inform fishing and fish consumption patterns. Dave Murray asked about communication plan for secondary contact and Amie has not looked into a plan yet, but that does not mean there will not be one. Tom Uva highlighted that the 48 hour delay in results prevents a targeted communications plan but lends itself more to general warnings. Dave concurred.

Jim Boyd reported that Kevin Cute continues the marine invasive species monitoring largely with a volunteer effort. CRMC also continues dock monitoring using larval settlement plate collection plates to assess distribution and abundance. An intern is coming in to look at last two years of data of the dock monitoring data. New this year, transects were done in eelgrass beds in pilot areas to look at invasives such as tunicates. They hope to expand this program. CRMC is also monitoring shoreline change as a part of the Beach SAMP. Drs. Boothroyd and Oakley are looking at changes since 2007 and they expect to see significant changes.

Hal Walker reported that the EPA lab landed a five-year research project looking at the Narragansett Bay watershed (see handout at end of notes). One interesting project has been in conjunction with the National Coastal Assessment, which determined that molybdenum deposits can serve as a proxy for oxygen levels and then be extrapolated to count hypoxic events. Currently, there are cores for seven different sites to look at history of hypoxia.

John Torgan reported that The Nature Conservancy continues piping plover monitoring, burying beetle monitoring on Block Island, and avian monitoring. In addition, TNC is supporting a project out of Yale looking at deer ticks on Block Island. There is not global marine monitoring project but do support many monitoring projects – oysters, fish, reefs – and will be using post-Sandy funds for projects in the Pawcatuck and Narrow Rivers. There is a strong regional interest in understanding the benefits of RI investments in wastewater treatment upgrades and how we are measuring the ecological benefits of that. If anyone has stories, please contact John. Tom Uva raised the idea of two day EMC workshop to get the data out to the general public, possibly dovetail with the STB legislative event. Amie thought grad students might be interested and Margarita thinks that helping groups bring information forward should be a goal of the EMC.

David Gregg reported that the RI Natural History Survey is working with DEM Office of Water on wetlands monitoring protocols. In the past, RINHS has dedicated a decent amount of time to freshwater invasives but that trailed off this year as a result of reduced funding and a shift in focus to the Rhody Plant Initiative. RINHS has few resources for field work at this point. About 10 months ago the Invasive Species Council met to look at the invasive species metric that was being used in Watershed Counts. The work on the metric was a good development and it will continue. RINHS continued work on the water chestnut infestation in North Kingston but did not work in Chatham pond this year. TNC, EDC, DEM, and RINHS signed a MOU regarding the collective responsibility for the management of natural history database.

John King reported on coastal erosion monitoring, which has been a program at GSO since 1962. The trends in coastal erosion are not good and they have been trying to update the data over time. John wrote a proposal for side scanning LIDAR, which the Champlin Foundations funded the

acquisition of, and are now trying to bring that online. They have monitored about 20 places and with side LIDAR you could do the whole South Shore in one day. However, processing and analyzing the data is a bit daunting. His initial focus is on beaches this has been used to monitor marshes.

Tom Uva reported that the Narragansett Bay Commission continues to monitor bacteria in urban rivers (twice a week), the Bay (every other week), and nitrogen monitoring on the off-bacteria weeks in the Bay. The data from this summer is terrific with DIN in “good” category at Conimicut Point for two straight years, Seekonk was in “fair” category for the first time, and the rest of Bay was “fair”. NBC is also watching nitrogen levels in the sediment and have added benthic video monitoring and plankton monitoring this year. The plankton monitoring is showing amphipod mats and mantis shrimp burrows and NBC would like to do quadrat sampling over burrows to further look at changes. Fields Point nitrogen load is down 73% since the 2007 fish kill and Buckland Point has already reached 66% reduction. Phase II of CSO is underway and it will be completed next year if everything stay on schedule. NBC has also seen great reductions in bacteria and a new report will be on website soon. The take-home message is that \$1.3 billion is being spent but there are still problems with water quality that need to be addressed. NBC is still doing the fixed sites network. Dave Murray asked about particulate nitrogen monitoring; NBC does not measure it directly but can deduce them from the other nitrogen data that is collected. Dave pointed out that phytoplankton and Ulva blooms are still occurring and that Ulva survey data is missing (Note from Nicole: some Ulva surveys in Greenwich Bay are being done by Carol Thornber. Possible inclusion in report?). Ctenophore monitoring in the Upper Bay started this year and it would be good to look at nitrogen coming out of the sediments.

