

May 3, 2019

I visited Lake Francis on May 2 in response to a spring episode of filamentous algae that has reached the surface of the pond and begun to impact two narrow lake arms. The algae also harbors duck weed, that will likely fade when the algae is controlled. In comparison to last year, the algae problem has spread throughout the lake. This is a common spring problem in shallow and fertile Charleston neighborhood ponds. Clear winter water allows filamentous algae to grow on the bottom and other sub-surface structure. As the water warms and photosynthesis rates increase, the release of oxygen forms bubbles that are trapped by the filaments, which floats the algae mats to the surface where the sunlight is too intense and the algae begins to die and decay. Heavy rain will dislodge the bubbles and the mats will sink, only to return to the surface after several days of sunny weather.

The best biological control of this problem is the combined use of tilapia and grass carp. Last year's stocking of grass carp should be sufficient for several years, but the timely addition of tilapia will help with the problem as the season progresses this year. While I expect that there are large tilapia that survived the mild winter, there are likely insufficient numbers to rapidly control the present conditions. A stocking of 1000 to 2000+ young and vigorous tilapia should provide fairly rapid control in the isolated arms and help minimize the plants presence going into the winter.

Having worked with Lake Francis for about 15 years, I've seen the changes it has experienced. The present problems have been imported from the upstream lakes that drain into it. The change in the Harbor View culverts have allowed floating plant problems to be washed downstream into the lake and are the primary cause of the present conditions. However, increased presence of waterfowl, in particular Canada Geese, are an exacerbating factor. I've seen the waterfowl use increase over 10-fold over this time period. Canada Geese are individually reported to daily produce 4X the level of fecal coliform than humans. The addition of this fertility fuels the plant problems that the lake is experiencing and represent a real pond and human health risk. All the domesticated mallards, mixed ducks, muscovy ducks, and Canada geese use of the pond should be actively discouraged. In addition to waterfowl, all additional sources of fertility should be considered and reduce.

Regards,

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