Michael Madigan

I commend the MPCA for including restrictions on application of manure in a floodplain as a permit change. That was a recommendation included in the recent Legislative Report on Preventing fish kills in Minnesota's Driftless region.

Manure runoff into trout streams has killed over 10,000 fish in recent years. Even modest rainfall events can wash manure applied to the land into streams and underground waterways. For this reason, these proposed visual inspection requirements of land application areas are critical: inspect 1x per day during application, inspect at the end of the workday, and inspect any time there's a half-inch rainfall within 14 days of application. A water sampling requirement is also proposed. If a Concentrated Animal Feeding Operation (CAFO) does discharge liquid manure, either because of a spill or a rain event or other reason, the operator must take water samples to determine the extent of the pollution.

While these revisions are important, there are some lingering questions to how these new requirements will be adequately enforced and monitored, and if there will be required training on water sampling and testing protocol for feedlot operators. The extent of groundwater contamination, particularly in the southeast, compels the agency to undertake even more ambitious revisions.

I would recommend that these important restrictions on manure application be required of all 17,000 feedlots in Minnesota, not just the 1,000 largest with 1,000 animal units or more.

Finally, as the ongoing flooding throughout Minnesota demonstrates, extreme rainfall events caused by climate change are becoming common. These events too often lead to runoff of improperly managed manure to our waterways. In May there were manure pit overflows reported at 17 sites on large farms in Southern Minnesota. More stringent rules preventing application of manure when rainfall is forecasted are critical to ensure the quality of the water in our streams and lakes, and the health of trout and aquatic organisms that live in these waters.

Thank you for consideration of these comments. Mike Madigan

MPCA says polluted runoff contributed to fish kill in Minnesota trout stream

Dead fish are seen along Rush Creek near Lewiston, Minn., on July 27. State agencies said a fish kill along the creek left an estimated 2,500 fish dead.
Photo by Carl Berberich, courtesy of Minnesota Trout Unlimited

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State regulators say polluted runoff likely contributed to a fish kill in a southeast Minnesota trout stream last summer.

About 2,500 dead fish were discovered in late July in Rush Creek, near Lewiston in Winona County. Most were brown trout.

The Minnesota Pollution Control Agency and other agencies investigating the fish kill didn't find a direct discharge of pollutants into Rush Creek.

But in an update Thursday they concluded that manure and pesticides applied to land upstream shortly before a rainstorm, along with low-flow conditions in the creek, are likely to blame.

Dave Orrick: The troubling ‘mystery’ of the Whitewater fish kill

By **DAVE ORRICK** | Pioneer Press
UPDATED: February 10, 2016 at 7:12 p.m.

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A dead brown trout lies on the bank of the South Branch of the Whitewater River in southeastern Minnesota Thursday, July 30, 2015, two days after an estimated 9,000 to 10,000 fish were killed

following a rainfall. An investigation by three state agencies failed to identify a cause, but some critics suspect agricultural runoff played a part. (Photo courtesy Minnesota Department of Natural Resources)

On July 28, a heavy rain poured down upon the fields, bluffs and valley surrounding the South Branch of the Whitewater River in southeastern Minnesota, one of the state's most heralded trout streams.

Later that day or the next, between 9,000 and 10,000 fish in a 6.5-mile stretch of the river in Olmsted County were killed suddenly. The event nearly wiped out the wild brown trout population in that stretch.
That's not disputed.

Following an unprecedented investigation by three state agencies to determine a cause, the verdict arrived last month in the form of a 367-page report: "unable to draw a clear conclusion."

No smoking gun. No deadbeat landowner dumping chemicals in the dark of night. No bungled sewage plant operation. No catastrophic failure of a manure tank at a dairy farm.

Maybe that's a relief.

Or maybe it's worse.

Maybe, as the report concludes, nothing illegal was done. Maybe all the herbicides, pesticides and fungicides — including some lethal to aquatic life — that were sprayed on crops by helicopter days leading up to the kill were in compliance. And maybe all the manure — some of it laden with copper sulfate and other heavy metals — was applied to nearby fields in compliance with state statutes.

Maybe that combination was flushed by heavy rain — up to 2.5 inches — falling on wet ground down the ravines and through the porous limestone landscape that makes the streams in that part of the state so productive for aquatic life.

