

Update on Annual “Fish Kill” in Hoyt Lake 2011 – Getting the Story Straight

Input from Kevin Hannah, Director of Operation and **Buffalo News** April 12, 2011

Why were there so many dead carp in Hoyt Lake?

Each spring “Fish Kill” occurs in Hoyt Lake, in Delaware Park. When ice forms, neither wind nor diffusion from the air contributes oxygen to the water. The sole source of oxygen becomes the small amount produced by the few remaining algae and plants. If the ice remains thin and clear, oxygen production by plants and algae can continue as enough sunlight can filter through the ice to allow photosynthesis to occur. If the ice remains into mid-winter or thickens slightly, oxygen levels will begin to decline by 1-2 parts per million. This is because each day the lake plants and animals use slightly more oxygen than is produced. At this point, however, the lake still has sufficient oxygen.

A serious problem develops when ice persists into late winter and thickens considerably or worse yet, is covered by snow. This reduces the amount of sunlight reaching the plants and algae, thereby substantially reducing the amount of oxygen produced. In cold water, oxygen levels less than 2-3 ppm for an extended time will begin to kill fish. If levels drop to 1-2 ppm or lower throughout the lake, a complete fish kill will result.

A few years ago, in cooperation with Riverkeeper, Hoyt Lake was tested due to the yearly fish kill. The water quality was found to be good, but during the long winter month, oxygen is depleted. With relatively shallow bodies of water like Hoyt Lake, this is a natural process and is not an indication of contaminants in the water that are causing harm to the fish.

As the shallow lake thaws, oxygen is depleted from the water. Adding to this issue is a lack of flowing fresh water. The result is that 100’s of large carp die. **This year, like in the past, Buffalo Olmsted Parks Conservancy zone gardeners and staff spent 10 days to remove over 2 tons of dead fish. The Hoyt Lake shoreline is currently beautiful and clean thanks to their hard work.**

At the same time as this occurred BOPC was fortunate enough through our Institutional Advancement Department (Otis Glover) to secure a \$100,000 grant announced by Senator Mark Grisanti for a new fountain to help add oxygen to the water. To clarify, the fountain will be helpful to add oxygen to the water but only in the summer months. The fountain cannot help the yearly “fish kill” which occurs quickly in the spring. This restoration of the fountain is part of “*Plan for 21st Century*” – Restore Gala and other Water Features (support the ongoing and long term cleanup) Some funds may be dedicated to further study of options for resolving this issue.

Separately, a state grant of \$150,000 was announced in 2010 to help fund projects aimed at improving water quality in Hoyt Lake and Scajaquada Creek. This grant for more pumps and upgrading fresh water wells is expected this year.