NEWSLETTER

Issue 34 February 2, 2024

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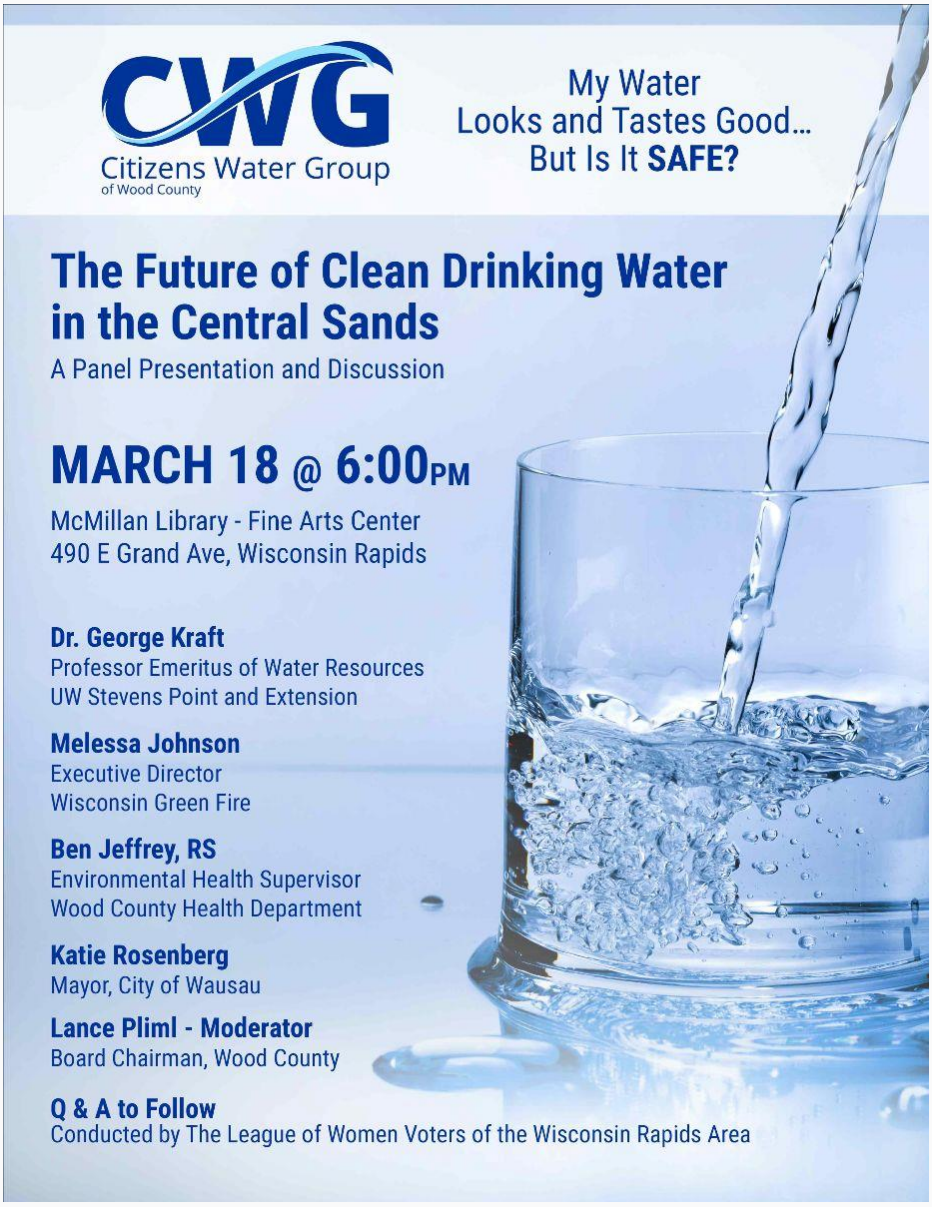
14 Mile Watershed Friends and Supporters . . .

An Invitation to Help Protect Our Drinking Water

The Wood County "Citizens Water Group" (CWG) is hosting a presentation / panel discussion on **"The Future of Clean Drinking Water in the Central Sands"** on the evening of March 18th at McMillan Library, 490 E. Grand Ave., Wisconsin Rapids, starting at 6:00 pm.