Margarita Pryor reported that the EPA Chelmsford lab is operating the National Coastal Survey for 2015, and it is a great opportunity to influence what is going on here in RI. This is the second sampling year for large rivers and streams and the results on webpage. Habitat and nutrients seem to be indicators of poor quality. A Wetlands survey will be next with the design phase in 2015 and it would be great to have some EMC people involved.

Matt Ladewig indicated ESS is contracted to work with DEM on DEM with monitoring programs such as cyanobacteria in lakes and ponds and biological monitoring in streams. His initial impression are that a number of streams that were dry this year, more than typical. He also does with other agencies and NGOs mostly on small monitoring projects, and has worked with NBC on midge monitoring in Bishop Cove for many years.

Linda Green reported that Watershed Watch finished with 400 volunteers on 280 sites. They are working on developing a database and hope to have a workshop to present its development and get input. DEM is collaborating on formatting and EPA has weighed in as well.

Heather Stoffel reported that with the fixed site monitoring all the years are looked at each year. They conduct seasonal analysis, and there is a slight downward trend in dry seasons and slight downward trend of hypoxic days. Dan Codiga is also looking at CHRP data on event scale. In wet years, there tends to be lighter wind than in dry years. In 2013, they did see some peak surface temperatures at some locations – over 80 degrees in early July in Mount Hope Bay and on north Prudence Island. There is a mix of buoy seasonal and year round stations on dock sites

and they look at year round trends in dissolved oxygen, temperature, and pH. Some long term data has been collected since 1995, and there is an upward trend of pH and return of winter-spring blooms. She anticipates DEM/URI funding agreement for the next year. Long term funding stability remains a concern.

Sue Kiernan reported on RI DEM monitoring efforts, which are wide and varied. They continue work on PORTS, ambient river monitoring, and nutrient criteria development for wadable rivers and streams. DEM participated in the second national resource survey for rivers but does not anticipate direct participation in the coastal survey, nor did the agency participate in the wetlands survey. Other DEM efforts include shellfishing program, limited work on aquatic invasives, TMDL follow up work, and maintained limited cyanobacteria work with DOH. DEM is planning and is going out in the winter and early spring to do additional work in the Newport drinking reservoir to look at eutrophication of their drinking water system because of algal blooms in the source water. There is a lot of future focus on Aquidneck island, including an NRCS monitoring plan. DEM recently published Island Fishes of Rhode Island book. There are concerns about cost increases being sought by USGS for stream gauge and other monitoring and the program is currently dependent on the Coordination Team to fund that. DEM reduced groundwater observation wells and saved \$20,000 but cost increases for next year will likely be more than what can be offset with savings. DEM, with the WRB, will be doing a little more work to come up with an alternative design which will likely be fewer groundwater wells being measured. Let Sue know if you are interested in participating in the discussions. The mercury spill in Pawtucket court settlement will provide close to \$150,000 to measure mercury in fish tissue and there will be more information coming on how those funds will be spent.

At this point, each person had provided an update on their monitoring efforts, so the conversation shifted to more discussion on a possible EMC workshop, which was raised earlier in the conversation. A workshop could be a half day event with break-out groups by topic. A time frame could be March/April. EMC funds – comprehensive monitoring plan, workshops, EMC report.

Ames Colt reported that there should be more of a dialog between EMC and CT to provide more discussion and transparency on us having to fill in on baseline monitoring data that agencies can't do. IF the state got an additional \$250,000, where do you think it should go? This is something to think about for future investment, but not a discussion here. We need to develop a scheme that would give us a shot at getting more money. It can build upon summary report and be used to push at state level for money. The CT has supported ventless traps survey but don't know if they can do again. They also support RAPID assessment for marine invasives every three years.

The meeting convened at 4:10 PM.