

Update on MDA activities in southeast Minnesota

Margaret Wagner

Manager, Fertilizer Non-Point Section





Minnesota's Blueprint to Minimize Groundwater Impacts from Nitrogen Fertilizer



Chapter 1573
Department of Agriculture

1573 0010

Groundwater Protection

1573 0020 INCORPORATION BY REFERENCE

1573.0030 STATEWIDE WATER RESOURCE PROTECTION REQUIREMENTS

1573.0040 DRINKING WATER SUPPLY MANAGEMENT AREA; MITIGATION LEVEL DESIGNATION

1573.0050 WATER RESOURCE PROTECTION REQUIREMENTS ORDER.

1573.0060 REQUIREMENTS FOR WATER RESOURCE PROTECTION REQUIREMENTS ORDERS.

1573 0070 WATER RESOURCE PROTECTION REQUIREMENTS ORDER CONTENTS

1573.0080 MINNESOTA AGRICULTURAL WATER QUALITY CERTIFICATION PROGRAM EXEM

1573.0090 ALTERNATIVE MANAGEMENT TOOLS; ALTERNATIVE PROTECTION REQUIREMENTS.

1573.0010 DEFINITIONS.

1573.0010 DEFINITIONS

Subpart 1. Scope. The terms used in this chapter have the meanings given them in this part. Other terms used in this chapter are defined in the part in which the terms are used. Terms used in this chapter that are not specifically defined in applicable federal or state law shall be construed in conformance with the context and in relation to the applicable section of the statutes pertaining to the matter and current professional usage.

Subp. 2. Alternative management tools. "Alternative management tools" means specific practices and solutions as described in part 1573.0090, subpart 1, other than nitrogen fertilizer best management practices, that are approved by the commissioner to address groundwater nitrate problems. Alternative management tools include precision agricultural methods that can be used for the precise, variable, and site-specific application of nitrogen fertilizer.

Subp. 2a. Capture zone. "Capture zone" means the subsurface area surrounding a well or well field through which water is likely to move toward and reach the well supplying a public water system with water.

Subp. 3. Coarse textured soils. "Coarse textured soils" means soils that are sand, loamy sand, sand, soils fine sand, coarse sand, coarse sand, ever fine sand, loamy error sand, single grained, or any of these textures with the following textural modifiers: gravelly, cobbly, channery, and flaggy, based on the United States Department of Agriculture, