General Comments and Questions:

- ***What is the condition of Mirror Lake?***

Water quality conditions in Mirror Lake are usually more than adequate to support most recreational uses of the lake during the summer, and can be best described as oligotrophic, or unproductive, with nutrient levels low enough to indicate that water quality changes are unlikely in at least the near future. The favorable recreational assessments of the lake continue to be most strongly influenced by poor weather or other non-water quality factors, rather than water quality or rooted aquatic plants (or these favorable conditions reflect the lack of water quality problems or invasive weed problems).

- ***What about the dark and murky bottom waters of the lake?***

Deepwater nutrient (phosphorus and nitrogen, particularly ammonia) levels are higher than those measured at the lake surface, and although this suggests that deepwater oxygen levels may become depleted during the summer, the lack of any seasonal eutrophication patterns (particularly the lack of any significant seasonal phosphorus trend) suggests that these nutrient-enriched bottom waters do not impart a large nutrient loading to the surface waters during and after lake destratification.

- ***How does this condition change from spring showers thru the changing of the leaves?***

The productivity of Mirror Lake (clarity, nutrient and algae levels) does not vary significantly during the summer, and recreational assessments are fairly stable and favorable throughout the sampling season. Aquatic plant densities increase during the summer (decreasing by fall), but this appears to have limited impacts on recreational assessments of the lake.

- ***How has the condition changed since CSLAP sampling began on the lake and/or relative to historical values?***

Conductivity has increased slightly since 1998, and chlorophyll *a* readings have decreased over this period. However, none of the other measured water quality indicators have exhibited significant change over this period, and the small changes in each of these indicators are probably within the normal and expected range of variability for this lake.

- ***How does Mirror Lake compare to other similar lakes (nearby lakes, same lake use, etc.)?***

Mirror Lake is usually less productive than other nearby (Lake Champlain basin) lakes, other lakes classified for bathing and contact recreation (Class B(T)), and other NYS lakes. As a result, recreational assessments are usually more favorable than in these other lakes.

- ***Based on these data, what should be done to improve or maintain Mirror Lake?***

Given the low lake productivity, and little evidence of water quality threats, management of water quality conditions in Mirror Lake should focus on reducing nutrient loading to the lake, through maintaining septic systems, shoreline buffer zones, limited use of lawn fertilizers, minimizing land disturbances in the near-lake watershed, and localized stormwater management. The lake association is also advised to minimize introductions of exotic plants and animals from public and private launch areas into the lake, given the increasing threat within the Adirondacks from these invasive organisms.