**Eutrophication Subcommittee Conference Call - February 16, 2010**

**Participants:**

Chris Deacutis (URI)

Michele Dionne (Wells NERR)

Mike Doan (Friends of Casco Bay)

Jim Latimer (US EPA)

Jeremy Miller (Wells NERR)

Christine Tilburg (GOMC - ESIP)

*0.75 hour in-kind added for all participants.*

***\* This conference call made use of a series of slides.***

**Dissolved Oxygen Data Sondes**

Following introductions, Christine Tilburg led the subcommittee members through the data slides she had prepared. Dissolved oxygen datasets were available from 13 continuous data recorders in the Gulf of Maine. Given the great wealth of data, in previous calls it was determined that using a MATLAB protocol written by Dan Codiga (at URI) might be the most efficient means of looking at the data. Christine stated that the script looks at data and notes events where the values fall below a certain threshold (defined by the user). The script allows the values to go above the threshold for brief periods of time (less than 2 hours) and still remain defined as one event. Michele Dionne noted that understanding the length of duration would be helpful.

Christine used a slide showing data from a NERACOOS buoy (Bowdoin D02) to illustrate that lack of data and zero events "look" the same in graph format. She stated that she felt this way of presenting the data could be misleading. She suggested that data be presented as a percentage (or ratio) of the number of events that occur per eligible days. She mentioned that she might prefer graphs that also note the number of eligible days relative to total days (perhaps as shadow columns on the figures). Chris Deacutis thought that this might be helpful. Other suggestions included rounding significant digits to 2 in the tables. Jim Latimer requested that a legend be made available noting the depth of the sondes relative to total depth. *(Action to be taken: Christine will make these changes for the next discussion).*

In discussing the Wells datasets, Jeremy Miller mentioned that one of the Wells sondes uses an optical dissolved oxygen method (Inlet Site). He also stated that the figures for the Wells sites made sense from his perspective and were interesting. He asked Christine to verify that data flagged as -3 were removed from the datasets. *(Action to be taken: Christine will verify this item).* Michele noted that the data look interesting and are fairly characteristic of marsh estuaries.

With respect to the Great Bay data, Christine noted that quite a bit of data were removed at Phil Trowbridge's suggestion due to flags. Jeremy mentioned that most of the Great Bay data would be derived from NERR sondes and should be available with the flags intact. He suggested that Phil Trowbridge, Michele, Christine, and he have a discussion about keeping more of the flagged data within the analysis. *(Action to be taken: Christine will set up a call between the four individuals).*

Other items that need to be added to the figures include legends describing colors and changes to the axis to make the datasets more comparable. *(Action to be taken: Christine will make these changes for the next discussion).*

**Thresholds**

The group then discussed what the appropriate thresholds should be. Jim asked Christine if the slides were meant to be reported in 4 mg/L or 4 mL/L. Christine replied that the MATLAB script and slides should all read 4 mg/L. There was some discussion regarding the conversion of ml/L to mg/L with Chris suggesting the current conversion factor should be 1.4391. The group agreed that mg/L whould be the appropriate reporting unit. A lower threshold was suggested for hypoxia (3 mg/L) and severe hypoxia (2 mg/L). Jim mentioned that use of 4 mg/L serves as an early warning. In general, 4 mg/L was determined to be a good threshold. **Christine suggested that a focus box could be used to look at one area in more detail.**

It was also noted by callers that temporal trends do not appear to be displayed by the datasets.

**Grab Samples**

Christine asked the group what their suggestion would be for the grab samples. She stated that there are a lot of grab samples that are taken by community groups throughout the Gulf of Maine. Jim stated that grabs samples most likely can't be compared between different areas. Chris stated that for chlorophyll a and dissolved oxygen the grab samples would also most likely not be comparable. In contrast, most groups use the same methodology for secchi depth and that dataset should be more robust. The group agreed to use the secchi depth grab samples and at this time to not use the dissolved oxygen or chlorophyll a samples.

**Using the script for chlorophyll a and turbidity**

Christine then mentioned that she and Charles Tilburg (who ran the MATLAB) had discussed using the MATLAB script for chlorophyll a and turbidity using different thresholds. The group discussed the possibility of determining a threshold for chlorophyll a or turbidity. Michele wondered if the ASSETS program had defined either. Jim suggested that for the next call everyone send in references of chlorophyll a or turbidity thresholds to Christine. *(Action to be taken: Christine will summarize these in a table for the next call - presumably early April).*

Michele also stated that the nature of the chlorophyll a methodology might make comparisons difficult. She asked Christine to also put together a table showing the method of determining chlorophyll a and turbidity for each of the sondes. *(Action to be taken: Christine will summarize these in a table for the next call - presumably early April).*