

Mystic River Water Quality Science Committee Meeting

Date: February 11

Location: EPA's Boston Office at 1 Congress Street

Notification: You must notify EPA if you will be attending by emailing: Bowe.Leah@epa.gov

Agenda

- 9:00 - 9:10 Welcome (Stephen Perkins, EPA's Acting Deputy Regional Administrator)
- 9:10 – 9:20 Introduction and Background (Mary Beth Dechant and Tom Faber)
- 9:20- 9:30 Mystic Steering Committee Update (Lynne Hamjian)
- 9:30 -10:30 10 Minute Monitoring and Science Updates (Mary Beth)
- MyRWA - Mary Beth Dechant
EPA - Todd Borci/Tom Faber
MassDEP - Jenny Birnbaum
MWRA – Kelly Coughlin
Citizen Monitoring - Roger Frymire
Others (2 minute each)
- 10:30 – 11:05 MyRWA Baseline and EPA's Stormwater Monitoring (Mary Beth Dechant & Leah Bowe)
- 11:05 - 11:30 MyRWA Cyanobacteria Survey (Mary Beth Dechant)
- 11:30 - 12:00 Mystic River Research: Past Projects and Future Challenges (John Durant)
- 12:00 – 12:30 General Discussion, Recommendations, Priorities/Goals, and Next meeting (All)

Directions: <http://www.epa.gov/region1/directions/index.html>

Mystic River Water Quality Science Committee Meeting
February 11, 2009
EPA New England
Meeting notes

Welcome – Stephen Perkins, EPA’s Acting Deputy Regional Administrator

Introduction and Background – Mary Beth Dechant, MyRWA; Tom Faber, EPA

The goals of this meeting are to exchange the latest scientific information that relates to water quality in the Mystic River Watershed. The committee will meet to allow scientists and technical staff to share their latest findings related to water quality. The Idea for this committee came from a successful committee that previously used in sharing information from the Charles River. Recommendations on the next steps and funding priorities from the group at large will be compiled and shared with the Mystic Steering Committee. I would like each of you to consider becoming a member of the Mystic River Science Committee and to specify areas of interest on the sign up sheet. Please email me if you have any questions; faber.tom@epa.gov

Mystic River Watershed Steering Committee Update - Lynne Hamjian, EPA

The first meeting of the Mystic River Watershed Steering Committee will be March 11th at the JFK building. We heard loud and clear that groups should be working together and we’ve been working with a planning committee for the past several months. The Steering Committee will set actions to take back to our agencies to make a difference with water quality. Not just water, but all things that impact the river. We want to help with education and outreach. We want to help with educating residents, report card event and forging key actions to work on together and collaborate. We want to work together on a few key actions over the coming years. We worked really hard to balance the committee – local, state, and federal partners. IT is in flux until the committee meets and finalizes its membership. We hope that you all as a science group will give advice to the Steering Committee. If you have any advice or questions we can take those on as we move ahead.

Monitoring and Science Updates:

Mary Beth Dechant – MyRWA

Began the updates by stating her update will be short since she will cover more detail later. She stated MyRWA data is on their website (www.mysticriver.org).

Leah Bowe – EPA Water Enforcement

By early 2005, the Mystic River Watershed Association (MyRWA) had provided a large volume of bacterial water quality data to EPA. Much of the data indicated significant bacterial water quality problems throughout the watershed. EPA and MassDEP began a coordinated effort to address these problems. EPA water enforcement efforts have included surface water and stormwater sampling in the field, requiring a number of municipalities to respond to formal information requests, and the Region has issued several Administrative Orders. EPA's enforcement efforts will continue into the foreseeable future. Simply put, the MyRWA's data and the Region's enforcement efforts have identified a level of compliance with existing laws and regulations that is unacceptable.

Related to our sampling efforts, the Region has competed for and recently received two research grants dealing with water quality. The Region has received a Regional Methods (RM) grant to develop a focused and streamlined analytical method to detect select drugs in surface waters as a bacterial source tracking tool. The selected drugs will focus on human metabolites of caffeine, nicotine, and urobilinogen, in addition to drugs such as acetaminophen, carbamazepine, and azithromycin.

