



REGION 5 ADMINISTRATOR

CHICAGO, IL 60604

Brooke Cunningham M.D.
Commissioner
Minnesota Department of Health
Post Office Box 64975
Saint Paul, MN 55164-0975

Thom Peterson
Commissioner
Minnesota Department of Agriculture
625 Robert Street North
Saint Paul, MN 55155-2474

Katrina Kessler
Commissioner
Minnesota Pollution Control Agency
520 Lafayette Road N
Saint Paul, MN 55155-4194

Dear Dr. Cunningham, Mr. Peterson, and Ms. Kessler:

On April 24th, 2023, Petitioners¹ requested that the U. S. Environmental Protection Agency exercise its emergency powers under Section 1431 of the Safe Drinking Water Act (SDWA) to address groundwater nitrate contamination that presents a risk to the health of the residents in eight counties of the Southeast Karst Region² (Karst Region) of Minnesota. Section 1431 authorizes EPA to act upon receipt of information that a contaminant is present in or is likely to enter a public water system (PWS) or an underground source of drinking water (USDW), which may present an imminent and substantial endangerment to the health of persons, and that appropriate state and local authorities have not

¹ Petitioners: Minnesota Center for Environmental Advocacy, Environmental Working Group, Minnesota Well Owners Organization, Center for Food Safety, Clean Up the River Environment, Food & Water Watch, Friends of the Mississippi River, Izaak Walton League Minnesota Division, Land Stewardship Project, Minnesota Trout Unlimited, and Mitchell Hamline Public Health Law Center.

² Minnesota's Karst Region referenced in the petition consists of eight counties: Dodge, Fillmore, Goodhue, Houston, Mower, Olmsted, Wabasha, and Winona county.

acted to protect the health of such persons. Approximately 390,682³ people reside in the Karst Region; about 300,000 people are served by 93 PWSs and approximately 93,805⁴ people rely on private wells as their primary source of drinking water. Based on the information currently available from past nitrate monitoring, it had been estimated that 9,218⁵ residents in the Karst Region were or still are at risk of consuming water at or above the maximum contaminant level (MCL) for nitrate, with Minnesota Department of Agriculture reporting that 12.1% of the private wells tested (equating to 1,058 wells) exceeded the MCL of 10mg/L⁶. Several of the PWSs in the Karst Region have also been impacted by MCL exceedances resulting in additional treatment and/or having to drill deeper wells.

We appreciate the time that you and your staff have taken to meet with my staff on numerous occasions to share each agency's efforts to protect Minnesota's drinking water, including the information you shared in and after our meeting on August 28, 2023 (See Enclosure). While we appreciate the collective commitment to address nitrate contamination through state-administered programs, based on our discussions and current available drinking water data, there is an evident need for further actions to safeguard public health.

EPA's immediate priority is to protect human health by ensuring that residents impacted by nitrate contamination are: (1) identified; (2) provided notice in all applicable languages regarding their potential exposure to elevated nitrate concentrations and information regarding the associated health risks; and (3) provided the opportunity to obtain alternate drinking water until nitrate contamination in groundwater falls below the MCL for nitrate of 10 mg/L.

EPA expects state agencies to take timely actions to address the nitrate contamination, especially with respect to providing public notice and alternate water. To address these priorities, EPA requests that the Minnesota agencies develop a coordinated and comprehensive work plan to identify, contact, conduct drinking water testing and offer alternate water to all impacted persons in the Karst Region, as soon as possible, and to sustain these efforts for as long as nitrate concentrations in the groundwater of the Karst Region remain at or above the MCL. An adequate work plan to address immediate health concerns should include the following:

1. **Coordination** – The state should create a communication plan that identifies how information and responsibilities will be shared among the state agencies, local governments

³ Calculated using the 2022 data, for each county, reported on the Minnesota State Demographic Center "PopFinder For Minnesota, Counties, & Regions". <https://mn.gov/admin/demography/data-by-topic/population-data/our-estimates/pop-finder1.jsp>

⁴ Calculated using Minnesota Department of Health "Community Water Systems: MNPH Data Access" to determine population serviced by CWS's, then subtracted by the population in the region. <https://mndatamaps.web.health.state.mn.us/interactive/cwss.html> last updated 03/07/2023.

