October-December 2024 Update

ADDRESSING NITRATE IN SOUTHEAST MINNESOTA

This document provides updates from Minnesota Department of Health (MDH), Minnesota Pollution Control Agency (MPCA), and Minnesota Department of Agriculture (MDA) on their efforts to address nitrate in groundwater in southeast Minnesota from October through December 2024. The updates are categorized by how work is listed in the Work Plan: Addressing Nitrate in Southeast Minnesota (PDF) (https://www.health.state.mn.us/communities/environment/water/docs/wells/waterquality/epaworkplan.pdf).

Text in the shaded blue boxes is an explanation of the goal as defined in the Work Plan: Addressing Nitrate in Southeast Minnesota (https://www.health.state.mn.us/communities/environment/water/docs/wells/waterquality/epaworkplan.pdf).

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Phase II: Public Health Intervention

Phase II work began in July 2024 and will continue throughout the duration of the effort.

Note: Phase I work was completed during the previous quarter, and we have fully transitioned into Phases II and III. Many of the efforts that began during Phase I continue or have been expanded to a broader audience in Phase II.

Goal 1: Identify impacted residences (MDH)

Identify each residence that obtains drinking water from a private well. The identification process will combine existing information with a project to add missing information.

Well Inventory

MDH held hour-long discovery and discussion sessions with each of the eight counties. Local public health departments, delegated well programs, environmental services, and soil and water conservation districts (SWCDs) who work with private wells and their leadership were invited to the meetings to discuss well inventory minimum requirements, strategies to increase knowledge about where private wells are located, funding availability, and capacity to do well inventory work. MDH emphasized that each county would have flexibility in how they do the well inventory. The response from the counties varied greatly, with some already having done well inventories in the past, where others needed resources to begin the work. Additionally, some had capacity to do a well inventory while others had concerns about staff capacity to complete the work even with the availability of funding.

MDH is continuing to work with each county individually to develop strategies and contracts to complete the well inventory that meet each county's needs.

Goal 2: Conduct education and outreach (MDH)

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.

Launched Free Private Well Testing Outreach

On December 20, 2024, MDH held a meeting with local partners and shared that free private well test kits were available to all private well users in the eight-county area. At this time, local partners could start publicizing the information with their networks. MDH will be doing more aggressive outreach in 2025 when there is increased staff capacity at the laboratory. MDH is also working to establish an approach to send a mailer to households that we anticipate use private wells, inviting them to get their water tested.

We anticipate significant media coverage in the next quarter once the soft launch phase of testing is complete.

The local partners are already helping well owners connect to information about their wells, well testing, and mitigation opportunities.

- Winona County provided information to the Winona Post who published Free private drinking water testing available (https://www.winonapost.com/community/free-private-well-drinking-water-testing-available/article_3345a5b0-c494-11ef-b421-cfc51096fd2d.html) on December 27, 2024
    - This resulted in a significant increase of requests coming from Winona County.
- In Fillmore County, as of 12/17/2024, the SWCD screened 269 private well samples for nitrate in 2024 (more than 2x the amount screened in 2023). Free nitrate sample pickups occurred during county fair nitrate clinic, district tree pickups, and other events. They received 15 nitrate samples during tree pickup, and 63 samples during their June EPA meeting/nitrate clinic in Rushford. Two nitrate clinics were also held with Fillmore County's local Public Health, one in February and one in October, with a total of 60 samples run during these events.

Educational Materials Requests

MDH has several brochures available for order for free online, including the *Owner's Guide to Wells*, *Well Water and Your Baby*, and *Buying and Selling a Home with a Private Well*.

During this quarter in the eight-county area there were:

- 5 requests for brochures
- 565 brochures mailed to partners

Minnesota Private Well Education and Steward Network

The University of Minnesota Water Resources Center is defining the initial focus and approach for developing a peer-to-peer learning network for private well owners, starting in southeast Minnesota. As of December 2nd, the U of MN Extension hired a person to fill this Educator role and develop the volunteer program as well as develop educational materials related to private wells.