And maybe that created a toxic stew that killed the fish.

That's the suspicion of Jeffrey Broberg, a geologist, environmental manager and president of the Minnesota Trout Association. A longtime advocate for the Whitewater and its tributaries, Broberg lives three miles from the South Branch,

which meanders and rushes from Eyota through St. Charles. The river continues through part of the state-owned Whitewater Wildlife Management Area to Elba, where it joins up with the North Branch and Middle Branch, which flows through Whitewater State Park.

So Broberg had seen the conditions of the landscape and heard the thumping of chopper rotors that began around July 20 and seemed more prevalent than in years past, as farmers sought to protect their crops from northern corn blight and other threats.

"If they can't find the cause, then it's the general conditions," said Broberg. "That's what killed the fish: the normal farming practices."

Broberg isn't alone. State Rep. Rick Hansen, DFL-South St. Paul, who has a penchant for criticizing agricultural practices and policies, said the state's report contains enough information to point the finger at a combination of ag-based contributors.

"There wasn't a smoking gun," Hansen said. "There was a smoking Gatling gun."

The state report — "South Branch Whitewater River: Unified Fish Kill Response" — was completed by the Minnesota Department of Agriculture, Pollution Control Agency and Department of Natural Resources.

Personnel from all three agencies descended on the area as soon as the fish kill was reported.

However — and crucially — that was July 30, potentially two days after the kill. Whatever evidence was in the water would have flowed well down to the Mississippi River by then — a frustration noted in the report.

Still, those who care about such gems as the Whitewater will be heartened to know of the state's response and months-long investigation, which involved interviews, water and soil samples, fish necropsies, examinations of pesticide-application records and expedited laboratory work. At times, some 30 state employees participated en masse in conference calls to discuss the investigation's progress.

Earnest state scientists — trout-loving scientists — will tell you they stand by the Whitewater report as not a whitewash, but a disciplined, albeit unfulfilling,

record of an impressive mobilization of public resources aimed at discovering what killed the fish.

No conclusions can be made. No manmade cause can be proven. Nor can a natural cause be ruled out.

Yet what Broberg, Hansen and others see in the report isn't wild fancy.

Investigators initially focused on farm chemicals. Among them were a series of fungicides sprayed from the air in the area. One mix of fungicides, Priaxor, contains the following statements on its label: "This pesticide is toxic to fish and aquatic invertebrates. Drift and runoff may be hazardous to aquatic organisms in water adjacent to treated areas. … Runoff of this product will be reduced by avoiding applications when rainfall is forecast to occur within 48 hours."

In 2014, New York restricted the use of Priaxor, banning it outright in two Long Island counties to protect shallow groundwater drinking supplies.

Another focus of the investigation was manure from local dairy farms, especially manure containing copper sulfate that has been used for years as a foot and hoof cleanse for livestock. Such manure had been spread as fertilizer on two fields near the river in the days leading up to the fish kill. Closer to the river — off the fields — potentially toxic levels of the manure were found.

But no proof could be established that toxic levels of the manure or fungicides — or anything else — ever reached the river.

Nonetheless, the report concludes: "This fish kill was likely the result of a short duration, acutely toxic event. With this type of event, fish die rapidly, and there is often little or no accumulation of toxic compounds in fish organs and tissue. … It is likely that the acutely toxic material that killed the fish moved through (the South Branch) as a slug and had dissipated (before the kill was reported)."

So something nasty killed the fish — and lots of fish.

A news release from the DNR states: "The stream's populations of brown trout and other species are expected to bounce back without additional stocking." That's the good news. The extent of the kill isn't cheery.

From 2010 to 2012, the number of adult brown trout per mile in the South Branch of the Whitewater near Altura hovered between 1,600 and 1,700 —

excellent numbers for any trout stream in America. The numbers had been steadily falling until 2015, when the abundance fell to just under 400 adults per mile.

In October, months after the fish kill, a DNR assessment estimated adult brown trout abundance at 65 per mile.

Not much of a fishing destination.

Maybe the state report isn't the final word on the fish kill, but rather an eye-opening beginning.

Because these are the facts it supports:

Farmers along the South Branch of the Whitewater River went about their business in July, as did the fish in the river.

Then it rained.

And the fish died.

That shouldn't happen.