Cannon River Green with Algae

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Cannon River Watershed Partnership (CRWP)

If you live or work along the Cannon River from Shield's Lake to Waterville to Northfield and Lake Byllesby, you might have noticed that the river is green and murky. The green color and odor comes from algae, an aquatic plant-like organism that lives in our lakes and rivers. Healthy rivers and lakes all have some green algae in them, but the water remains mostly clear and colorless.

"Algae blooms are natural, but they can become a nuisance where there is too much fertilizer (mostly phosphorus) in the water and when the weather is warm and stream flows are low for long periods of time," said Justin Watkins, Watershed Coordinator with the Minnesota Pollution Control Agency (MPCA). "When we don't have a big rainstorm that 'washes out' or moves water through area lakes, they can act like algae incubators in late summer. The algae that grows in lakes often flows into the Cannon River."

While it is not unusual or immediately harmful to human health to see some algae in area lakes and streams, according to residents in Morristown and Northfield, this year's bloom seems especially widespread and more intense.

According to the MPCA, a large contributor of new phosphorus in the region is rainfall runoff from agricultural cropland, with additional contributions from streambank erosion. Another large factor is "internal loading" where phosphorus in the lakebed sediment gets stirred up by carp or the wind and feeds a new generation of algae. Smaller sources including city wastewater, rainfall runoff from city streets, poorly managed livestock feedlots, and non-compliant septic systems can also contribute phosphorus to rivers and lakes.

Possible solutions
For some lakes, reducing rainfall runoff will reduce algae blooms, according to Watkins. For other lakes, the internal phosphorus is an important driver of algae blooms.

"A good step toward defining the best actions is to spend some time studying each individual lake to determine its phosphorus sources and cycling," said Watkins. According to Watkins, the MPCA is working with the Minnesota Science Museum to study the sediment in area lakes to determine if the phosphorus is coming from internal or external sources. Results should be available in early 2019.

The MPCA has had success reducing algae blooms in the Byllesby Reservoir by requiring the cities of Owatonna, Faribault, and Northfield to reduce the phosphorus they release from their wastewater treatment plants. That won't solve the problem in the Upper Cannon River Lakes Region, however, because there aren't large wastewater plants in that area.

"Reducing runoff and associated sediment and phosphorus loads are good goals for all lake watersheds," said Watkins "History shows that land use choices do impact the water quality of lakes and rivers."

If algae blooms in a lake are coming from "new" phosphorus and not internal loading from lakebed sediments, then one effective way to reduce the phosphorus entering lakes is by changing land use

practices to reduce rainfall runoff and streambank erosion. Conservation practices like planting cover crops, using no-till cropping, and installing sediment control basins can accomplish this goal. Changing land use practices takes time, and while some landowners implement conservation practices on their own, others need incentives like subsidies, tax breaks, or legal requirements before they take action.

If you're a landowner and want more conservation practices implemented on your land, contact CRWP (www.crwp.net) or your local Soil and Water Conservation District. If you're concerned about water quality, call your state legislator and county commissioner and ask them specifically what they are doing to address clean water issues in your area. You can also join organizations like CRWP to participate in actions that can lead to cleaner water in area lakes and rivers.

Photo Caption: Cannon River near Dundas

Photo Caption: Alan Kraus

Photo Caption: Kevin Strauss