White Oak Pond Watershed Association (WOWPA)
Water Quality Sampling Committee Report - July 17, 2010

Last year we met our sampling goal (tributaries during spring runoff and pond and dump tributary 3x during the summer months). Spring runoff sampling did not show any additional areas of concern. We added sampling at the Stone Bridge back into our regular sampling schedule based our review of the sub-watersheds and determination of whether our sampling was representative of the entire watershed - one of our goals last year.

For 2009, we received a Biennial Report from VLAP which includes statistical analysis of the historical trends. The report shows that there has been no statistically significant change in any of the parameters measured and analyzed since sampling began (1997) and a pond in relatively good health. The full report is available at the WOPWA web site: http://www.wopwa.org.

Monitoring continues to show that White Oak Pond is an aging, less productive pond which has internal phosphorus loading and therefore is vulnerable to external phosphorus inputs. Excessive phosphorus can lead to algae growth. External phosphorus sources include septic system effluents, animal waste, lawn fertilizer, erosion and natural wetlands. Thus, residents maintaining septic systems, minimizing lawn fertilization, minimizing shoreline erosion and adhering to the Shoreline Protection Act remain important aspects of keeping the pond in the state it is in. Information about best practices around the shoreline and the Shoreline Protection Act is available at the WOPWA website and the NH DES website: http://nh.des.gov

The following are highlights of the report:

- Conductivity has increased in the pond and tributaries, particularly at the dump tributary. Increased conductivity can be caused by natural sources but is also associated with pollutants from human sources. The 'Dump tributary' also shows increased turbidity which could be due to sampling error, or possibly erosion from development activities. The 'Dump tributary' also shows increased phosphorous which can be due to pollutants from human sources. The 'Dump tributary' consistently is an area of concern and the recommendation is to do more sampling along the length of the tributary. This recommendation is something that WOPWA might want to consider doing. It is also recommended to measure pond epilimnion (upper layer) conductivity in 2010, which we will do.

- Dissolved oxygen (vital to fish and amphibians) was sampled later in the summer (one of our goals) as was very low. The historical trend is for dissolved oxygen to decrease over the summer months but the recommendation is to sample is earlier in the summer to have some idea of *when* it becomes so low, which we will attempt to do.