

Happenings at Waban's TREE Program- Caring About Our Environment

*This is the tenth article in the series.*

August 2013

## **Waban's Adventure Group Tests Bauneg Beg Lake Oxygen**

This summer, Waban's Adventure Program participants have been testing the dissolved oxygen (DO) content at the TREE Center on Bauneg Beg Lake to better understand this crucial component in the health of the lake's ecosystem.

"Oxygen is not only important to land-based animals," said Cynthia Peedin, the TREE Center Environmental Educator. "It is equally important to aquatic animals."

Dissolved oxygen is the concentration of oxygen that is dissolved in the water. The Adventure Program uses a screening kit which is a simple, cost-effective test that gives a ballpark range of the oxygen content of the Lake. At the sampling location at the TREE Center, participants usually see DO numbers ranging from 5 to 6 parts per million (ppm). This oxygen content helps to support populations of warm water fish such as largemouth bass, white and yellow perch, and pumpkinseed sunfish – all of which are common catches for those fishing at the TREE Center.

Last fall, however, members of this group joined FB Environmental, a Portland-based environmental consulting firm, as they used sophisticated and highly accurate equipment to measure the oxygen content of the lake as well as other water quality indicators.

"FB Environmental took the time to take one of our groups with them during a water sampling trip onto the lake. They showed the group their equipment and how they use it to measure variables of water quality. We appreciate their including us, as the data they collect is a valuable resource for the lake community," said Ann Rossignol, TREE Center Director.

So what affects the oxygen in the lake and why do we care?

"It's about the biological health of the lake. There are a lot of variables that go into oxygen saturation like temperature, aquatic life, water depth, and water flow," said Peedin.

Stormwater run-off can also be a major problem. Animal waste and plant debris (such as lawn clippings) deplete the oxygen in the water needed by aquatic life. Excess nutrients that are found in the water runoff can also cause an explosion of plant life and algal blooms. As the algae grows and then finally decomposes, it further depletes the oxygen content of the water.

Bauneg Beg's dissolved oxygen is a concern according to the December 2012 report released by FB Environmental.

"As in previous sampling years, the dissolved oxygen (DO) loss at the deep hole of the lake raises concerns, especially since DO was below 2 mg/L at the shallower depth in 2012. This loss of DO only several meters below the surface of Bauneg Beg Lake suggests that habitat for fish and other aquatic life may be threatened during part of the year."

The TREE Center will continue to update its DO at their sampling station in upcoming months and years to see if the lake's dissolved oxygen content is continuing to slide and how it may be affecting this local ecosystem.