In addition to the RM grant, the Region has received a Regional Applied Research Effort (RARE) grant to develop a multi-tiered bacterial source tracking toolbox. This effort will focus on practical and easily implemented systemic approach to determine the source of elevated bacterial concentrations. This effort will focus on the basic screening parameters that should be conducted in addition to bacterial analysis. The Region believes a multiple parameter "weight-of-evidence" approach is the most effective and practical manner to determine human sources of illicit discharges. This effort will be coordinated with the Regional Methods work as well. A large amount of the field sampling for both of these grants will occur in the Mystic watershed.

Jenny Birnbaum – MassDEP (used Power Point presentation)

MassDEP has facilities to analyze bacteria concentrations in water samples and can use screening methods to distinguish human versus non-human sources of bacteria. Goal is to improve WQ in pathogen impaired water bodies. Do a lot of sampling – storm drain pipes, streams and recommend remediation actions.

Sampling can produce results that are variable in time and space. Bacteria can be clumped which leads to varying concentrations. Ideal sampling strategy is targeted, inexpensive, and provides quick results. Have annual cycle. In the winter/spring do research and put together sampling analysis plan for upcoming summer. Review historical data (DEP, TMDLs, watershed assns., state, fed agencies, muni reports) do GIS analysis to get targets. Looks at land use and impervious surface. Focus on smaller water bodies b/c it is easier to track sources. In the field do recon and screening level sampling. Choose sites that are evenly spaced out and bracket potential sources of poll'n – tributaries, storm drain pipes, etc. Look at the results and do more targeted hot spot sampling. Use screening techniques to help tell if source is human or non-human. Follow-up and remediation – may range from communicating results to muni to enforcement actions.

Arlington:

Sampled in Mill Brook in 2007, flows W – E into lower Mystic Lake, some of it is culverted. Sampled storm drains. There are four sites w/ elevated E. coli concentrations. Bacteria counts were from lower 1000s to 19000 MPN/100mL. These numbers are much higher than standard, which is 235 cfu/100mL for a single sample (cfu equivalent to MPN). Issued Arlington a Notice of Noncompliance. Arlington conducted IDDE program – TV testing, smoke testing, etc. Found sewer and drain lines in poor repair, as well as some sewer laterals- this is very common in older towns. Town is quite pro-active and has already started construction in a number of areas and will be going on thru 2010. DEP will be doing follow-up sampling once Arlington has finished construction projects. Town is investigating a 5th outfall based on data from MyRWA.

2007 Wellington Brook, Winn's Brook in Belmont. Winn's Brook is culverted in a number of spots and flows into Little Pond. Little Pond forms the headwaters for Alewife Brook. Wellington is day lighted at Common Street and then goes under ground and daylights at Claypit Pond and then goes under ground again and daylights upstream of Blair Pond. Contributes flow to Alewife Brook sub-watershed. Sampled at a number of locations. Found E. coli counts in the 10,000s MPN/100mL at two locations. Winn's Brook sampled in the spring and got elevated counts, but not as high as Wellington brook. Historical data from MyRWA shows a continuing problem in these areas. Issued Belmont a Notice of Noncompliance. They applied for and received a State Revolving Fund loan from the State, part of which will go towards construction programs in Wellington Br. sub-watershed this spring. A monitoring program was conducted in Winn's Brook sub-watershed and Belmont is planning to conduct house inspections to look for illicit connections this spring.

Ell Pond in Melrose was sampled during summer 2008. MassDEP found elevated concentrations at two stormdrain pipes discharging to the pond. Concentration >241,000 MPN/100mL at one pipe and >24,000 MPN/100mL at other pipe. MyRWA and EPA sampled at some of these locations. It was a coordinated effort. This is a good example of using screening techniques to distinguish human versus non-human sources of bacteria. Found high ammonia concentrations over 1 ppm (using a test strip). Deployed optical brightener pads. Works well in small culverts and pipes with small discharges of water. If pads are exposed to wash water, they fluoresce under UV light when you bring them back to the lab (this was the case for pads deployed at two Ell Pond outfalls).

It's difficult and time consuming for muni's to track down specific sources of bacteria pollution, but this program will generate results in the long run. It may take a number of years, but we will see significant improvements in water quality.

