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Larry Gunderson  
Supervisor, Fertilizer Management Unit  
Minnesota Department of Agriculture  
625 Robert St. North  
Saint Paul, MN 55155  
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*Sent via Email*

Re: Groundwater Protection Rule

Dear Mr. Gunderson:

I write today on behalf of Minnesota Trout Unlimited's thousands of members around the state to express our concern that the Groundwater Protection Rule does not adequately protect against nitrate contamination from the applications of commercial fertilizer. We appreciate the Minnesota Department of Agriculture's work to date on this issue and are grateful for this opportunity to comment on the Groundwater Protection Rule ("the Rule").

Minnesota Trout Unlimited is a grassroots conservation organization working to protect, restore and sustain coldwater fisheries and their watersheds across Minnesota. Our several thousand members living and working in communities around the state understand that activities on the land determine the quality of the water in streams and lakes, and the health of trout and aquatic organisms that live in these waters. The streams in the sensitive karst area of southeast Minnesota contain the most productive trout fisheries in Minnesota. They are heavily utilized and highly valued by our members.

Understandably, much of the focus of nitrate contamination is on its impact on drinking water and human health. Our members share those concerns. But they are also concerned over the impact that nitrate pollution is having on our coldwater aquatic ecosystems. Aquatic insects form the base of food webs that support trout fisheries. Elevated nitrate levels kill aquatic insects and other invertebrates and harm trout survival and reproduction. In humans, nitrate levels in drinking water greater than 10 mg/liter cause

“blue baby syndrome” – where excess nitrates limit the ability of blood to carry oxygen – which causes severe injuries and death. Aquatic insects and fish are much more sensitive, living in and “breathing” dissolved oxygen through the polluted water. Extensive research has determined that nitrate levels exceeding just one-half the drinking water standard harm trout and aquatic life.

In 2020 the Minnesota Pollution Control Agency (MPCA) reviewed the results of 110 scientific studies and determined that nitrate concentrations above 5 mg/liter harm aquatic insects, trout, and other aquatic life. The MPCA inexplicably failed to start formal rulemaking to adopt this limit as a water quality standard. But the MPCA admits that nitrate concentrations above 5 mg/liter are harming Minnesota trout streams. (See MPCA, Aquatic Life Water Quality Standards Draft Technical Support Document for Nitrate (Oct. 2022)).

Trout streams are very closely connected to groundwater and depend upon groundwater inputs via springs and seeps for much of their flow. While groundwater springs are the “lifeblood” of trout streams, providing cold water, they also carry any pollutants from groundwater into the streams. The stated goal of the 1989 Groundwater Protection Act is that “groundwater be maintained in its natural condition, free from any degradation caused by human activities.” Considering this goal and the fact that nitrate concentrations above 5 mg/liter are harming our public trout fisheries, we urge the MDA to revise the Rule in such a way that will lead to nitrate levels falling not just below 10 mg/liter, but to concentrations below 5 mg/liter.

The Groundwater Protection Rule is not adequate to fulfill its intended purpose of protecting Minnesota’s groundwater from nitrate pollution, especially in the karst area of southeast Minnesota and other Vulnerable Groundwater Areas. The Rule went into effect nearly seven years ago, but state testing still has not found widespread, meaningful improvement in nitrate pollution levels in groundwater.

The current Rule, with its misplaced reliance on voluntary BMPs only (with one exception) has proven to be ineffective to protect Minnesota’s groundwater from nitrate pollution, and testing indicates there has been no widespread, meaningful improvement in groundwater nitrate pollution over the 10 mg/L limit, let alone the 5 mg/L threshold for harm to aquatic organisms in the coldwater streams into which groundwater aquifers outlet.

The MDA asks that commentors “provide substantive information and supporting evidence” along with their comments. The agency’s files are filled with the reports and data which it and the MPCA have produced that demonstrate the lack of positive trends in nitrate contamination levels, especially in the karst region of southeast Minnesota. The Minnesota Center for Environmental Advocacy has done an excellent job summarizing this information and evidence in its comments dated March 12, 2026, include numerous

reports as attached “exhibits”. Rather than submitting the identical information, MNTU hereby incorporates by reference the relevant exhibits being submitted by MCEA on March 12, 2026. The list of supporting exhibits we incorporate by reference into our comments is at the bottom of our comments.

We do not claim to possess expertise in the minutiae of the Rule. However, it is apparent that the inadequacy of the Rule is due to the several major shortcomings described below, along with proposed solutions:

1. Part 1 of the Rule only bans application of fertilizer in the fall or on frozen soils – practices most farmers are not using anyway. Part 1 of the Rule needs to be expanded to address fertilizer use during the growing season. It should be further revised to require all producers in vulnerable groundwater areas to follow these additional common-sense practices:

- following the University of Minnesota Extension Service’s recommended application rates and best management practices
- keeping records to ensure producers are accounting for all sources of nitrogen in each field and submitting annual Nutrient Management Plans
- observing setbacks from sensitive features including sinkholes and wells

This would also create consistency with current Minnesota regulations for animal feedlots.