The panelists / presenters are not only experts in their fields but people who can, or have, "effected change". The moderator is Wood County Board Chairman & President of the Wisconsin Counties Association, Lance Pliml.

You are cordially invited to attend



Case Study of a Successful Nanobubble Trial in Wisconsin

In our previous Newsletter (Issue 33, January 16, 2024) we included an announcement from the Tri-Lakes Management District regarding a recent nanobubble technology trial conducted at the Lake Arrowhead Marina.

Below is a description of another successful use of this technology in a trout pond in Tomah, Wisconsin.

This nanobubble process is described on Moleaer's website at www.moleaer.com. You may also visit the Tri-Lakes Management website (trilakesmanagement.com) for further information, as well as sign up to receive email updates.

MOLEAER
ADVANCING NANOBUBBLE TECHNOLOGY

NANOBUBBLES REDUCE ALGAE BLOOMS IN TROUT POND

Client Case Study: Private trout pond

Location:	Unit Type:	Flow:	Installed:	Benefits:
Tomah, WI	Clear 50	50 GPM	Spring 2022	• Water clarity improvement • Algae bloom reduction • Reduced gill lice parasites in trout

Chemical engineer Gregory Eirschele has had access to a private trout pond for many years, from which he fishes recreationally. It is home to a population of native brook trout.

Nuisance Algae Blooms Every Year

Every year in the late summer the pond experiences excessive filamentous algae growth, causing eutrophic conditions which negatively affects water quality and trout health. Growth of weeds such as coon tail, duckweed and pond weed are also significant. If the weeds are not removed, they decompose and add to the organic matter in the pond bottom muck, worsening water eutrophication. Lakes experience eutrophication when there's an excess amount of nutrients, commonly from runoff from the land or other hard surfaces like roads, sidewalks and drains. This causes an increase in plant growth, though it negatively impacts animal life from reduced oxygen levels.

Figure 1: Located in Tomah, WI, this private trout pond is home to native brook trout.

Eirschele tried a conventional aeration system, but it did not improve the water quality. It also stirred up the water column, causing the cooler temperatures of the deepest water to increase, negatively affecting trout health.

A Sustainable Tool: Nanobubbles

Nanobubbles increase oxygen and enhance nature's oxidative processes to make water bodies more resilient to algae blooms. The mild, chemical-free oxidative effect of nanobubbles helps reduce the availability of nutrients that causes nuisance blooms, as well as continually lyses algal cells and destroys pathogens. These natural oxidative properties of Moleaer's nanobubbles provide a safe alternative to traditional chemical pesticides without the health and safety risks of handling and applying.

During spring 2022, Eirschele installed Moleaer's Clear 50 Nanobubble Generator.

Nanobubbles Improve Water Quality for Reduce Algae Blooms

Within the first 3 months, water quality and clarity improved significantly and kept improving over time. Weed growth began to diminish.

- The water temperature in the pond remained thermally stratified, with the deepest water levels staying cold and well-oxygenated.
- Trout health improved. No gill lice parasites were observed this year.
- In any given previous year, manual algal mat removal had to be done five to ten times. In 2022, Eirschele did one quick cleaning and is confident that he will do even less manual cleaning in years to come.

Gregory Eirschele: "The results from the nanobubbles were much faster than I would have expected. As a chemical engineer who specifies equipment as part of my job, I am also impressed with the quality of the design and build of the generator. I am happy with my local technical representative, with Moleaer as a company and with my results. The trout are healthier and the water quality is fantastic. I'm thrilled with all of it. The investment was worth every penny."

Figure 2: The Clear 50 nanobubble generator is shore-mounted and quiet.

Figure 3: Gregory has seen lower gill lice parasite occurrences since installing the Clear nanobubble generator.

To learn more about how nanobubbles improve lake and pond resilience, visit out website: https://www.moleaer.com/industries/lakes-and-ponds

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The 14 Mile Watershed Alliance is a nonprofit organization dedicated to the improvement of surface and groundwater in the 14 Mile Creek Watershed in central Wisconsin. See us at 14milewatershed.org or https://www.facebook.com/14MileWatershed

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