Lamprecht Consulting
Pond and Lake Management

November 20, 2008

Lake Francis HOA
C/o Mark deOgburn
1027 Travers Dr.
Charleston, SC 29412

Dear Mark,

I am writing in reference to my October 2008 inspection of Lake Francis. A dissolved oxygen and temperature survey was conducted on the evening of October 27th, several days after a major rain event that locally dropped over 6" of rain. The lake level had receded from its peak, but was still higher than I'd ever observed during my annual visits. Salinity, at the surface, was undetectable.

The large inflow of rainwater had broken up the Lake's stratification, mixing the low dissolved oxygen layer with the well oxygenated upper layer and creating a nearly uniform temperature (68 degree F) profile from the surface to the bottom. Surface oxygen levels were above 8.5 mg/l in the larger arms of the lake, but were slightly lower in the narrow shallower arms. At 4' of depth, oxygen levels began to fall precipitously and were 1 mg/l or less at 6' of depth.

At the present temperature and season these low oxygen levels should not pose a problem. However, if this rain event had occurred during the heat of the summer, it is highly likely that oxygen levels would have fallen low enough to cause a major fish kill.

There were no visible aquatic vegetation problems and it would appear that this year's stocking of grass carp did the trick. Maintenance stocking of grass carp should be reconsidered in another 4 years or in response to a specific aquatic weed problem.

To reiterate our previous discussions, I would stay mindful of the potential deleterious effects of summer mixing of the deep water arm of the lake. De-stratification of this section of the lake with air driven circulators is probably the most economical approach to reducing the volume of low oxygen water that can produce fish kill when mixed by storm events. Increased storm water runoff is likely to increase the occurrence of mixing events in Lake Francis.

Regards,

Scott Lamprecht
 Fisheries Biologist