Establishment of contract for marketing

MDH established a contract with MP+G (https://www.mpgmarketingsolutions.com), a marketing firm in Minnesota, that will provide outreach plans and designs to help educate the public on private well testing and health impacts of nitrate. The contractor will start with interviewing local partners working with private well users and private well users to better understand their well testing practices, barriers, and concerns to inform outreach messaging and platforms. Those interviews will start early 2025. Many of the deliverables, including billboards, radio spots, and social media, will not be complete until spring of 2025.

Realtor Brochure

The Minnesota Department of Health (MDH) has launched a free brochure for real estate professionals and local government employees working with clients who may be new to a home with a private well. The brochure, *Buying or Selling a Home with a Private Well*, recommends testing for nitrate (and the four other common contaminants in Minnesota well

water), provides key information on what to look for, questions to ask, legal requirements, and resources for both groups so that they know what is expected at property transfer.

Ordering information can be found at: https://survey.vovici.com/se/56206EE3454816C4

PDF can be found at: https://www.health.state.mn.us/communities/environment/water/docs/wells/waterquality/buysell.pdf

Local Government as Well Partners Webpage

The Minnesota Department of Health has recently established the "Local Government as Well Partners" webpage which highlights actions local governments can take to help protect private well users' health. Key ways local governments can help protect private wells users' health include:

- Share private well educational materials and resources
- Partner to prompt private well testing
- Make well testing easier to access
- Pass ordinances that require well testing in rental properties and/or at property transfer

Goal 3: Test private well drinking water (MDH & SEMWAL)

Offer nitrate analysis of drinking water samples from any private well users in the Karst Region that request testing. The aim is to test at least 10 percent of the private wells during this first year.

During Phase I, free private well tests were available to households with vulnerable populations (households with babies under one year old or pregnant people). During the last quarter we transitioned to Phase II and free testing became available to all private well users in the eight-county area. MDH has set up a Joint Powers Agreement (JPA) with Olmsted County to conduct the free water testing through the Southeast Minnesota Water Analysis Laboratory (SEMWAL). Test kits for five contaminants (bacteria, nitrate, arsenic, lead & manganese) are available to private well users in Olmsted, Dodge, Fillmore, Goodhue, Houston, Mower, Wabasha, and Winona counties. Private well users can apply for a free water test kit through an online request form that is maintained by MDH. Each week MDH provides a list of eligible requests to the lab. The lab mails test kits directly to the requestor's designated mailing address. The kit includes a return UPS label to return the test kit by mail for free.

From October 1 – December 31:

- ***19 eligible households requested and received a well test kit.***
- ***7 households who received test kits returned them and received water test results***.

Since the beginning of the response to December 31:

- ***66 eligible households requested and received a well test kit.***
- ***24 households who received test kits returned them and received water test results***.

Until recently water testing capacity was limited by funds and lab capacity, however on December 20, 2024 MDH held a meeting with local partners and shared that free private well test kits were available to all private well users in the eight-county area. At this time, local partners could start publicizing the information with their networks. Since that meeting, requests for tests have risen significantly. We anticipate exponential growth in the number of tests sent and returned during the next quarter.

Goal 4: Provide alternate water (MDA & Olmsted SWCD)

Drinking water will be offered as soon as practical to each residence where water tests show an exceedance of the MCL for nitrate in the private well. When funding is identified, most of the funding will be passed through to the TAP-IN Collaborative.

The MDA, in collaboration with Olmsted County, is continuing to provide water filtration systems for eligible well owners in southeast Minnesota. In October, the first reverse osmosis systems were installed, at no cost, for households that have elevated nitrate or cyanazine in their drinking water well. As of December 31st, 2024, a total of 104 reverse osmosis systems have been installed throughout the eight-county area. More water filtration systems will be installed in the coming months as this effort continues.

