

**Section 208 Area Wide Water Quality Management Plan Update
Monitoring Subcommittee**

Minutes

Tuesday, January 20, 2015

1-3pm

Open Cape Conference Room

Open Cape Building

County Complex

Main Street, Barnstable, MA

Attendance: Ed Eichner (SMAST), Matthew Reardon (DEP), Andrew Gottlieb, Chris Neill, Bob Duncanson, Lindsay Counsel (Three Bays), Brian Dudley (DEP), George Heufelder, Amy Costa, Scott Horsley, Marcel Belaval (EPA), Anne Giblin, Tara Nye(APCC) , Joann Muramoto, Tom Cambareri, Monica Mejia, Danielle Donahue

1. Introductions/Updates

- a. Tom gave an event reminder for the One Cape Summit to be held from Feb 25-26, 2015.
- b. Tom distributed draft criteria for proposed pilot projects and asked that it be reviewed and added to as the attendees need.
- c. The committee did not have any other updates.

2. Inlet Widening – Discussion

- a. Chris (team lead) was not available to present. Bob and Anne spoke to the summary being reviewed by the group. Chris joined in when he arrived.
- b. Bob stated that the document as presented provides a good summary and overview for the strategy but that it will need greater detail to be of most use to municipalities regarding cost and frequency of monitoring.
- c. Anne spoke to the limited information presented with regards to the improved oxygen concentrations that inlet widening may provide, suspended sediments, and larval retention.
- d. Lindsay asked if changes in the inlet and sediment levels could also have negative impact (referencing page 2, paragraph 3).
- e. Anne - Erosion of salt marshes near the inlet mouth could be a detriment. This may be able to be explored through modeling.
- f. Bob - Position should also be monitored.
- g. Lindsay – all these areas that are now being discussed should also be monitored, there are so many potential “spider effects” where it may impact other areas.
- h. Scott – agrees that there are many impacts that need to be reviewed. It would be good to incorporate information from Muddy Creek or other study areas.

- i. Lindsay - There should be a 3 year pre-sampling study and another 3-6 years post project. Weekly sampling may be overly expensive.
- j. Bob – From Muddy Creek recommendations for post monitoring criteria, most of the recommendations will be related to wetlands. He will incorporate some of the basics and even cost estimates into the draft inlet widening criteria.
- k. Brian – would still require wetland monitoring.
- l. Tara – Will add Salt Marsh study monitoring methods
- m. Anne – what about inlet stabilization?
- n. Bob – it would qualify, yes. Think of it as inlet maintenance.
- o. Joann – to what extent does inlet maintenance/dredging relate to water quality. It should be related within the document. If there weren't regular dredging maintenance there would be greater issues. Ed agreed.
- p. Ed – Communities have used inlet widening as a springboard to bring about further dredging within the system. This may not improve water quality and could even worsen it. Bob agreed and presented an example.
- q. Chris – The inlet may begin closing immediately, so the plans must consider that the system will change. Bob, this must also be factored into the credit for the system, presents an issue for the regulators.
- r. Scott – Bournes Pond, Muddy Creek, and Three Bays have all been studied for inlet widening. Ed concurred and mentioned that they have all been modeled for inlet widening. Scott recommended that an analysis of the summaries from those studies may prove useful. Tom mentioned that they have been uploaded to the Sharepoint website. Ed suggested Martha's Vineyard/Nantucket ponds for a similar review.
- s. George - Cost needs to be added in this discussion. Mitigation is also a strong consideration.
- t. Chris – It's not a protocol issue - will it work, what will it cost – those are the major concerns. We should look for a pilot that would be manageable and could be studied simply.
- u. Chris – Perhaps Mill Creek is a good study example to look at what is already happening.
- v. George – first piece of monitoring strategy should be to develop the best criteria for locations and to have bathymetry measured ahead of time. The information about the complexity of the technology and the limited information for success should be presented upfront.
- w. Joann – existing salt marsh restoration projects monitor many factors but does not monitor nutrients.
- x. Scott – how will all the data be managed and reviewed?
- y. Ed – there is a lot of data for Pleasant Bay with the natural inlet widening. Edgartown Pond and Great Pond on Martha's Vineyard/Nantucket.
- z. Bob – Concerns with existing salt marsh restoration projects where there nutrients may have been exported down-gradient into another system.
- aa. George – Minimum pre-operation standards?
 - i. Three years monitoring (absolute minimum)

1. Requirements for bathymetric parameters
- ii. Modeling exercise
 1. If the modeling shows no improvement then it doesn't proceed
 2. Modeling should document bathymetry changes
 3. What are the bathymetric parameters that you should measure
- bb. Anne - Restore the system back to original conditions if the system changes mid study?
Bob – yes.
- cc. Brian – From a permitting perspective a baseline needs to be established. Especially where adjusting a system beyond the natural system. Joann agreed that pre-project information must be submitted with permitting application.
- dd. Bob stated that the team will do further work on the criteria, maybe it won't have numbers but will explain the complexity sans numbers.
- ee. Marcel – does there need to be an actual load established to meet 208 requirements? How can it be compared to other projects with removals?
- ff. Bob and Scott agreed that it should be retitled “inlet modification”

3. Other Technologies:

- a. Tom suggested adding constructed wetlands technology to the table for review next. Heather will be looking into it and Anne offered to assist as well.
- b. Floating wetlands appears to be a preferred solution with the Orleans scenarios being presented.

