

**OUTFALL MONITORING SCIENCE ADVISORY PANEL (OMSAP)
OPEN CONFERENCE CALL
Tuesday, August 18, 2009, 1:00 - 3:00 PM**

SUMMARY

ATTENDANCE

Members Present: Andy Solow, Woods Hole Oceanographic Institution (chair); Bob Beardsley, WHOI; Norb Jaworski, retired; Bob Kenney, U. Rhode Island; Judy Pederson, MIT/Sea Grant, Mike Shiaris, U. Mass Boston; Jim Shine, Harvard School of Public Health; and Juanita Urban-Rich, U. Mass Boston.

Audience: Michelle Barden, EPA; Bruce Berman, Save the Harbor/Save the Bay; Ed Bretschneider, Wastewater Advisory Committee; Pricilla Brooks, Conservation Law Foundation; Robert Buchsbaum, Mass Audubon; Todd Callaghan, Mass Coastal Zone Management; Rich Delaney, Provincetown Center for Coastal Studies; Patty Foley, Save the Harbor/Save the Bay; Stephen Greene, Wastewater Advisory Committee; Maury Hall, MWRA; Paul Hogan, MassDEP; Carlton Hunt, Battelle; Roger Janson, EPA; Fred Laskey, Executive Director, MWRA; Wendy Leo, MWRA; Vivien Li, The Boston Harbor Association; Scott Libby, Battelle; Mike Mickelson, MWRA; Tara Nye, Association to Preserve Cape Cod; Andrea Rex, MWRA; Steve Rhode, MWRA; Dave Taylor, MWRA; and Cathy Vakalopoulos, MassDEP (this is an incomplete list because not everyone announced their presence when entering the conference call).

MEETING SUMMARY

The purpose of this conference call is to continue review of MWRA's proposed revisions to their Ambient Monitoring Plan. The call was open to the public and notification was posted on the OMSAP website as well as sent by email to interested parties.

A. Solow began the discussion by pointing out that even though Mike Hornbrook had stated at their June meeting that MWRA will eventually request that ambient monitoring be discontinued, this is a separate issue and that the task now is to review the proposed changes and comment on them. OMSAP could recommend that the monitoring remain the same or accept the proposed changes, but if the Panel would like to approve something in between, he thinks they will need more time to formulate recommendations.

B. Beardsley thinks the proposal is well organized and agrees that a serious review is justified. J. Shine also agreed with A. Solow. B. Kenney thought that MWRA laid out a good case and he thinks OMSAP should approve of the proposed revisions after some of the details have been ironed out. M. Shiaris agreed that this proposal should be reviewed point by point and it will take some time. J. Pederson feels that there are some areas that need some more discussion.

B. Berman noted that reviewing this proposal now is important because when the new NPDES permit comes out, the appeals process could mean a long delay until the final permit is issued and is in effect. F. Laskey said that they have no way knowing how long this "interim" process

is, especially since MWRA's permit expired four years ago. But MWRA builds its budget around the monitoring and so they need to understand what their spending will be. He pointed out that the Provincetown Center for Coastal Studies is proposing a cost-effective sampling plan for Cape Cod Bay. F. Laskey thinks at this point there should be some savings and MWRA is trying to be flexible when it comes to listening to other ideas on how to monitor. Much of what they currently measure is repetitive and he thinks there needs to be a procedure in place so that MWRA can change, as necessary, what they are monitoring.

A. Solow then guided the group through a review of the proposed list of changes.

1. Effluent

1.1 Discontinue effluent floatables monitoring

OMSAP agreed to recommend that effluent floatables sampling be discontinued. B. Berman said that during the [2002 Nyacol high-sulfate input and subsequent high total suspended solids (TSS)] upset there was an increase in floatables. A. Rex replied that this was an operational upset and MWRA was able to measure the high TSS in its regular effluent sampling.

1.2 Change special study contaminant sampling frequency from “weekly” to “4 times per month”

A. Rex explained that with the sampling requirement listed as “weekly”, MWRA ends up collecting more than four samples per month because three samples are taken with toxicity testing. M. Hall noted that metals and priority pollutants are sampled three times per week. OMSAP agreed to recommend that the wording be changed from “weekly” to “4 times per month”.

