

Barr-Milton mantra: Keep it clean

By Mark Humbert

One way to describe water is its molecular composition, two hydrogens (H₂) and one Oxygen (O).

Now think of that O as a circle and remember that in a circle, what goes around comes around.

That's a roundabout way to get to the mission of the Barr-Milton Watershed and, in particular, the more than 30,000 acre-feet of water that fills Barr, our closest big water-storage lake.

Did you know that about half the people in the state affect that water supply that feeds Barr Lake through the South Platte River?

Amy Conklin, manager of the Barr-Milton Watershed (which wants to maintain its water sources as one would take care of a fine motorcar that shares the same initials), said the watershed encompasses an area of northern Colorado that includes metro Denver as well as farms and communities extending in all directions from the two bodies of water (Barr and Milton) – as far south as Douglas County, just north of Castle Rock; as far east to bisect Denver International Airport; as far north as a couple miles south of Greeley; and as far west as Standley Lake (the outline of the map is somewhat shaped like a barking seal). Its two major storage bodies are Barr Lake, just east of the Brighton city limits, and Milton Reservoir, near Keenesburg.

The watershed itself catches water within that large space, from 19 miles of ditches leading from a head gate at the South Platte River near Confluence Park in Denver. Overall, it's connected to 500 miles of natural streams and 550 miles of manmade canals, ditches and pipelines.

Conklin said the watershed association has a board typically made up of 12-15 people who represent wastewater treatment dischargers and water providers such as the



Steve Lundt demonstrates an apparatus used to take water samples to measure the quality of Barr Lake every half meter.

Local Color photos

Farmers Reservoir and Irrigation Company (which controls the water in Barr and Milton and the distribution), industries such as Xcel Energy, and three at-large members representing communities served. As many as 40 shareholders also attend meetings of the group and vote by consensus (thumbs up in favor, down opposed and sideways if undecided) on water-quality policies and procedures.

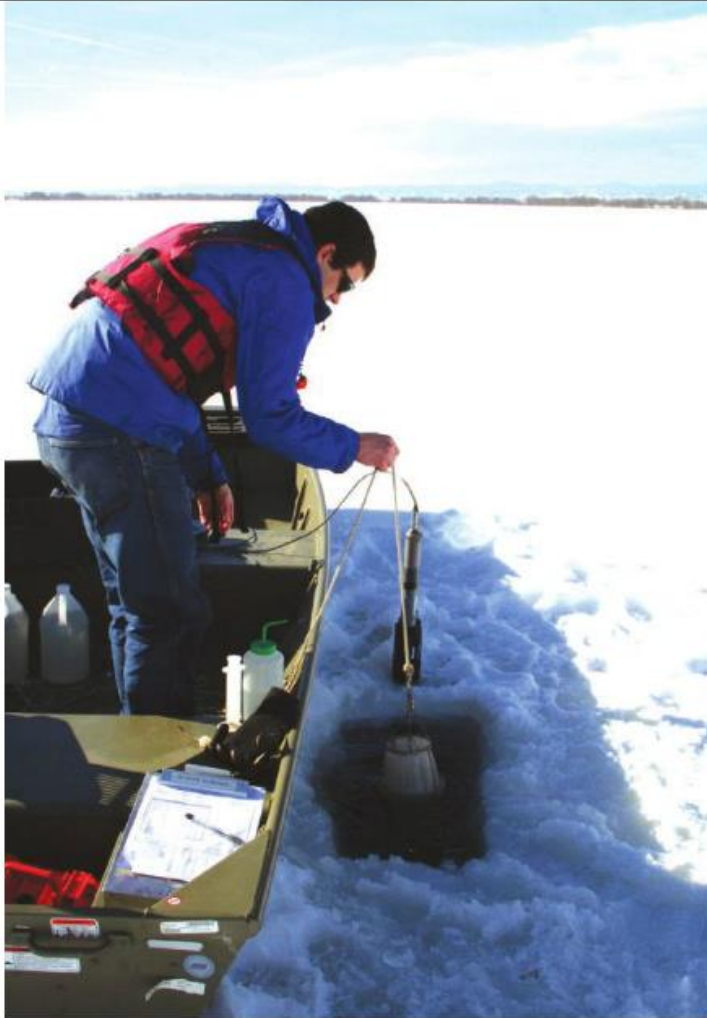
Both bodies of water are used for recreation, (though Milton's is for a homeowners' group), to support the needs of wildlife, of recreation, for irrigation of farmland, and for

human consumption. FRICo also controls the Beebe Draw, a canal that leads from Barr Lake to Milton Reservoir, with places between the two where member farmers can obtain irrigation water. Some of Brighton's underground aquifers also are connected to Beebe Draw.

