

## Spring brings back CRC's Adopt-A-Lake Program

By Megan Birzell and Bruce Rieman

Although it's been a long winter, spring does seem to be getting a foothold in the Valley. The snow has been melting fast, the rivers are up, and the lakes are or soon will be opening up. Spring is a time of renewal and rapid greenup on the land, and similar things are beginning to happen in our lakes.

During the winter with a cover of ice and snow, the biological activity of the lakes really slows down. When the ice comes off, things take off again. Nutrients released from decomposition of plant growth from last year are flushed from the watershed with snowmelt and mixed back up into the water column with the exposure to spring winds. This can result in a burst of biological growth. If you watch closely, the clarity and color of the water can change in a matter of a few weeks or even days. This is a good thing because growth of algae and rooted plants around the shoreline are the basis of the food chain that feeds fish and people and helps to clean up some pollutants released in the watershed. But there can also be too much of a good thing. Increasing development in the watershed, failing septic systems, and some land uses can increase the load of nutrients moving into lakes. The result can be too much plant growth that ultimately reduces water quality for both human and plant and fish communities. Land use planning, sewer planning, and environmental monitoring are all important efforts to make sure we don't go too far.

Last summer, the Clearwater Resource Council initiated the Adopt-A-Lake Program to help our community better understand water quality status and issues in the lakes in our Valley. We wanted to know whether increased activity in the Valley (in the form of roads, houses, septic systems, recreational use of the lakes, etc.) is affecting water quality and the things we value about our lakes. We received a grant from the Seeley Lake Community Foundation to help us purchase equipment and get the program off the ground. Many of you volunteered your time to collect data on Placid Lake, Seeley Lake, Lake Inez, Lake Alva, Clearwater Lake, and Rainy Lake.

In the Adopt-A-Lake program, we use Secchi disks to measure the transparency or clarity of the water in the lakes. Basically, volunteers lower a black and white disk about 7 inches in diameter into the water and measure the depth at which it disappears from view. Water transparency is directly influenced by the amount of small particles suspended in it, making it a good indicator of the amount of algae growth in the open water. Volunteers go out on the water roughly every two weeks during the late spring, summer, and early fall to measure transparency and then send the information to CRC where it's recorded and summarized.

Our first season of data collection showed that the lakes are generally less transparent (In other words, there is more plant growth in the lakes) lower in the chain of lakes in the Watershed. Measures taken in the fall of 2008, for example, showed a transparency of 29 feet in Clearwater Lake, while Seeley Lake's south arm transparency was only 13 feet. The declining transparency is expected as you move downstream. The area of the watershed for each successive lake gets larger, and that means more natural and human sources of nutrients for plant growth increases.

By comparing information with a few past studies, we also found that lake transparency can vary substantially throughout the year and among years. For example, in Lake Inez, transparency varied from 14 to 19 feet over a single month. Transparency in Seeley Lake has varied from less than 4 feet to more

than 23 feet over all the samples and years that we can find. This gives us a ballpark for the current conditions of our lakes, but it doesn't yet tell us much about trends.

These measures of water transparency will be most useful when taken consistently over time. So we don't believe the data collected last summer are sufficient to draw conclusions about how our lakes may be changing, but it's a start. We'll need to continue taking measurements in the spring, summer, and fall months and to maintain our monitoring efforts over a number of years to really learn more.

We're currently gearing up for the 2009 monitoring season, and we still need some help. We're looking for volunteers to help construct more equipment and to conduct monitoring on lakes in the Valley. Volunteers need to have access to a boat because the measurements must be taken from points in the middle of the lakes. Please let us know if you're interested in helping out. We can either add you to a team on an existing lake or set you up to monitor a new lake. Please call Megan Birzell at 677-0069 or stop by our office behind Montana Lakes Real Estate for more information. If you would like to see a copy of the 2008 lake monitoring report, visit [www.crcmt.org](http://www.crcmt.org).

Date: April 30, 2009