

# Don't be fooled: Water's color doesn't mean it's polluted, unhealthy

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"People look at the clarity and say, 'Oh my God.'"

After 40 years on Lake Koshkonong, Frank Micale has grown used to the way people react to it when they first see it.

"But it's not polluted," Micale says. "It's the nutrients. Lots of phosphorous. Lots of nitrogen from runoff."

The lake in June was an opaque brown because of a constant bloom of brown algae, or diatoms, said Don Bush, Wisconsin Department of Natural Resources fish biologist for the lower Rock River basin.

That brown bloom is the result of Koshkonong's shallowness and the nutrient load.

"In most lakes, you only see that in spring and fall," Bush said. "In deep lakes, twice a year temperatures stabilize between the bottom and the surface. That brings nutrients up from the bottom and promotes that golden brown color."

Koshkonong's water also is stained by a lot of suspended mud.

"Normally, turbulence occurs to seven times the height of a wave," Bush said.

A 1-foot-high wave would cause turbulence up to 7-feet deep.

Koshkonong is an average of 5-feet deep with a maximum of about 6 feet. The wind often creates waves of a foot or higher, and the bottom gets stirred. The feeding habits of carp, which wallow on the bottom, also serve to stir the mud.

"Hoping for crystal clear water all the time is probably unreasonable," Bush said.

As the summer wears on, a different sort of algae bloom takes place.

Nitrogen and phosphorous are fertilizers, and fertilizers promote plant growth. In Koshkonong, much of the plant growth consists of blue-green algae. Koshkonong often gets a big algae bloom during the heat of August.

The fertilizers come from farm runoff and from 26 municipal sewage plants upstream from the lake, Bush said.

When plenty of fresh water enters the system, the nitrogen and phosphorous are

not a problem, Bush said.

"As long as it's running down the system, it doesn't start getting green," he said. "Once you stop it and expose it to sunlight, the basics are there to get some enormous algae blooms.

"When flows are low, the water behind the dam stagnates and allows the algae to really start cooking out there."

Algae isn't attractive to swimmers and boaters, and it doesn't always smell great, but it isn't toxic.

"Algae is nothing more than floating plant life," said Micale, president of the Rock River-Koshkonong Association. "Instead of wild celery, wild rice and sago pond weed that are rooted, we have blue green algae using the nutrients."

"Without sunlight getting to the bottom, the rooted vegetation can't grow," Bush said.

That thwarts one of the association's goals.

Sago pond weed, wild rice and wild celery are the primary foods of the canvasback duck. Early this century, those rooted plants disappeared from the lake, and so did the ducks. Before that, Koshkonong was considered perhaps the best duck hunting lake in the country.

The association has experimented with planting sago pond weed, with little luck.

"There isn't enough light," Micale said. "Because of the wind and rough fish and the nutrient load, it's lying there dormant. There is one spot on Lamp Road on the North Shore where sago pond weed is coming back.

"Now it's spreading down the shoreline and people are pulling it out because it blocks piers," Micale said, smiling wryly.

The nutrient load might be a factor in blocking growth of native plants, but it does good things, too.

"All that nutrition isn't necessarily bad," Bush said. "It promotes incredible growth. It's our job to steer that biological production into something that's usable for everyone."

By that, Bush means fish. The algae is a food source for midge larvae and the midge larvae are a food source for fish.

"Those are eaten directly by most of the fish in the lake," Bush said. "They are so abundant in the lake right now that you can pull up a fish hook and have a few hanging on your hook. There's lots of food. We never see fish on Lake Koshkonong dying of hunger."

The health of the fish in Koshkonong is testament to the health of the water, said Bush, Micale and sport fishermen Jeff Grams and Gary Peterson.

"They are as good a fish as those in Canada, as far as I'm concerned," said Grams of Edgerton.

He fishes walleyes on the lake three times a week during the summer.

"There are no health advisories on the lake at all," Grams said.

"Whatever chemical we've looked for, we've found, but in trace levels," Bush said. "We've checked big walleyes, and they've always been below the federal guidelines. Chemically, it's not that scary."

"Consistently, the Rock River and Lake Koshkonong carp test cleanest in the country as far as chemical pollutants, mercury and PCBs go," Micale said. "The warnings about heavy concentrations of PCBs in fish don't occur in Lake Koshkonong."

"A lot of people look at Koshkonong as a green pond," said Peterson, an Edgerton man who has fished the big lake for 40 years. "There's nothing wrong with the water. They say it's polluted."

"People tell me that, and I kind of grin at 'em and say `you go on up to the Madison lakes and leave my fish alone.'"

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