And those end uses are what make it so important to follow the words on the Barr-Milton logo: Keep it clean.

That message goes out to all who, well, contribute to the lake for the benefit of its consumers.

"Back in the 1950s and early '60s Barr Lake was 'dead,'" said Steve



Jordan Parman raises the plankton trap (to gauge algae quality) from the water.

Lundt, a water engineer for Metro Wastewater, who measures Barr Lake's and Milton Reservoir's vital signs twice a month from March through October and monthly from November through February. "It was so polluted there was no oxygen in the water. The odor of the plant decomposition made that rotten-egg smell."

He said the big change came in 1975, when the area around and including the lake became a state park.

"The lake came alive" after water-quality surveys led to efforts to improve the water quality, he said.

The key document in water-quali-

ty improvement is called the TMDL, Total Maximum Daily Load.

"TMDL is a process every natural system has – the ability to eliminate some negative elements and clean itself up," Conklin said. "The TMDL decides the natural assemblage (of pollutants) capacity."

"It's like a sponge, and (TMDL) determines how much the sponge can absorb and how it can divide the pieces of the sponge."

Today (as of Lundt's Jan. 13 measurements) the lake is much healthier: The dissolved oxygen level was high at 198 percent of normal. A chart on the watershed website indicates more than 80 percent is good.



The Barr-Milton watershed area.

Courtesy Barr-Milton Watershed Association

The pH in January was 8.9, and a pH anywhere from 6 to 9 is good. Any lower and the water would be too acidic, any higher and it would be high in alkaline content.

The association wants to keep the lake healthy and try to make it even healthier.

The biggest concern for Barr Lake has been the phosphorus content in the lake (leading to the higher pH). Lundt and Conklin pointed out the lake's pH has stayed in the acceptable range for the past three years, well below the 12-year averages since regular measurements began in 2002.

The biggest reason to control it is because it sucks up oxygen in the water so fish can't breathe. The association's goal when it started was to reduce 90 percent of its total maximum daily load of nutrients (and phosphorus was No. 1) entering the lake.

Water clarity also has been good, as well as the dissolved oxygen readings mentioned previously.

One of the other tests Lundt and Jordan Parman, also from Metro Wastewater Reclamation District, ran in January was measurement of plankton, critters the size of a grain

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of sand that dart rapidly through the water.

Plankton mostly are thought of as sea creatures, but even in fresh water they serve as fish food. Their job, Lundt said, is to feed on the algae in the lake and be a food source for the indigenous fish. The largest group of the creatures in Barr is the zoo (pronounced zoe, as in zoology) and there were plenty of them in a sample that Parman drew. Their eating habits keep the chlorophyll levels down in the lake. That is potentially another pollutant. If chlorophyll levels are high, it's probably because of an abundance of blue-green algae. Plankton prefer brown or green algae.

For now, though, the most important levels to measure and control in the lake are those of phosphorus, which the watershed association is working on, and nitrogen, which will be the target of new regulations in the near future.

The watershed association's best tool for management of phosphorus is education of the public (back to that O).

Conklin and Lundt pointed out that the best ways those of us who live within the watershed area can ease pollution are simple steps:

Pick up after your pet. Their phosphorus-laden solid waste can leech down or wash into storm drains and ultimately reach the lake.

Be careful with fertilizer use, and don't overwater.

Take your car to a professional car wash – not your yard or driveway.

Don't change your car's motor oil at home unless you're sure you can catch it all. (If you can, the city has motor-oil disposal at its maintenance garage on Longspeak Street off Fourth Avenue, but call ahead.)

Meanwhile, the lake continues to be sampled and the watershed group continues to consult with experts on ways to improve the water quality of the lake and what it discharges. Ken Wagner, a nationally known consultant is helping the group with its study.

To learn more about the Barr-Milton Watershed Association and its next meeting visit www.barr-mil-

ton.org ●