



Village of Scotia Parks and Recreation

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October 4, 2006

Brian Kling
Clean-Flo International
540 East Union Street, Suite 1
West Chester PA, 19382

Dear Brian,

As you know last summer we were forced to close our beach for swimming due to high fecal bacteria levels. We determined the problem resulted from a large number of Canada geese, a thick growth of Eurasian Milfoil and very low dissolved oxygen levels. The geese were the source of bacteria and the Milfoil growth did not allow for adequate water circulation. Decomposition of plant material resulted in low oxygen levels throughout most of the year. In order to reopen our beach we needed to mitigate all factors contributing to poor water quality. Our goal was to eliminate all invasive vegetation, reduce the number of resident Canada geese and improve water circulation and oxygen levels.

Collins Lake is a 55acre lake with an average depth of 12ft that has been suffering from the effects of eutrophication for the past three decades. The lake is within a public park and is used for swimming, fishing and boating. In order to restore the recreational use of the lake we devised a restoration plan consisting of three phases. Phase one involved the installation of a Clean-Flo inversion and oxygenation system to increase water circulation and dissolved oxygen levels. Phase two consisted of the use of an aquatic herbicide to eliminate Eurasian Milfoil, allowing for greater water circulation and better access to the lake for swimming, fishing and boating. Phase three was to significantly decrease the number of resident Canada geese, the primary source of bacterial contamination.

A Clean-Flo inversion oxygenation system was installed in late April of 2006, a significant drop in bacteria levels was observed after a week of operation. The system was turned off a few weeks after installation and bacteria levels rose. When the system was restarted a decrease in bacteria levels was again recorded, suggesting that the Clean-Flo system was directly affecting bacteria levels in the lake.

The aquatic herbicide Sonar AS was applied to the lake in early June to eliminate a very dense growth of Eurasian Milfoil. The elimination of this invasive plant allowed the aeration system to work much more efficiently, resulting in a further reduction of bacteria levels, and a significant increase in dissolved oxygen levels. As a result we were able to re-open the beach for swimming at the beginning of August.

The use of the Clean-Flo system along with the reduction of geese and the elimination of invasive plant allowed us to achieve our primary goal of reopening Collins Lake for swimming.

Thanks for all your guidance and expertise over the past year, the system has performed exactly as we had hoped.

Sincerely,

A handwritten signature in black ink, appearing to read "Jim Marx", written over a horizontal line.

Jim Marx
Parks and Recreation Supervisor