2. Part 2 of the Rule only applies to those 2% of the state’s Vulnerable Groundwater Areas located around community wells with high nitrate levels (Drinking Water Supply Management Areas). This fails to protect private wells and aquifers. Part 2 of the Rule should be expanded to apply to the entirety of any township where testing shows nitrate levels above 10 mg/L.

3. Part 2 of the Rule is structured in such a way that it creates years of delays before any mandatory regulations may be imposed on producers. Although Part 2 allows the MDA to add further regulations in areas where nitrate pollution is not improving, it also includes unnecessarily long delays before the agency may act. The MDA should remove these self-imposed barriers and accelerate mandatory adoption of the most effective practices such as Alternative Management Practices. Baseline BMPs should be required and enforced. And Alternative Management Practices such as cover crops and incorporating perennials should be pushed more strongly in all these vulnerable areas.

Supporting evidence for these points can be found in the comments being submitted by the Minnesota Center for Environmental Advocacy on March 12, 2026.

MNTU requests that Minnesota Department of Agriculture begin a rulemaking process to revise the Groundwater Protection Rule to make it strong enough to protect Minnesota’s drinking water, groundwater, and public trout stream resources.

Thank you for the opportunity to provide comments on this Rule.

Sincerely,

John P. Lenczewski

<b>Supporting exhibits incorporated by reference into the comments of Minnesota Trout Unlimited</b>	
MCEA’s Exhibit #	Title of Exhibit
18	MDA, <i>Nitrogen Fertilizer Management Plan</i> (March 2015)
20	MDA, <i>Winona County: Final Overview of Nitrate Levels in Private Wells (2016-2017)</i> (Sept. 2019)
21	MDA, <i>Morrison County: Overview of Nitrate Levels in Private Wells (2013-2016)</i> (Aug. 2016)
22	MDA, <i>Initial Township Testing of Nitrate in Private Wells Wadena County 2013 Summary</i> (April 2015)
23	MDA, <i>Hubbard County: Overview of Nitrate Levels in Private Wells (2016)</i> (Jan. 2017)
24	MDA, <i>Nitrate Results and Trends in Private Well Monitoring Networks 2008-2018</i> (June 2019)
25	MDA, <i>Southeast Minnesota Volunteer Nitrate Monitoring Network 2024</i> (June 2025)
26	MDA, <i>2015 Water Quality Monitoring Report</i> (June 2016)
27	MDA, <i>2016 Water Quality Monitoring Report</i> (July 2017)
28	MDA, <i>2017 Water Quality Monitoring Report</i> (June 2018)
29	MDA, <i>2018 Water Quality Monitoring Report</i> (June 2019)
30	MDA, <i>2019 Water Quality Monitoring Report</i> (June 2020)
31	MDA, <i>2020 Water Quality Monitoring Report</i> (June 15, 2021)
32	MDA, <i>2021 Water Quality Monitoring Report</i> (June 15, 2022)
33	MDA, <i>2022 Water Quality Monitoring Report</i> (June 1, 2023)
34	MDA, <i>2023 Water Quality Monitoring Report</i> (June 1, 2024)
35	MDA, <i>2024 Water Quality Monitoring Report</i> (June 1, 2025)
44	MPCA, <i>Five-Year Progress Report on Minnesota’s Nutrient Reduction Strategy</i> (Aug. 2020)
45	MPCA, <i>2025 Minnesota Nutrient Reduction Strategy</i> (January 2026)
46	MPCA, <i>Nitrogen in Minnesota Surface Waters</i> (June 2013)
48	MPCA, <i>The Condition of Minnesota’s Groundwater Quality 2018-2023</i> (April 2025)
49	MPCA, <i>Aquatic Life Water Quality Standards Draft Technical Support Document for Nitrate</i> (Oct. 2022)
52	MPCA, <i>Water Quality and Sensitivity of the Prairie du Chien-Jordan Aquifer in Western Winona County</i> (June 1991)

65	Debra Shore, <i>EPA Letter to Minnesota State Agencies Regarding Southeast Minnesota Petition</i> , (Nov. 3, 2023)
70	Sarah Porter and Anne Weir Schechinger, <i>Tap Water for 500,000 Minnesotans Contaminated with Elevated Levels of Nitrate</i> , <i>Envtl. Working Grp.</i> (Jan. 14, 2020)
80	Julio A. Camargo & Álvaro Alonso, <i>Ecological and toxicological effects of inorganic nitrogen pollution in aquatic ecosystems: A global assessment</i> , 32 <i>Env't Int'l</i> 831-839 (2006)
81	Daniel F. Gomez Isaza et al., <i>Living in polluted waters: A meta-analysis of the effects of nitrate and interactions with other environmental stressors on freshwater taxa</i> , 261 <i>Env't Pollution</i> 1-43 (2020)
82	Julio A. Camargo et al., <i>Nitrate toxicity to aquatic animals: a review with new data for freshwater invertebrates</i> , 58(9) <i>Chemosphere</i> 1255-1267 (2005)
83	Kevin J. Kuehner et al., <i>Informing nitrate concentration trends: estimating groundwater residence time in a karstic, multiaquifer system using anthropogenic tracers (Minnesota, USA)</i> , 33 <i>Hydrogeology Journal</i> 167-192 (2025)