This program initially reached out to more than 1,200 well owners who participated in an MDA well testing program and have elevated nitrate or cyanazine in their well water. Approximately 344 well owners responded with interest. Of these approximately 167 well owners submitted the necessary information and were selected for RO installation.

The next phase of this project involves reaching out beyond the initial list of households with known high nitrate concentrations. At the end of December, the water treatment system application was updated to allow for any eligible well owner to apply if they have a valid nitrate-nitrogen test result from a certified laboratory above the Health Risk Limit of 10 mg/L (ppm).

Goal 5: Provide public record of work (MDH)

This goal has three main components and separate strategies. The components and strategies are below:

- Maintain and regularly publish records
- Measure Minnesota's progress
- Effective way to communicate updates to the general public

MDH continues to work with the Environmental Public Health Tracking team to develop maps of nitrate in private wells for southeast Minnesota and a dashboard on the MN Public Health Data Access Portal (https://data.web.health.state.mn.us/web/mndata/home). Maps with aggregated nitrate testing data have been added to the Private Wells in Southeast Minnesota (https://data.web.health.state.mn.us/private-wells-in-southeast-mn) page that show the percent of private wells with nitrate levels at or above 10 mg/L by county and by census tract.

At this time, the maps are limited to using data from Southeast Minnesota Water Analysis Laboratory (SEMWAL) 2016 - 2024. MDH will continue to add data points to the visualizations as it is available. Note that SEMWAL is only one of the laboratories private well users may use; therefore, the data visualization is not inclusive of all private well testing for nitrate completed in southeast Minnesota.

Additional data visualizations are planned and will be added to the site as capacity to develop and display data visualizations increases.

Goal 6: Engage stakeholders and develop and maintain partnerships (MDH)

We will continue engaging stakeholders and partners by elevating the work of the TAP-IN Collaborative and providing regular updates and opportunities to dialogue about public health approaches and nitrate in groundwater.

This phase may also include forming an advisory council consisting of petitioners, local government leaders, and other local partners to help guide the public health intervention work.

TAP-IN

MDH meets with TAP-IN leadership as needed and regularly consults with TAP-IN to ensure we are meeting their needs. MDH is in the process of setting up a SharePoint Site to have a central location for updates and documents. MDH and MDA meet monthly with leadership from Olmsted County to discuss work and make decisions.

MDH shares quarterly email updates and hosts quarterly meetings for local leadership to learn and ask questions about progress. MDH, MDA, MPCA, and SEMWAL provide updates and information at these meetings.

Olmsted County & Southeast Minnesota Water Analysis Lab

MDH continues to meet with SEMWAL to discuss contracting and arrangements for water quality testing. MDH and SEMWAL meet weekly to discuss challenges, successes, and other updates.

A Joint Powers Agreement is in the final stages of approval with Olmsted County to help with staffing needs to support the additional private well water analysis, mitigation guidance, and other resources to do the work outlined in the workplan at the local level. The positions include:

- Environmental Laboratory Data Support
- Drinking Water Quality Mitigation Navigator
- Regional Safe Drinking Water Program Coordinator
- Safe Drinking Water Intern

Petitioners/NGOs

MDH met with the Minnesota Well Owners Organization and the Minnesota Ground Water Association to discuss private wells, including efforts in southeast Minnesota. When developments in the work plan or the legislature have arisen, MDH connected with Minnesota Center for Environmental Advocacy and Freshwater to discuss the updates. MDH also provides regular updates on progress to the Well and Boring Advisory Council at its quarterly meetings.

Phase III: Long-Term Nitrate Goals and Strategies

MPCA and MDA completed the following Phase III work from October through December 2024.

Task Force to Address Nitrate in southeast Minnesota (MPCA/MDA)

The MPCA and MDA intend to develop and jointly lead a task force to address nitrate in southeast Minnesota. MDH and the Board of Water and Soil Resources will partner on this effort.

The goals of this task force include providing a forum for discussing concerns and answering questions; developing a shared understanding of nitrate in surface water and groundwater in southeast Minnesota; developing recommendations for reducing nitrate in southeast Minnesota; and providing input on ongoing nitrate work within MDA and MPCA.