Kelly Coughlin – MWRA (provided a handout)

MWRA has had a monitoring program in tributaries in Boston Harbor since 1989. The mystic is one of four regions that are sampled on a rotating basis. In the Mystic, there are 17 sampling locations and they are visited at least 20 times/year and up to 25/year depending on the location. IN 2009 they plan to continue what has been done over the last several years

4 Alewife Brook
8 in main stem Mystic
1 Malden River
2 mouth of Mystic
1 Chelsea River

These sites were chosen to look at the effect of CSOs on the river. Locations bracket CSOs. They are mid-channel and try to sample year round at some locations and then April- November. Most of them are sampled via a small boat. Scheduling is on a rotating basis and is random with respect to wet and dry weather. Three of the locations are also part of eutrophication status monitoring – chlorophyll and dissolved oxygen. Trying to quantify nutrient loading.

Have a good historical picture of WQ conditions at these locations. (data in handout) Many locations chosen to bracket a CSO. Looking at Enterococcus and E. coli at all locations. In marine, last year went to fecal coliform because of problems with E.coli analyses. Do secchi disk and DO, temperature, etc. Generally surface samples.

Two last pages, historical data. In Mystic, with MWRA increasing pumping capacity in 1990s they saw a big drop in bacteria concentrations in other regions that we aren't seeing in the Mystic. Haven't seen any significant change over time. Calls back to what Jenny was saying, that the sources are more diffuse and complicated. Not seeing a big bang that we've seen in other areas even with a drop in CSOs. Alewife is the most contaminated in wet and dry. There are a lot of CSOs in Alewife Brook. Upper Mystic doesn't have any CSOs, the lower Mystic basin has lower marginal CSO (discharges only at high tide above the dam, but discharges below the dam). Last page – 2008 results. Did get a lot of wet weather events, but no big change in general trends and geo means. Pretty consistent in terms of most locations not meeting standards in wet weather. Most other meet standards in dry weather. Would be happy to email if you're interested. Data is available on the website. Interested in feedback in making info more accessible, feel free to contact with Qs or suggestions.

Roger Frymire – MyRWA Volunteer (used Power Point presentation)

Most of the data is from Mystic River hot spot program.

Data collected in MyRWA's hot spot program is shown from a variety of weather conditions. The data were collected at the same sites along the freshwater Mystic mainstem spaced at 4/10 mile intervals along the centerline. Samples were collected from a kayak as it traveled upstream. All dates show a rise in E. coli immediately downstream of Alewife Brook, as well as another anomalous hotspot just upstream of I93 in Medford.

Dry weather samples all met the swimming standard, even with the small increases seen at these two points.

The next data set is from 54 hours after a 3" storm with multiple CSOs recorded as releasing sewage to Alewife Brook. Though all samples fail the swimming standard, any large bacterial pulse from the CSOs has been flushed to sea with the heavy flows, and the lower basin is almost within the swimming standard.

The third data set was taken 24 hours later, with three intense downpours occurring during sampling. This shows the river impacted by stormwater but NOT CSOs, which only occurred after sampling ceased. The swimming standard is exceeded at all points in the Mystic, as expected in heavy rains.

The next line graphed shows the aftermath of a very short intense storm which caused exactly one CSO release to Alewife Brook near Mass Ave for ~30 minutes. Sampling occurred 16 hours later, and a VERY large pulse of bacteria is seen just upstream of the I-93 bridge which correlates very closely both in distance and shape with what would be expected from such a bacterial pulse.

Just three of these sites were sampled after the VERY large Mothers' Day storm. This storm had 3" one day, 3" second day, 1/2" the third day, and another 1/2" on the fourth day - during the sampling shown. This storm had multiple long-duration CSOs as well as SSOs. The three data points shown are the highest for their locations of all dates sampled for this study. On the same date, one MWRA SSO was seen flowing into Mill Creek and sampled for E. coli. The reading

was ~70,000 cfu/100ml which shows the extreme dilution of sewage by rainwater inflow causing the overflows.

