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## Solutions murky to pollution of stream

Even on an overcast morning, the Hans Groot Kill appears clear.

At a section of the urban creek burbling through Jackson's Garden on the Union College campus Thursday, the rocks practically glistened beneath the gently flowing stream.

But the tranquil scene clouds the disgusting truth: The Hans Groot Kill is severely polluted with bacteria

from human waste.

"It's quite contaminated," said John Garver, a Union College geology professor who has been studying

the creek for years. "And we have a pretty good idea about where that contamination is coming from."



**Andrew Waite**  
WEIGHING IN

Garver spoke last week at a forum held at the Unitarian Universalist Society of Schenectady, which sits next to the urban creek that runs through Steinmetz Memorial Park, the GE Realty Plot and Union College's campus before going underground and emptying into the Mohawk River.

He explained that human waste is likely entering the kill as a result of seepage between the city's sewage and stormwater drainage systems that, as of a few years ago, were purported to be completely separated.

But even if the general problem is apparent, locating the specific sources of the leaks is more challenging, even as Garver and others have identified some locations where pipes appear to be compromised.

"It's like finding a needle in the haystack," Mayor Gary McCarthy told me last week. "We keep chipping away at it, and it's been frustrating — unfortunate — that we haven't come up with a clear solution, but we keep working at it. I will tell you, we're going to solve it."

But at the moment, the problem persists.

The contamination is hardly new. Former Gazette columnist Sara Foss wrote about it in October of 2020, detailing how the creek's "prettiness is all on the surface." Her piece

## Waite

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explained that fecal bacteria detected in the creek back then was likely linked to an outbreak of Giardiasis on Union's campus.

In the nearly four years since, the Hans Groot Kill has remained saturated with the presence of human waste.

This spring, the state Department of Environmental Conservation released 2023 data that found fecal-matter bacteria averaged 1,963 colony forming units/100 milliliters at Jackson's Garden, when 200 cfu/100 ml is the point at which humans should avoid contact with the water, according to the U.S. Environmental Protection Agency. Those levels are extremely unsafe and follow similarly troubling readings from 2022.

"Every single sample failed in the sites that the New York State DEC looked at," Garver said during his presentation. "We now have two years in a row where New York State

DEC testing has shown that it's impaired."

The contamination issue was supposed to have been fixed a few years ago.

Until about a decade ago, Schenectady had what's called a combined sewer outlet system, which meant during periods of high rain, sewage would mix with stormwater. As a result, natural surface streams like the Hans Groot would carry sewage along with stormwater into the Mohawk during big storms. This type of sewage system still remains in several communities in the state, and it also means the Hans Groot has likely been contaminated with sewage for decades.

But a few years ago, when the city disconnected sewage and stormwater drainage while developing Mohawk Harbor, Schenectady switched completely over to a municipal separate stormwater sewer system in which sewage is supposed to be funneled through one set of pipes into treatment plants, while rain water is supposed to travel through its own drainage path, including



through the Hans Groot Kill.

But the fecal-matter readings in the Hans Groot suggest the systems are still somehow linked. In the fall of 2023, the Hans Groot Kill at Jackson's Garden had a geometric mean of 952 most probable number/100 milliliters of the bacteria *Enterococcus*. Safe readings are below 30/100 milliliters.

With those readings, the Hans Groot far and away outpaced any other urban tributary into the lower Mohawk watershed during that time period.

Research led by Garver and others has also found that the presence of sewage in the Hans Groot spikes during high-rain events, further pointing to continued connection between the wastewater and stormwater systems.

Schenectady's General Services Commissioner Paul LaFond said during Wednesday's informational session that the city's own numbers show the sewage and stormwater drainage systems are mixing. While the wastewater runoff should theoretically



PETER R. BARBER

The Hans Groot Kill in Schenectady is seen Thursday.

have a steady flow, it increases significantly during storms — from 12 million gallons of flow during dry weather to more than 40 million gallons during periods of high rain.

"So there's infiltration, there's inflow and infiltration between both sides," LaFond said,

Even more troubling, according to Garver, is that fecal-matter bacteria readings in the Hans Groot are consistently dangerously high above acceptable levels, even during dry weather, suggest-

ing that leaks are occurring all the time — not just during periods of high rain.

The problem is pinpointing the cause of this infiltration.

"There is no single, easy fix for this problem," Garver said. "It is 1,000 cuts, and it's 1,000 cuts because we know that we have joints that are broken in the pipes and we have all sorts of ancillary problems associated with it."

Without knowing where leaks are occurring, the city is limited in its ability to ask for state assistance or other grant funding to help, according to the mayor.

"I don't have a specific application in," McCarthy told me. "If I had a problem point that I could identify, say I knew there was 100 feet of pipe, or 2,000 feet of pipe that needed to be replaced, I could apply for some of these things."

For now, the city is engaged in a painstaking investigative process with the help of a private contractor that's so far cost about \$30,000. Over the past year, city workers and the contractor have inspected roughly 10,300 feet of pipe and made three repairs, according to LaFond.

The city has also been inserting lining into pipes that is meant to prevent leaks and is working with individual homeowners to test whether their sewer systems are draining into the wrong place.

But the work is slow-going. "We do know there is a

serious problem in the Hans Groot Kill with bacteria," LaFond said during Wednesday's session. "We're going to continue to look at this and as time goes on to branch out further and further."

If one small creek in the middle of the city seems insignificant, consider the ramifications of the pollution. For one, people can get sick as a result of it, as Foss reported about Union College students in 2020.

A year later, another outbreak of Giardiasis struck Union's campus two weeks after sewage backed up onto the street on the college's campus.

Additionally, the Hans Groot flows into the Mohawk, so if it's infected with sewage, "it's almost like injecting poison into the Mohawk," Garver said.

Downriver from Schenectady, communities such as Cohoes and Colonie source their drinking water from the Mohawk. No, that doesn't mean the Hans Groot is polluting people's drinking water with sewage. However, the presence of fecal-matter bacteria can complicate the water-treatment process, as well as cause algae blooms that can affect oxygen levels in the water, putting certain aquatic animals at risk.

"So this is part of being a good neighbor," Garver said.

And being a good neighbor to other communities means caring about the natural resources in your own community.

"There is not open sewage going into the Hans Groot. It's sneakier than that," Garver said. But "the data is out there."

To researchers and others, the Hans Groot's problems are clear.

But even after all these years, just as infrastructure ages and the threat of severe weather only increases, the solution seems to be as hard to find as spotting bacteria in the water with your own eyes.

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