2007 NEAEB Nexus Café
Life Beyond Monitoring: Coexisting with Cyanobacteria.
Moderator: Angela Shambaugh

Attendees – Round 1:	none
Attendees – Round 2:	Anne Monnelly, MA Dept. of Conservation and Recreation Sonya Carlson, Univ. of NH and EPA Travis Godkin, Univ. of NH and EPA RI Molly Michaud, Lake Champlain Basin Program Kris Joppe-Mercure, Lake Champlain Basin Program Ginny Garrison, VT DEC – Water Quality Division
Attendees – Round 3:	Greg Hellyer, EPA - New England Regional Laboratory

Session description: Cyanobacteria have been around for millions of years, waning and waxing as environmental conditions allow. Given predictions of a warming climate, we can expect many lakes, ponds and rivers to become the perfect habitat for these potentially toxic organisms. There are insufficient resources to be able to monitor every water body indefinitely. How will we tackle this emerging problem?

Summary: Each state represented at the table had a different approach to monitoring cyanobacteria. Prior to the bloom in the Charles River during August '06, MA had only one previous instance of nuisance cyanobacteria. They are currently working to develop a monitoring and education program for the Charles and possibly other water bodies. NH does not routinely test for cyanotoxins, except at beaches where nuisance densities have frequently occurred. They do respond to inquiries from the public. Water body closure is based on cell counts and supplemented with toxin analysis. Data from UNH has shown that low levels of microcystin are found in most lakes that have been tested. In VT, several dogs have died since 1999 after consuming cyanobacteria or water with cyanobacteria on Lake Champlain. Routine monitoring of cyanobacteria densities and microcystin occurs in northern sections of the lake. Anatoxin analysis is done on selected samples. Several other lakes in VT have experienced nuisance levels of cyanobacteria, but monitoring and toxin testing is not routinely implemented on these lakes.

The discussion generated more questions and concerns rather than answers on approaching this emerging issue:

- What is the risk to humans from recreational exposure, from exposure through drinking water? There is little hard data available regarding the effects of acute and chronic exposures on human health. Will we be able to identify long-term health issues arising from low level recreational or drinking water exposure down the road?
- Analytical capacity is limited, especially for toxins for which immunoassays do not exist (e.g. anatoxin). How can we increase this?
- Do we need to have highly accurate assays or are quick "ballpark" estimates sufficient to identify areas with high risk?

- Permanent signs warning of annual nuisance blooms seems appropriate and necessary on some water bodies, but how do we fight complacency among recreational users?
- If extensive blooms occur annually in a water body, is intensive monitoring really necessary? Perhaps the monitoring protocols for *e. coli* at public beaches can provide a model for these water bodies.

Education through various outreach programs and public service announcements is needed. We would like to give people the information they need to protect themselves when they are out on the water. Compared to other health risks such as West Nile and avian flu, cyanobacterial toxins have much less visibility but are just as likely to create a panic in the vicinity of affected water bodies. A coordinated education effort by the Northeastern states would be useful in getting a consistent set of information out to the public.