The work group continues to meet monthly (with a one-month hiatus in October to allow time for crop harvest). The November and December meetings focused on continuing to build a shared understanding of the nitrate issue.

- In November, the work group heard from representatives of the petitioner groups and from state agencies involved in this issue (MDH, MDA, and MPCA).
- In December, MDH gave an in-depth presentation on their response to the petition, including a presentation from their toxicologist working on nitrate. The work group also heard from a panel of professionals in economics including a representative from Minnesota's Department for Employment and Economic Development, the Director of the Northern Agricultural Center for Excellence, and two professors from different departments at the University of Minnesota.
- Starting in January, the work group will round out hearing from experts on the nitrate issue and start to formulate shared principles and recommendation criteria. They will then spend late winter/early spring developing recommendations.

The Addressing nitrate in southeastern Minnesota (https://www.pca.state.mn.us/air-water-land-climate/addressing-nitrate-in-southeastern-minnesota) web page is regularly updated with the work group's progress.

Updating Minnesota's Nutrient Reduction Strategy (NRS)

As noted in the December 1 letter to EPA, the State is in the process of updating the Nutrient Reduction Strategy (NRS), a critical guiding document that lays out water quality goals for nutrients in surface water and provides a road map to Minnesota's nutrient reduction work for both point source and nonpoint source areas.

- MPCA applied for approximately $2.5 million in Hypoxia Task Force funding from the U.S. EPA in October. The proposal focuses on implementation of the revised NRS and includes the NRS Dashboard, new tools, best management practices (BMP) science outreach, and other nutrient-related outreach and research activities.
- An NRS special session was held during the Water Resources Conference on October 16. Reid Christianson (MDA), Matt Drewitz (MPCA), Marco Graziani (MPCA), Carl Rosen

(UMN), Dave Wall (MPCA), and Julie Westerlund (BWSR) shared the various components of the NRS revisions with an audience of about 60 and facilitated a discussion and question/answer time. While the focus of the session was the science behind the NRS, questions ranged from the cost of fully meeting Minnesota's nutrient reduction goals to the availability of supporting reports (they will be posted on the MPCA's Reducing nutrients webpage (https://www.pca.state.mn.us/air-water-land-climate/reducing-nutrients-in-waters) once finalized and completed), and types of stakeholder engagement conducted as part of the revisions. The MPCA Communications team recorded the session and is hoping to compile some clips of the session to share on the Reducing nutrients webpage.

- The University of Minnesota research team has mostly completed a literature review and analysis for nitrogen reduction percentages for many BMPs and shared it this fall with working group partners for review. A BMP expert group met in November to update the nitrogen practice efficiencies in water quality models. Dr. Emerson Souza joined the team at the University of Minnesota to work on the BMP for phosphorus reduction components of this project this fall through early spring of 2025 as well as assist with any revisions needed for the nitrogen work.
- Related to Minnesota's Gulf Hypoxia Task Force work, a biannual Report to Congress was submitted to U.S. EPA in the first week of November and is attached here for reference.
- NRS revisions are dependent on interagency working groups, and the working groups are organized around the following topics: Watershed Integration, Urban Nutrients—Wastewater and Stormwater, Programs to Scale-Up Agriculture Best Management Practice (BMP) Adoption, Progress Tracking, River Loads, BMP Science Assessment, an overarching Technical Coordination and Advisory Team (TCAT), and an Interagency Leadership Steering Team. The working groups met a total of 38 times in 2024 to discuss data supporting the NRS revisions, develop solutions to continued nutrient reduction challenges, collect and write materials, and review chapter drafts. These working groups will continue to meet into 2025 to review final draft documents.
- In 2024, nearly 1,000 people were informed of the science and research supporting the NRS revisions through public outreach events.
- Significant progress was made on developing the content for the Revised NRS between October and December 2024. Of the seven chapters planned, drafts of two are complete, drafts of three are under review, and two are still in the writing phase. Supporting analyses and reports for each chapter include nine contracts, joint power agreements, and interagency agreements, all of which have submitted some form of report or data analysis between October and December 2024. In analyzing nutrient reduction work across the state, the working groups have documented significant and steady progress in the adoption of the needed actions outlined in the 2014 NRS. The revised NRS will further our understanding of the strength of the linkages between the work done on land (i.e. BMP practices, stormwater retention, etc.) and water quality in Minnesota's lakes, streams, and rivers and quantify what still needs to be done to meet statewide nutrient reduction goals.