2003 and 2008 MWRA maps of SSO sites in their system are imprecise as to location, but new DEP reporting forms in use from 2007 require much better location information. One thing clear from the old maps is that clusters of SSOs occur mainly near 'spaghetti' areas of crossing, parallel, cross-connected sewer mainlines and relief lines - as well as near siphons under rivers. In the two years of better-mapped SSO locations, twelve MWRA SSOs in the Mystic watershed have activated. Two of these- near James Street and Auburn Street in Medford appear to be both the most frequent as well as the highest-volume SSOs. In the 13 years of NPDES summary reports since 1996, these have activated 21 times and 19 times respectively - which is about an 8-month recurrence interval.

Jamie Carr – MA DEP Division of Watershed Management

A DEP will be conducting year two monitoring in the Mystic watershed in 2009. We are currently incorporating MyRWA and MWRA water quality data in order to inform our sampling plan for 2009. Any suggestions for specific locations or flows to sample are welcomed. Of particular interest are suggestions pertaining to potential de-listing of pollutants where conditions have improved, or discovering new listings where current conditions are undocumented. An example of a specific area we can contribute to in the Mystic includes using dissolved oxygen probes deployed over a period of days to examine low dissolved oxygen numbers recorded by MyRWA in the Aberjona River.

Brad Chase – MA Division of Marine Fisheries

MA DMF has an interest in water quality issues in the Mystic River, and the upper and lower Mystic Lakes. The Mystic River provides passage of river herring (alewife and blueback herring) to spawning areas in the lower Mystic Lake, and the state is in the process of reconstructing the dam between the lakes that currently impedes fish passage. The reconstruction of the dam and establishment of a fish ladder, will allow for passage of river herring into the upper lake. DMF should be releasing the data soon from the 2007 program to access the situation. Dissolved oxygen is so low in some areas in the upper lake that we are looking for advice on how to improve conditions.

Rob Lowell – MA DCR

We have been researching sediment in Blair Pond; the depth has been reduced from around 20 feet to around 1 foot. We need to improve function of watershed. We have also completed bathymetry and sediment analysis looking for disposal sites for dredged materials. Conducting Alewife Brook sediment depths study this spring.

MyRWA Baseline Monitoring

Mary Beth Dechant – MyRWA (Used Power Point presentation)

MyRWA has been sampling since 2000. There are 13 sites that are monitored. 10 are in freshwater portion and the other three are in the salt water reaches.

E coli

Enterococcus

Nitrate
Nitrite
Total phosphorus
Total suspended solids
Specific conductivity

All are analyzed by MWRA. Lower mystic in 2008 was funded by EPA.

MyRWA runs own DO samples. Volunteers assess water odor and water color

three sites at Aberjona
one at Upper Mystic Lake
one at Lower Mystic Lake
Mystic River at Lower Mystic Lake
Winns Brook
Alewife Brook
Meeting House Brook
Malden River
Mystic River at Mary O'Malley Park
Mill Creek
Condor Street Urban Wild

Able to make some observations about water quality. WQ is less likely to meet standards to indicator bacteria in wet weather than in dry weather. Elevated nutrients are a problem in the watershed. Overall WQ seems to be best at upper mystic lake and in the main stem. WQ in the tributaries is generally quite impaired. MWRA has been observing that Alewife Brook is the most contaminated in the watershed. MyRWA data says other tributaries seem to be contributing a bit more. Overall WQ doesn't seem to be improving in the watershed. We hope to see this change in the near future.

Chart. Color coded index of WQ. Broke baseline data into several categories and ranked them on whether or not they meet WQ standards. Green or blue box is good to excellent for this year. Orange and red indicate poor to fair ranking. Swimming in dry weather is more likely to happen than in wet weather. Boating, dry weather better than wet weather. WQ more likely to meet standards in dry weather than wet weather. At most sites, we're seeing elevated nutrient levels.

Hotspot results. Trying to assess sources of contamination in the baseline program. Tributaries and outfall pipes. Funding by EPA. Mostly looking at fecal indicators and DO, can measure ammonia, surfactants and TP. Outfall pipes discovered at a number of tributaries. Poor in stream WQ in many tributaries. Satisfactory WQ in a few places (mill creek at high tide and constitution beach at high tide).

If you want to receive emails, contact Mary Beth.

EPA Stormwater Monitoring

Leah Bowe – EPA (used projected map)

EPA has a website (www.epa.gov/ne/mysticriver) with all of Leah's information and meetings and notes.