2. Water Column

2.1 Reduce the total number of stations sampled from 34 to 10.

and

2.2 Change survey schedule from 12 nearfield and 6 farfield annually to 9 surveys annually that include the four nearfield and six reference stations.

B. Beardsley liked MWRA's proposed revisions to the water quality sampling and thinks the revised plan would meet the monitoring objectives. He asked what the Provincetown Center for Coastal Studies (PCCS) was sampling and whether the data are of the same quality as MWRA. He also asked how similar the northern stations (F26, F27, and F22) are and wondered whether to keep station F17 in Stellwagen Basin. R. Delaney said that PCCS measures temperature, salinity, dissolved oxygen, dissolved inorganic nitrogen, phosphate, chlorophyll, and clarity at 8 offshore stations, 31 nearshore stations, and 14 estuarine stations. Five MWRA stations are near PCCS stations. He suggested that perhaps there could be a cost-effective way to continue sampling at MWRA stations. B. Beardsley asked if PCCS samples year-round. R. Delaney replied yes, and that they use a MassDEP-approved lab (sometimes MWRA's lab) for analysis. He said that PCCS is flexible and noted that though some consider CCB a different system than Mass Bay, it is still downstream and a part of the Gulf of Maine. B. Beardsley thinks that the CCB data are important to help verify the modeling. A. Solow said that OMSAP's job is to decide whether to recommend MWRA discontinue sampling at the CCB stations, not to

subcontract. J. Pederson agreed but she also thinks PCCS's data could be useful, as long as the sampling methods and analyses are comparable to MWRA's.

B. Beardsley likes the idea of sampling the nearfield and farfield synoptically. J. Pederson asked how important the three northern boundary and CCB stations are to the modeling. B. Beardsley replied that the 10 stations in Mass Bay are the most important to help verify the model but that the outer stations help with modeling the whole region. Looking at the nature of bloom dynamics in CCB, it behaves like a different ecosystem, especially in the shallower areas. T. Callaghan said that we need to keep in mind how the MWRA data are being used. J. Shine said that less samples means less power so MWRA should look at how the sensitivity will change. A. Rex noted that one of the main points OMSAP made during the 2003 monitoring review was that spatial changes were not as important as temporal changes. MWRA is trying to make the sampling more synoptic and with this proposed plan, the farfield will actually be sampled more often.

B. Berman said that the environment is changing – storms are increasing in frequency and intensity, and sea level is rising. He thinks that prudence would require the MWRA that discharges the largest source of nutrients to the area to keep an eye on Stellwagen Bank and CCB. He thinks these proposed revisions go too far and move too quickly. W. Leo said that MWRA did recalculate the Contingency Plan thresholds and they did not change much at all. N. Jaworski said that the proposed sampling plan may actually gain power because of its synoptic nature. W. Leo thinks that there actually may be more exceedances of the Contingency Plan thresholds, but we will have a better understanding of what is going on because of the synoptic sampling (the nearfield and the farfield will be sampled during the same survey). R. Delaney pointed out that there has been an increase in nitrate in the surface waters of CCB. PCCS is trying to monitor a number of different nutrient sources with the outfall being the largest. He also said that Stormy Mayo thinks because CCB is different, this is a good reason to continue monitoring there. B. Beardsley asked if the additional sensors that were added to the buoys in Mass Bay will remain. A. Rex replied yes. A. Solow wants to think about the proposed changes in sections 2.1 and 2.2 some more. He requested that OMSAP discuss this further in another conference call.

2.3 Change certain water quality parameters

J. Shine thought that it would be acceptable to drop measurements of dissolved organic carbon, particulate biogenic silica, and total suspended solids from the ambient monitoring plan. He would like to see a comparison of *Alexandrium* cell counts and the gene probe measurements. S. Libby said that MWRA has been using both methods since 2005 and both methods compare well. The Contingency Plan contains an *Alexandrium* caution level threshold of 100 cells/liter. J. Shine thinks that MWRA should communicate how comparable the two methods are. A. Rex noted that MWRA can show that the gene probe method is more sensitive than cell counts, although the exceedance rate is similar. OMSAP agreed to recommend discontinuing the above list of water quality parameters and requested that MWRA provide a comparison of *Alexandrium* sampling methods.

