

GRATIOT COUNTY

BLOOMING PINE RIVER ALGAE DRAWS CONCERNS



JANE KEON — FOR THE MORNING SUN

Pictured Tuesday, brown and green algae spreads near where the Honeyoey Creek empties into the Pine River in Alma.

By Lisa Yanick-Jonaitis

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An ugly and bacteria-laced sludge of algae with nutrient levels rivaling that seen in the warmer days of summer has watchers of the embattled Pine River worried about what this summer and fall holds.

Testing of a brown and green algae on the Pine River in Alma shows components commonly found in fertilizer or animal waste, at levels commonly found later in the year, leading those monitoring the river to wonder: what is causing the bloom?

In the middle of March, Gary Rayburn, a board chair for the Healthy Pine River organization, noticed globs of a green and brown substance floating down the Pine River.

Rayburn and his wife Susan Hunter documented the pollution seven different times over the last month, making video recordings of the mass of algae as it moved through the water.

"It's beautiful today everywhere but the waters of the Pine River," Rayburn wrote in an email Sunday sharing his

videos. "Today is the worst I've seen, spreading out more than halfway across the river... please look at this mess and tell me we don't need to do something now."

Upstream, near where the Honeyoey Creek empties into the Pine, Jane Keon, a director-at-large for the HPR group, can also see a "nice big patch" of the brown and green growth from her home; she recognized it as brown algae from past experience and reached out to Rayburn.

"The algae builds up in your area because the water is going so slowly due to the backed-up sediment in the river. The same algae is growing behind (Keon's neighbor's) house, too, where the stream can't flow," Keon wrote to Rayburn. "I'm glad you are taking pictures... what you are seeing indicates that the river has problems!"

A sample of algae was tested at Alma College, and Murray Borrello, who is the director and chair of the Program of Environmental Studies, said while a source isn't determined, there are some possibilities.

The sample showed levels of

nitrogen, ammonia and phosphorus commonly found in fertilizers and animal waste, but the amount found in the test is ahead of a typical spring schedule, Borrello said.

"The levels of both the ammonia and phosphorus were at concentrations where we normally find them several weeks from now - when application of manures is widespread on fields," he said.

Further testing showed "excessive amounts" of E. Coli and coliform bacteria and, while none of the results are conclusive of a specific cause, they are more like what the college would find during a normal summer sampling in the Pine River.

The algae moved down the river as a "slug" rather than spread out across the river, and Borrello said that could indicate a "point source" for the high nutrient levels.

"It isn't a general increase in nitrogen and phosphorus in the whole pine River from multiple non-point discharge upstream," he said. "The fact that we see higher levels of coliform and E. coli bacteria than we usually see

this time of year indicates it is most likely related to manure or animal waste of some sort."

There could be several sources, Borrello said.

Nutrients and manure that was frozen in soil on farmland could have melted, and are now flushing through drains into the river.

A drain could be washing into the river, bringing with it material from a parking lot where fertilizers are transported or dumped - "maybe near the golf course if they are applying fertilizers at this time," Borrello suggested.

Or, it could be waste or fertilizer directly dumped into the Pine River, Borrello said.

Additionally, it is possible that it is coming from multiple sources, further complicating matters.

"Whatever the case, we need to do more sampling of the river water directly to know how widespread it is," Borrello said. "Right now we cannot say for certain where it is coming from, only that it exists and comes as a slug of material intermittently."

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Alma College is already working with the city, with continued tests of the Pine River as E. coli levels spike with warm weather each year.

The city is partnering with Borrello and the college to determine once and for all if the cause of the problem is human or animal waste, after years of testing and questions.

Last year, continuously high E. Coli test results that were not specific enough for action from state and federal agencies pushed the city and college to refine its Pine River water testing.

By the end of last summer, the health department had posted signs

warning of high E. coli and other bacteria levels.

Borrello said he will expand analysis already happening.

“The next time this material comes downstream, I will go out and sample different parts of the river in an attempt to identify where it might be originating,” he said. “Since it is unclear where this is coming from, there is no way to source it unless you see it go from start to finish.”

If those tests indicate a public health concern, Borrello said they will alert the Mid-Michigan District Health Department; in the meantime, they are busy with normal sampling and don’t have a lot of time and resources to dedicate to “forensic” analysis to identify the source of the bloom.