From June – Sept, EPA went out and sampled 17 events at over 126 sites in the watershed. The primary objective of this project was to retrieve surface water samples from in stream and outfalls for delineating and examining areas of possible illicit discharges. The project focused mainly on the Mystic River Watershed, with a small number of samples being collected in the Charles and Merrimack Rivers.

The sites locations were determined from MyRWA baseline and hot-spot monitoring to further delineate sources of high surface water bacterial concentrations. The data was used to work our way through the watershed and up into the tributaries to determine sources. Nearly all locations were sampled for surfactants and ammonia and DO. Surfactants are surface-acting-agents that work to break down the molecular bonds between oil and water. Examples are detergents, emulsifiers and wetting agents.

High ammonia levels in Woburn from tannery waste and leaching. You might see results up there that are astronomical with ammonia levels, need to take into consideration the site's history. Some sites were sampled for pharmaceuticals, total phosphorus, biological oxygen demand, and optical brighteners. To help determine where contamination was coming from and build a weight of evidence approach. Based on the sampling during this project, some areas should be the focus of follow-up action and investigations. We've received RARE and RM grants that were discussed earlier and most of those sites will be within the watershed.

Data report is a 2-page summary describing sampling locations, methods, and quality control.

There are 5 pages on results. The Report is on the EPA's web site:

<http://www.epa.gov/region1/mysticriver/pdfs/MysticRiverDataReportSummary2008.pdf>

Did both dry weather and wet weather sampling. If you look at the map, many of the points (126 sites) were sampled many times. Different times of day, dry, wet. Some locations based on tidal influence were sampled at diff times per day. Green is below the swimming limit. Yellow is between swimming and boating limit, and orange and red is over 10,000. Highest location was 241,000 and meter was maxed out registering the bacteria.

MyRWA Cyanobacteria Survey

Mary Beth Dechant (used Power Point presentation)

Cyanobacteria are photosynthetic bacteria and can reproduce very quickly and produce a green pea soup scum on the surface of the water. Can be toxic. Cyanobacteria can be fatally toxic for dogs. Has potential public health threats and we need to be monitoring it in the area. MDPH has recently published a set of guidelines for Cyanobacteria and for managing recreational water bodies. Three conditions can be grounds for closing – if you see a visible scum or mat of Cyanobacteria, if toxin concentrations reach 14 ppb or greater, or if Cyanobacteria reach 70,000 cells or greater. Leads to beach being closed.

MyRWA first observed Cyanobacteria in the watershed in 2007. Roger noticed it in Spy Pond. He did some follow-up testing and determined that the Cyanobacteria were microcystis and was far in excess of 14ppb guideline. Other areas were observed to have Anabaena (can be toxic, but MyRWA didn't find any toxin related with Anabaena).

MyRWA wanted to stay on top of the problem and begin to understand what kind of conditions are contributing to the blooms. In 2008 set up a study. Monitored phycocyanin levels with a field fluorometer. Monitored chlorophyll-a levels also. EPA funded chlorophyll-a concentrations to calibrate the fluorometer. MassDEP contributed time to conduct cell counts. Roger did toxic testing to determine if the Cyanobacteria was toxic. Were shooting to get good coverage throughout the watershed and emphasized recreational water bodies or high use areas. Results – overall worst levels were at Ell Pond. It exceeded the DPH guidelines 5x over the season. Horn Pond exceeded it once, blessing of the bay boathouse, twice. Spy pond and little pond both exceeded. At Ell pond, got an exceedance, but never found the toxins. Thick film, which was grounds for closing the water body for boating or swimming.

Little pond and Spy Pond had microcystis and signs were posted around the area. Very high variability. Haven't been able to determine a trend. Hoping next season to get more data to assess the trends better. At Ell Pond found cell counts exceeding 170,000 cells per ml.

Chlorophyll-a monitoring showed up interesting results. Ell pond had highest mean chlorophyll-a concentrations. Blessing of Bay boathouse had high chlorophyll-a concentration. Did have very eutrophic conditions. Lowest levels for chlorophyll-a were at lower mystic lake and spy pond. Did see high variability.

Arlington and Belmont posted signs.

In 2009, going to scale back program and focus on areas of high recreational use or areas of high use. MyRWA needs a lot of support to get the word out about Cyanobacteria and to better understand what is going on with Cyanobacteria.