2.4 Discontinue productivity measurements

J. Shine agreed with the initial intense approach that looked at areal productivity and whether any increases were due to the MWRA outfall or larger forcing factors. However, productivity measurements are expensive and he thinks now a surrogate can be used. He suggested using a Cole-Cloern model to estimate productivity with chlorophyll and extinction coefficients. A. Solow wondered why MWRA would continue to measure productivity if nine years of data show no effects from the outfall. B. Beardsley agreed that it would be ok to discontinue the productivity measurements as long as there was some type of surrogate measurement because productivity is used in modeling. M. Mickelson added that productivity measurements are used after model runs to verify model output. B. Beardsley said that productivity data can also be used in hindcasting. OMSAP agreed to recommend that productivity measurements be discontinued and that MWRA should explore or develop an acceptable alternative.

2.5 Discontinue the special study net tows for floatables monitoring

After a brief discussion, OMSAP agreed to recommend discontinuing the net tows for floatables monitoring.

2.6 Discontinue the special study marine mammal observations

J. Shine noted that the marine mammal observations were never designed as a scientific study of marine mammals. B. Kenney said that he had wanted to add these data to his database but because the observations were so few and random, he was unable to use the data. OMSAP agreed to recommend that the marine mammal observation special study be discontinued.

3. Seafloor

3.1 Reduce the benthic community monitoring from the current 31 stations (23 stations in western Mass Bay and eight reference stations more distant from the outfall) to 13 stations (10 nearfield and three farfield)

J. Shine always thought that the number of stations in the benthic monitoring was overkill. B. Berman asked if the stations MWRA was proposing to keep were near the fish and shellfish stations. M. Hall replied that they are in the same general area. OMSAP decided to recommend that MWRA's proposed changes to the benthic monitoring stations be approved.

3.2 Modify the sampling frequency for the hard bottom study from once per year to every third year.

A. Rex said that MWRA has not seen substantive changes to the hardbottom in nine years of monitoring. She added that EPA is interested in having MWRA conduct a hardbottom survey if there was a significant treatment plant upset but she pointed out that it takes time to mobilize the ROV for these surveys. V. Li asked if it would be more beneficial if surveys were scheduled every two years instead. A. Rex replied that with the surveys every three years, they can be coordinated with the sediment chemistry sampling. J. Urban-Rich thinks that could help with data interpretation. J. Pederson pointed out that the hardbottom and sediment chemistry stations are in different environments. J. Urban-Rich still thinks it is good to look at all of the benthic environments at the same time. J. Pederson noted that the LNG tankers which anchor in the area have been disturbing the hard bottom. OMSAP agreed to recommend approving the proposed

change in schedule for the hardbottom monitoring and that it be scheduled to coincide in the same year as the sediment chemistry sampling.

3.3 End nutrient flux study

J. Shine asked if discontinuing the nutrient flux study includes discontinuing sediment respiration. A. Rex replied yes. OMSAP discussed this and decided to recommend that the nutrient flux study be discontinued. [Note: When drafting their December 18, 2009 letter to EPA and MassDEP, two members expressed that they would like to see the nutrient flux study continue. Therefore, not all members agreed to recommend that this study not be discontinued.]

3.4 End the annual sediment chemistry sampling at stations NF12 and NF17

A. Rex said that these stations are sampled annually while the other sediment chemistry stations are sampled every three years. She added that values have not increased at these stations. OMSAP decided to recommend that the annual sampling at these stations be discontinued (but these stations would continue to be sampled every three years, see below).

3.5 Modify the sediment chemistry sampling – delete 18 stations and sample 13 stations every three years.

A. Rex said that MWRA proposed this change so that the sediment chemistry sampling would be more consistent with the benthic invertebrate sampling. OMSAP discussed the proposed change and agree to recommend its approval.

ADJOURNED

Summary prepared by C. Vakalopoulos.