Feedlot Permits (MPCA)

The General National Pollutant Discharge Elimination System (NPDES) and State Disposal System (SDS) permits that the MPCA administers to confined animal feedlots expire in 2025 (SDS) and 2026 (NPDES). Work to reissue these permits has begun. The MPCA is planning to concurrently public notice and issue the permits and intends to have consistent nutrient requirements in both permits, to the extent possible.

The MPCA received a large volume of comments from nearly 200 commenters during the public comment period. The MPCA is completing the extensive Response to Comments document (over 100 pages long), finalizing permit revisions based on comments received, and will have the final permits completed in early January 2025.

Feedlot Rules (MPCA)

Starting in 2024, the MPCA plans to conduct a multi-year process to review state feedlot rules (Minnesota Rules, Chapter 7020).

We are committed to finishing up the general permit process before moving forward with feedlot rule revision, because the same team that is working on the permits will also be assigned to the feedlot rule revision. We will provide more details and outreach in the first quarter of 2025 regarding the Feedlot Rule revision process.

Nitrogen Fertilizer Management Plan implementation (MDA)

The MDA has developed the Nitrogen Fertilizer Management Plan (NFMP) and Groundwater Protection Rule, which outline a process to prevent or minimize the impact of nitrogen fertilizer on groundwater. In combination they provide a comprehensive effort to address nitrate in groundwater through voluntary adoption of practices and regulation. The MDA believes this is the best long-term strategy for addressing nitrate in groundwater, that the work is moving in the right direction, and can accelerate and adapt current work in southeastern MN to make greater progress.

During the 2024 legislative session, MDA received supplemental Clean Water funding to accelerate implementation of the nitrogen fertilizer management plan (NFMP) in southeast Minnesota. This includes working voluntarily with farmers to increase adoption of practices on a township scale. Funding became available July 1, 2024. A workplan is being developed and initial outreach with partners has begun. Key tasks for the multi-year workplan include:

- selecting the township(s)
- compiling township information
- critical source area and GIS review
- on-farm walkovers

- communication and outreach
- working with farmer leaders
- survey of cropland management in the township(s)
- computer modeling
- demonstration projects based on results from BMP survey
- promoting and increased adoption of cover crops, forage crops, small grains, and perennials (including a focus on the Forever Green Initiative)
- obtaining funding for implementing selected BMPs and other groundwater protective practices
- program coordination
- tracking outcomes
- new partnership strategies with ag retailers, MAWQCP, and SWCDs

During this reporting period, two townships (Preble Township in Fillmore County and Spring Grove Township in Houston County) were selected for initial work, and partner meetings have started. This includes a presentation at the Fillmore SWCD board and a township board meeting to describe the MDA's township approach. The MDA executed a contract with St Mary's University in Winona to review geospatial data and conduct critical source analysis and GIS review for the selected townships. The deliverables from this contract will directly support on-farm walkovers. The MDA met with Filmore and Houston County SWCDs to discuss contract language and levels of support for initial walkovers (pilots) in spring 2025. Contracts with SWCD partners may include funding for SWCD staff and subcontractors to support practice implementation. Additional meetings were held to explore public private partnerships in the region.

The MDA continues to meet with the Forever Green Initiative and partners to explore opportunities for new acres of winter annual oilseeds and perennial grains in southeast Minnesota. This includes crop implementation and supporting the development of supply chains and markets.

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