Collaboration ideas:

Monitoring activities. MyRWA could use some support. Municipalities and DCR might be in a position to help.

Assistance with conducting cell counts. DEP is doing some cell counts for Charles River and we could pinpoint some areas in our watershed that warrant those types of activities.

Educational activities are a good idea. Posting signs. Model efforts from Arlington and Belmont.

Need to educate people about the link between nutrient loading and algae blooms.

Common theme – funding support is needed. MyRWA specifically needs funding for chlorophyll-a and total phosphorus sampling.

Next steps –

Develop a subcommittee of the science committee to address Cyanobacteria concerns. Would like to see municipal reps and agency reps. There are a lot of opportunities to collaborate and monitor the problem.

Questions

On Blessing of the Bay are, will assembly sq. area improve with the CSOs.

Ans: not sure what their plans are for SW management. If we see nutrient loading reductions, could be a positive effect. Blessing of the Bay is receiving lots of nutrients from the upper part of the watershed as well.

Tom – plus for CRWA, excellent fact sheet on Cyanobacteria.

Question – assume the Cyanobacteria problem is the same we see in the lower Charles – blue green algae?

Ans. Main bloom with toxin (micro) is what's in spy pond and little pond (also in the Charles). Have seen blooms of other species, but we are unclear on if there is a toxin problem. Assembly Sq stormwater is entering the water downstream of the dam so it won't have any impact on Blessing of the Bay. Remember 2008 was an extremely wet year and we saw that blooms from 2007 did not occur in 2008. If we have a dry year next year, things are going to get worse fast.

Question – Did you have a chance to look at previous year's data, or anecdotal data?

And – don't have an alot of data before 2007. But have anecdotal data from spy pond of blooms lasting 3 or so months.

Mystic River Research – Past Projects and Future Challenges

John Durant, Tufts University (used Power Point presentation)

Acknowledged that focus was on academic research and that other research was ongoing in the Mystic watershed. Much of the research focused on three overarching questions/issues- characterization, pollutant fate and transport, and decision-support tools.

Fate and transport studies include arsenic transport from the Aberjona River to upper Mystic Lake; Arsenic in sediment cores in Spy Pond; chemical pollutants in sediment throughout the watershed, ammonia/nutrients in the Aberjona River sub-basin.

Fate and transport studies allow for a better understanding of distribution and chemographics of pollutants within a watershed. Studies allow for better decisions about risk, pollution remediation, informing residents within watershed, and for targeting additional areas for research

Decision support tools – EMPACT (Environmental Monitoring for Public Access and Community Tracking)

Developed a predictive model for bacteria concentrations for swimming. Simple model to predict enterococcus as a model of many factors. Flow, turbidity (independent variables). Have to get a lot of data to make sense of stormwater flushing and bacteria. When is it safe or not safe to swim at recreational beaches? Posted info on website.

Put together a publication list and sent it to Mary Beth and asked to her post it. It will be posted on www.mysticriver.org

Future challenges –

Are there problems related to legacy toxic chemicals? Are they bioaccumulating? Are they having ecological effects that we should be paying attention to?

Are there new hazardous waste disposal sites and are they having an impact on the watershed and WQ?

Can we develop a TMDL for pathogens and nutrients?

Climate change adaptation

Questions –

Do you have any perception of what sources of the ammonia in Holsbrook Pond?

Ans – coming from Industriplex superfund site. A lot of work by Tufts is supported by studies that have been done by EPA and contractors at Industriplex. A lot of arsenic coming off the site and ammonia and benzene.

How did your predictive model come out? Was it a strong model and what parameters are the most influential?

Ans – developed 4 models for 4 different sites. They were actually pretty good. In general they were based on antecedent rainfall – dry days and rainfall and duration. None of the WQ indicators were very predictive. Mostly the obvious stuff. The river models were much better predictors than the lakes. Blessing of the Bay, Alewife Brook, Upper Lake, and Aberjona.

Do you think the model could be used or would it need to be refined to come up with a flagging program similar to what the Charles R. does?

Ans – that is pretty much what we did. We used the model to predict whether or not we'd have safe swimming and boating conditions on a given day and that was posted on the website. There may or may not have been an active flagging program.