⁵ Calculated using the Township Testing Program "Final Report" by adding up the estimated population at risk, reported in the "Estimates of Population at Risk" section of each report, for each county. Data used ranges from 2014 – 2019. <https://www.mda.state.mn.us/township-testing-schedule-reports>

⁶ From the Township Testing Program county reports for this region.

(county, city, township), and any private businesses or local utilities that have volunteered or been required to act, so that each entity's efforts serve a singular and coordinated response.

2. Identification of Impacted Residences – The state should identify each residence that obtains drinking water from a private well within the Karst Region. This includes wells that were constructed prior to the adoption of Minnesota's Well Code.

3. Education and Outreach – The state should provide notice to newly and previously impacted residents and continue to provide notice as long as contamination persists at or above the MCL for nitrate. If notice has not been provided to those that were previously identified as having private drinking water wells at or above the MCL for nitrate, we expect the state to provide notice *immediately* to such residents.

Similarly, if notice has not been provided to customers served by regulated PWSs that had nitrate levels at or above the MCL, we expect the state or owner/operators to provide notice *immediately*. Public education and outreach should be conducted in a form and manner reasonably calculated to reach all impacted residents in all applicable languages.

The state should prioritize its education and outreach toward the most vulnerable populations for associated health risks (e.g., homes with infants, pregnant women), including efforts to work with health care facilities and daycares serving such populations.

In addition to public health information, clear instruction for private drinking water well users to request drinking water testing should be included in appropriate languages. Minnesota should measure its progress in contacting all private well users identified as part of outreach efforts. For those private well users that do not respond to public notices, Minnesota should attempt personal communications, such as visits to individual residences (e.g., Minnesota Water Stewards).

4. Drinking Water Testing – Responsible agencies should create and implement a plan to provide analysis of drinking water samples obtained from any private well users in the Karst Region that request testing. For any residents identified as having private drinking water wells at or above the MCL for nitrate, we expect the state to provide timely notice to such impacted residents.

5. Provision of Alternate Water – Alternate drinking water should be offered as soon as practicable to each residence where water tests show an exceedance of the MCL for nitrate in the private well. The state should prioritize provision of alternate water to particularly vulnerable populations (e.g., homes with infants, pregnant women). As part of your response to EPA, please provide a detailed plan for distribution (e.g., water made available to residents at centralized locations) and a timeline for provision of such water.

Alternate water should be provided as needed for drinking, cooking, and maintaining oral hygiene. This shall be at no cost to the resident and in a manner that minimizes the burden on the impacted resident to obtain safe drinking water, such as water distribution locations and/or delivery services, reverse osmosis treatment units, or connection to a public water system.

6. Public Records – Maintain and regularly publish records such that Minnesota residents and the general public can better understand the scope and severity of nitrate contamination in the Karst Region and measure Minnesota’s progress in implementing its response plan including provision of alternate water, and to establish an effective way to communicate updates to the general public.

7. Communication with EPA – EPA requests that the Minnesota agencies provide progress reports quarterly to EPA that (a) describe actions taken during the previous quarter to address the immediate health impacts of nitrate contamination; (b) identify major accomplishments and issues that arose; (c) describe actions and timelines planned for the next quarter; and (d) describe any problems or delays encountered and the solutions implemented to address them.

While this letter is largely focused on addressing immediate health concerns regarding nitrate contamination in drinking water in the Karst Region, Minnesota must also develop and implement a long-term solution to achieve reductions in nitrate concentrations in drinking water supplies.

Developing a complete understanding of potential sources of nitrate contamination is an important immediate step for the state. A risk analysis of current and future nitrate contamination of the impacted groundwater will be critical for determining long-term solutions, and such analysis should incorporate the latest science and technologies.

Minnesota has tools to effect reductions in nitrate concentrations through the National Pollutant Discharge Elimination System (NPDES) and State Disposal System permit programs, including development and implementation of more protective NPDES/SDS CAFO permits.

In addition, Minnesota should consider adopting monitoring requirements in NPDES/SDS permits related to (1) subsurface discharges from manure, litter, and process wastewater storage, as well as (2) discharges from land application, similar to those proposed by EPA as modifications to the EPA-issued CAFO general permit for Idaho: <https://www.epa.gov/npdes-permits/npdes-general-permit-concentrated-animal-feeding-operations-cafos-idaho>. We also encourage Minnesota to consider modifications to the state’s Technical Standards for Nutrient Management with regard to land application of manure, litter or process wastewater, and any Minnesota guidelines for land application of commercial fertilizer, specific to Karst areas.