4. Conceptualize Pilot Project Ranking Criteria

- a. Review of draft criteria for proposed pilot projects
- b. Joann started the document, Tom provided modifications.
- c. Performance measures section: Joann suggested adding “**contingency planning**” and “**evaluation of risk**”,
- d. Adverse effects section: Add “**decreased oxygen**”
- e. In the permitting section: Add “**how to decommission a project**”
- f. Pilot Project Scale – add “**lifespan of the project**”
- g. Anne asked who puts out the health of the bays. Feedback included: Mass Bay, Provincetown, Buzzards Bay Coalition, Pleasant Bay Alliance. Could use these datasets as reference/controls for pilot data. Add, “**Define suitable reference or controls**”
- h. Sustainability or performance measures sections: George recommended quantifying amount of energy/money inputted versus value returned “**cost benefit,**” “**how well efficacy and cost benefit can be quantified**”
- i. George asked about site selection criteria, specifically on how to weigh areas of high nutrient reduction need vs. controlled areas with more available data (and potentially less variables). Brian answered that certain pilots would need to be installed in live areas. Others may be determined outside of areas where there may be adverse effects. George stated that in a controlled study area you would have better handle on variables. Tom stated that you have to weigh the efficacy of a control area vs. site with a

demonstrated need. Clear benefit needs to be demonstrated, and it may be best to test where there are less variables. Bob stated that that George's idea may be more of a "demonstration project." Anne suggested adding language to lean preference to a site where the impact can be most clearly demonstrated and monitored.

- j. Joann - the terms should be defined in stages:
 - i. Experimental/proof of concept
 - 1. In preliminary investigative stages, mostly conducted by academia/private interests
 - ii. Pilot Project
 - 1. For technologies that boast multiple sources of peer reviewed literature.
 - iii. Demonstration Project
 - 1. Implementing (alone or in conjunction with other technologies) at a particular location
- k. Committee discussion thought that distinguishing between pilot and demonstration was not necessary, especially when the Environmental Bond bill indicates that "Pilot" Projects may receive funding for implementation.

5. Conceptualize 208 Monitoring Needs and Services

- a. Tom reviewed the document for discussion and added that there would be a need to further define the items contained therein.
- b. Joann – existing monitoring section - economic data would be useful for gauging the monitoring capabilities of the towns. Economic indicators that might demonstrate the need for the towns. The cost of doing nothing would be one such economic indicator. This may help make a case for finding new money.
- c. Tom offered that ensuring a sustainable source of funding for monitoring for multi-million dollar watershed solutions should be secured by explicitly identified budgets
- d. Bob asked if the 208 plan would identify responsibilities for each of these resource needs. Tom stated that he believe it would.
- e. Anne asked how we envision the data needs being addressed. Economies of scale especially with regards to data could be managed by the County, CCCC, etc.
- f. Bob – "funding" needs to be added to the list as an underlined heading.
- g. Data storage – Bob said that the State attempted to create a statewide monitoring network but it didn't last. Tara we would need to establish it. If there was a department or entity that could act in a custodial capacity for directing inquiries.
- h. Scott - believes that the data should be maintained by county, that the monitoring group remain established and meet regularly (quarterly or some such), and an annual symposium where the information could be delved into in-depth.
- i. Tara - where monitoring is happening is even still being compiled by APCC.
- j. Tara asked what the purpose of the document is. Tom stated that it represents what needs to be done and includes recommendations from 208.

- k. Bob – certain scales make sense with regard to monitoring and data collection. Eel grass makes sense for the State. Benthic monitoring makes sense on a County level. Embayment/pond monitoring makes more sense for municipalities, NGOs, watershed associations, etc. Stormwater would need to be site specific. Drinking water - CCC and towns are already handling that.
 - l. Joann suggested adding “outreach and training” as a category to the document.
 - m. Ed recommended adding “groundwater levels and streamflow” to the list.
 - i. Discussion included whether the current efforts are adequate. Ed and Tom thought that it was for groundwater levels.
6. Meeting documents:
- a. Agenda
 - b. 12/8/14 Meeting Minutes
 - c. Inlet-Widening as N-mitigation strategy: Draft (1/15/15)
 - d. Draft Criteria for proposed pilot projects
 - e. Cape Cod 208 Monitoring Needs and Services 1/12/15
7. Upcoming Meeting to be determined for mid-February. Tom will send out suggested dates to the committee.

Monitoring Subcommittee Sharepoint Site

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Password: 208msc!