General Discussion

Going to use this time to come up with research needs and thinking about how we may be able to work with the steering committee.

Lists of Research needs in the Mystic. What data are we missing, what information are we missing.

The last slide from John Durant's previous presentation was on future challenges which included:

Legacy Toxic Chemicals- Bioaccumulation and Ecosystem effects

Identify new hazardous waste disposal sites and characterize fate and transport

Development pathogen TMDL

Development of nutrient TMDL

Climate change adaptation
These lead into this discussion

Group discussion

- The EPA lab is interested in working on is finding indicators of human contamination for sewage. A way to distinguish between human and non-human sources of bacteria
- Capability to characterize loads of bacteria and not just concentrations. That kind of information gives you a sense of the relative magnitude of sources which bears on the TMDL question.
- Enforcement, it's helpful to have information about specific pipes. Monitoring can provide reliable information at the pipe level is more useful for enforcement purposes rather than general area of a river or lake. Quality of information is important for enforcement and availability for citizens. Encourage folks to keep making data available to citizens.
- Come up with a universal labeling for outfall pipes to link sampling done by communities, MyRWA, EPA, and MWRA. Consistent labeling.
- Data compiling. Having a location (EPA water quality exchange) to house stormwater data and make it publicly available.
- Good flow monitoring gauge further down on Mystic River main stem and keep it there forever.
- Extension of John Durant's work just presented with regard to Industriplex site, fate and transport, and what the future means for WQ downstream. Maybe future research needs that would be valuable to improve future water quality down stream.

Steering Committee – How there may be opportunity for them to assist us in our work (monitoring and science) and understanding the watershed. Specific ideas for Steering Committee.

- Finding funding for these types of projects – private, EPA, state, NOAA
- It would be good to see watershed groups and regulators starting to go beyond pointing the finger and move towards assistance with solving the problems.
- Right now there is no funding available to investigate illicit discharges. It is not eligible under most programs. No funding out there for a community to apply to find illicit connections.
- May be additional 604(b) money (planning and assistance) under the stimulus that the Steering Committee might keep a careful watch on. There is a lot of stuff that might come down under the stimulus for environmental protection.
- Planning for IDDE is something that is and will continue to be eligible under SRF. It isn't an outright grant. Since the inception of SRF, every wastewater or water pollution abatement project has been funded. Usually accommodates all comers.
- Todd Borci spent a lot of time for illegal connection work. DEP is coordinating with EPA to maximize resources. Is the intention to have outreach event for communities. Found that finding problems is easier than solving them. Often, indirect connections between sewers and drains. Have spent a fair amount of time and effort looking for

problems. This is something EPA and DEP are aware of and hopefully will come up with something to provide technical assistance in the future.

- The RARE project will help streamline methods that we'd recommend communities to use. We would be very interested in hearing from this group and Steering Committee if there is a type of technical assistance folks want. MS4 phase 2 permit coming out soon and planning some subwatershed meetings to bring technical assistance for IDDE, etc.
- There is wet weather sampling results in stream and in pipe. If there were some guidance created for uniform wet weather sampling controls. When during the storm do you sample, what time? We are required to do wet weather sampling for new MS4 permit, but to make that data available to use widely and be consistent so you're looking at waste water data that has commonality so you can analyze it. Knowing the communities are sampling at a certain part of the storm and in a certain type of storm. Need guidance and consistency.
- Important of new Administrator to recognize the importance of this watershed and maintain effort in the area.
- Message is loud and clear.

If you want to be part of a subcommittee, make sure your name is checked on the sign up sheets in the back of the room. Also we'd like to get some general feedback. We talked about meeting once or twice/year. How often should we meet? Topics we should look for next time, etc.

- Thanks!

After Steering Committee meets, we'll figure out how this group will work with the Steering Committee – report card event coming up around Earth day. Talk about better measurement thru the report card and actions we want to take. Anything we talk about we want to have scientifically grounded. There might be work in between and all ideas are excellent and thank you to the speakers.

Bacteria and stormwater there might be a need to meet more often. Meeting is great, lots of good presentations. A lot of good work in the mystic. Email Tom (faber.tom@epa.gov) and Mary Beth (Marybeth@mysticriver.org).