EPA expects Minnesota to hold sources of nitrate accountable using all available tools to reduce the amount of nitrate they release to ground water. While the Agency appreciates the state agencies’ engagement and past efforts in addressing groundwater contamination in the Karst Region, EPA will

continue to closely monitor this situation and consider exercising our independent emergency and enforcement authorities.

Given the urgency inherent in any situation involving drinking water contamination with known potential health risks, we respectfully request confirmation of your agencies' plan to provide "Education and Outreach" and "Provision of Alternate Water" as soon as possible. EPA expects a reply with respect to the elements noted above within 30 days, which must include the anticipated timeframe for submission of the agencies' work plan.

Sincerely,

DEBRA
SHORE

 Digitally signed by
DEBRA SHORE
Date: 2023.11.03
08:31:31 -05'00'

Debra Shore
Regional Administrator
& Great Lakes National Program Manager

Enclosure: Summary of Minnesota Efforts to Address Nitrate Contamination

EPA recognizes the Minnesota's past and current efforts to address nitrate contamination: The Clean Water council (consisting of MDA, MPCA, and MDH representatives) was able to advise the Legislature to appropriate \$100,000 of the state's Clean Water Fund to the "Tap In" initiative, which was carried out at the county level, including counties in the Karst Region. This initiative in 2021 assisted low-income private well owners with nitrate contamination that exceeds the MCL. The initial grant covered 186 tests, 7 reverse osmosis filters, 6 new wells, and one well repair.

MDA and MDH created a private well network for residents in which to participate in the Central Sands and Southeast Karst Region. The purpose of the Southeast Minnesota Volunteer Nitrate Monitoring Network was to monitor long term trends of nitrate concentrations in private drinking water wells throughout Southeastern Minnesota. Samples were collected from 2008 – 2012.

MDA and MDH provide technical assistance to CWSs when the nitrate level is detected above 3 mg/L. MDA had established Nitrate Testing Clinics, which has provided 50,000 well owners with testing services and educational outreach since 1993, and local partners with equipment to carry out nitrate analysis.

MDA provided free nitrate sampling to private well owners in vulnerable Townships throughout the state from 2013 to 2019 via the Township Testing Program. Of the 344 townships determined to be vulnerable statewide, 133 are in the Karst Region.

MDA was the initial partner in the *We are Water MN*, providing technical assistance, staff time, and financial investments.

MDA continues to develop and publish videos, infographics, and additional resources targeted for residents of the Karst Region.

MDA developed the Groundwater Protection Rule to support the 2015 Nitrogen Fertilizer Management Plan, which went into effect on June 28, 2019.

MDH established and enforces laws and rules for proper construction and sealing of wells and borings and provides guidance to private well owners. MDH assists and regulates public water systems by approving system construction and treatment plans in response to nitrate issues, as well as requiring PWSs to protect water sources from contamination and providing technical assistance and grants to do so. Since 1993, MDH has successfully returned 8 CWSs and 38 NCWSs back to compliance with SDWA's regulatory limits for nitrates.

MPCA created the state's Nutrient Reduction Strategy in 2014 to guide the state in reducing excess nutrients in water to meet state and downstream water quality goals.

MPCA had released the Groundwater Protection Recommendation Report in 2016 which states recommendations for preventing nitrate contamination in groundwater.

MPCA uses NPDES permits to (1) prevent manure, litter, and process wastewater discharge to surface water from Large CAFO production areas and (2) minimize nutrient movement to surface water from manure, litter, and process wastewater application to land under the control of Large CAFOs. State Disposal System-based conditions in these permits, and in SDS-only permits for Large CAFOs, are for the purpose of protecting ground water. In a July 22, 2021 letter from MPCA to EPA, MPCA underscored that it set conditions in its 2021 statewide NPDES/SDS general permit for Large CAFOs for the specific purpose of addressing existing elevated levels of nitrates in ground water (Peter Tester letter to Cheryl Newton, page one). For decades, Minnesota has operated a supplementary state law regulatory program for feedlots as small as 50 animal units (10 in shoreland).

In addition, we thank Minnesota staff for taking time to participate in recent calls and sharing information on your work to address nitrate contamination including calls with MDH on May 8, May 18, and June 20; MDA on May 18, MPCA on August 22, and a joint call with all three agencies on August 28.