**ESIP/EPA/MassBays Call: July 23, 2015**

**Participants**

Pam DiBona (Massachusetts Bays NEP), Jim Latimer (EPA), Christine Tilburg (GOMC), and Prassede Vella (Massachusetts CZM)

**1. Last Call**

Prassede Vella opened the call with a reminder of the discussion from the previous call. She reminded the group of the current work on the Estuary Delineation and Assessment Report (EDA) and her hope that the EDA can be used as a tool and not simply a report. The group discussed how nitrogen loading will likely be important as MassBays moves forward.

**2. Appropriate Models**

Christine Tilburg asked Jim Latimer to remind her of the individuals that helped obtain nitrogen loading for ESIP. Jim stated that Keith Richardson (USGS) assisted with that work and it might be possible to run the same model (SPARROW) for the watersheds of interest to MassBays. However, the MassBays program is looking at estuaries and embayments on a finer scale than ESIP. (Example: ESIP’s embayment of interest Gloucester is further defined by MassBays to include three estuarine embayments: Annisquam River, Rockport Harbor, and Gloucester Harbor.) Jim also mentioned that the NLM was developed on Cape Cod. He stated that the NLM model could be used to estimate total loads as well as partition the loads by source (e.g., wastewater, fertilizer, atmosphere); however when the watersheds get closer to the coast it does become more difficult in the sense that the watersheds are harder to define. The SPARROW model is surface water based and the NLM model is groundwater based. Nevertheless, for those estuarine embayments in Latimer and Charpentier 2010, that had surface inputs SPARROW and NLM compared favorably.

Pam mentioned that Mel Cote believes MassBays program needs more information to establish TMDLs for the estuaries. She suggests it is more efficient to look at the estuaries and indicators than to undertake the effort to determine TMDLs. Jim agreed that using ecological response indicators does provide a lot of information in near-real time (depending upon the monitoring program). However, he stated that TMDLs are used to develop permits and those are legal documents. It is possible to get at reductions in nutrients without a legal document, but it is sometimes necessary to use the TMDL as a legal framework to better encourage states/communities to undertake reductions.

**3. Embayment Concentrations**

Pam stated that her need is to characterize what is happening (ecological response and N inputs) in the embayments so that improvements can be made. The nutrient loading models are part of that puzzle. Christine pointed out the nutrient loading models integrate loading for broad time periods. Neither SPARROW nor NLM are constructed to give results, for example, for 1995, but rather, for the 1990s.

Jim discussed some of the indicators that might be important to include with the EDA effort: chlorophyll *a*, turbidity, dissolved oxygen, seagrass (seagrass is a more integrated measure). The group discussed some of the successes that the Tampa Bay Estuary Program has achieved (<http://www.tbep.org/>). Jim mentioned that TBEP did more cooperative work as opposed to the legal/regulatory approach (e.g., TMDL). Jim also mentioned that there will be a special session at the upcoming CERF meeting focused on how regulatory and management goals are set ([http://www.erf.org](http://www.erf.org/session-search)).

**4. Next Steps**

The group discussed what next steps might be. Jim will put together a briefing document on NLM and SPARROW. Christine mentioned that she is very interested hearing how MassBays is updating seagrass coverage values. Pam agreed that seagrass can be covered during the next call. Christine will create a folder to serve as a library for this project on ESIP’s on-line collaboration website (<http://www.gulfofmaine.org/2/esip-online-collaboration-tool/>).

***Next Call: August 25, 2015 at 1:00 PM ET***