**Eutrophication Subcommittee Conference Call - April 12, 2011**

**Participants:**

Chris Deacutis (URI)

Angie Dubois (Maine DEP)

Jon Eaton (Georges River Tidewater Association)

Jim Latimer (US EPA)

Marilyn ten Brink (US EPA)

Christine Tilburg (GOMC - ESIP)

Phil Trowbridge (NH DES)

Barbara Warren (Salem Sound Coast Watch)

**Embayment Grab Samples**

Following introductions the members on the call discussed the summary Excel spreadsheet listing out all selected embayments and the results of the data gathering effort. Jim Latimer then worked the subcommittee through the process he has begun with importing station locations into ArcGIS. He stated that once the station locations are within the GIS program he compares them to the watershed boundaries previously agreed upon. He then clips the data to only select the locations within the boundaries. He thought that perhaps he is 50% done with the process. Phil Trowbridge wondered if Jim is using a look-up table so that the export is simplified. Jim asked Phil some specifics and then agreed to try to do a union so that there is one working shapefile.

Barbara Warren expressed some concern with embayments (like Salem Sound) that have data originating from multiple sources. She hoped that all the data isn't lumped together. Jon Eaton pointed out an error in Christine's Excel spreadsheet. The GRTA grab sample data is from **2002 to 2003. *(Christine made this change to the original spreadsheet April 12, 2011).***

**Analysis**

Christine and Jim have some specific questions regarding how the data should be approached.

Chlorophyll a: From surface samples only? Jim thinks that as chlorophyll a is an indicator of phytoplankton the samples should be taken from the surface. Phil thought that it might be possible to average out the entire water column. Chris Deacutis stated that individuals at the University of Rhode Island averaged for the entire water column and it ended up a mess. Chris recommends utilizing the surface samples only. Barbara pointed out that for some of the Salem Sound Coast Watch data the bottom had higher chlorophyll a than the surface. Phil stated that in cases such as Salem Sound it makes sense to use a maximum value. Christine was worried about skewing the data. Phil stated that originally they utilized averages for the New Hampshire data and were criticized for damping out the data. The group agreed to use the maximum value at sample locations and to document the process. Some thought that making a table comparing averages to maximum values for internal discussion would be helpful. ***(Action to be taken: Analysis will be done for maximum values and average values for discussion.).***

* Time periods: The group then discussed issues related to differing time periods for sample. Jim wondered if data should be averaged over time. It was agreed that this question will be easier to answer once the extent of the datasets is known.
* Salinity: Phil wondered if the group should be thinking of separating the data out by salinity. He commented that NOAA has some information available on salinity zones for some estuaries. The group should not be taking data that is in the freshwater portions of the watershed. Jim commented that he didn't think the NOAA analysis has been done for all of the watersheds selected. Christine pointed out that it certainly hasn't been done for the Canadian watersheds. The group thought the data might need to be filtered for salinity and only analyzed for data associated with 15-22 ppt salinity.
* Seasonality: Jim pointed out that the analysis should allow for comparisons between estuary A and estuary B for specific time periods. He wondered if the data should only be selected for certain seasons. Christine pointed out that if there is enough information to look at specific seasons for only a portion of the sites this might be addressable in a focus box (example: Salem Sound?). Phil commented that the spring bloom is often a short, intense event and regular sampling might miss this first bloom. Blooms during the summer period are more predictable and easier to compare. Jon mentioned a talk he had heard recently that stated that the spring bloom in 2006 never occurred in the Damariscotta. Chris stated that in Narragansett Bay they have observed that the spring bloom hasn't occurred every year. There appears to be some connection to warmer winters nd missing spring blooms. Some have suggested that warmer winters are allowing grazers to establish themselves earlier in the year which impacts the phytoplankton.
* Rain events: Jon also mentioned that large rain events can cause the salinity in certain estuaries to become very low. Chris stated that with significant amounts of freshwater the chlorophyll a signal would likely be low.Jim stated that using a 15-22 ppt filter on the data would help to address this issue.

**Next Steps**

Christine asked the group if they would be willing to have calls once a month to wrap up this effort. Everyone agreed.