List of Information Requests and Questions for J.S. Latimer Concerning Latimer & Rego, 2010

Data Requests:

- Please provide the parameter values listed in Table 1 for each site identified in the report.
- Please provide the data used to populate Figures 2 and 3. Which systems have 100% loss?
- Please provide the estuarine volume, tidal range, and freshwater input parameters for each of the sites used in this study (identified in Table S1 of the Supplemental Information).

Questions:

- How did you calculate TN loading rates?
- What were the adverse TN impacts on eelgrass in the study's references?
- On what basis was the 99%ile used for the high dilution category threshold?
- What averaging period was used for chlorophyll trophic status?
- What level of phytoplankton biomass (as chlorophyll-a, µg/L) was present in the 2010 study sites for the year characterized in the study?
- For the 2010 study sites, what is the characteristic water depth at low tide? How much of the eelgrass habitat has a low tide water depth of 1.0 meter or less? Which water bodies in the study have eelgrass which are exposed to the surface during the tidal cycle?
- Do you have information that eelgrass was ever present at these sites? Which sites identified in the 2010 study historically contained eelgrass beds that persisted throughout the year?
- Did this study assume that eelgrass can grow at all areas >3 meters?
- On what dates were aerial photography eelgrass surveys conducted? Were Connecticut eelgrass cover data based on springtime photos?
- The 2010 study identifies anomalous estuaries (Category 3) and hypothesizes that uncharacterized nitrogen inputs and hydrodynamic effects, substrate characteristics, non-algal particle water clarity effects, availability of seed stock for reproduction, predator activity, etc. can reduce the viability of eelgrass, even when nitrogen-derived water quality may be good or improving. How were these factors considered for Category 1 and Category 2 sites?
- In areas where eelgrass were expected but not occurring, were other factors evaluated?
- How did this study account for wasting disease? (Note: The data for Massachusetts estuaries were obtained for 2001. The Atlantic coast experienced a significant outbreak of wasting disease in 1988-1989 and in the late 1990s/early 2000s)
- Which sites identified in the 2010 study are most susceptible to adverse hydrodynamic effects on eelgrass populations? (Note: The data for Connecticut and Rhode Island estuaries were obtained in 2006. Great Bay experienced a major flooding event in 2006 that corresponded with a significant reduction in eelgrass population from the prior year.)

- Where do the Great Bay Estuary and Great Bay fit within the characterization used in this study?
- Which water bodies identified in the study are similar to Great Bay, Little Bay, Piscataqua River, and Portsmouth Harbor?
- Did the study include any analysis that separated water bodies into rivers, harbors, etc.?
- Where does Great Bay and the Great Bay Estuary fall on Figure 2 and Figure 3 of the 2010 report?
- Why was annual TN loading used when nutrient loads and their impacts are seasonal (see below from PREP, S. Jones, 2000)?

Annual loading of nitrogen from fluvial (riverine) sources to the Great Bay Estuary. FIGURE 2.34
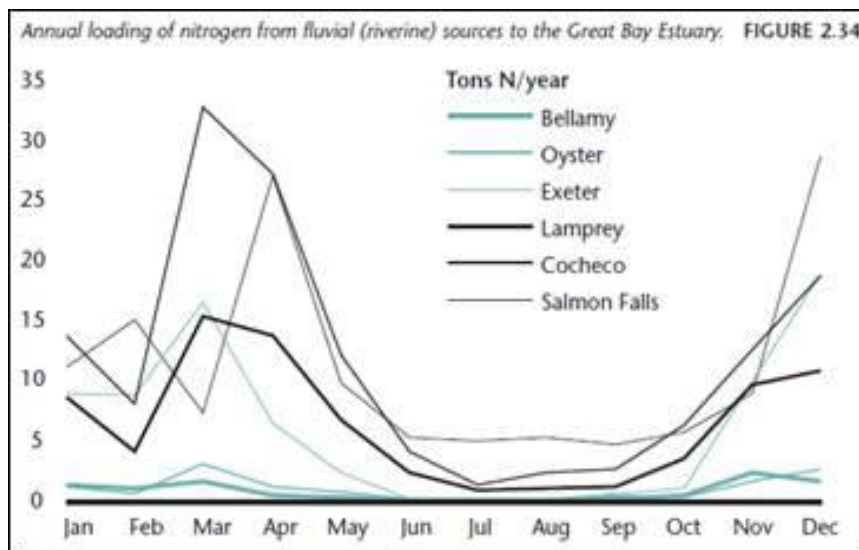
- Do you have any data showing October-April TN loads substantially affect eelgrass population growth?
- Where actual system data indicate eelgrass is not affected by TN >100 kg/ha-yr, how should this study be applied? What would be the explanation? Would this anomalous?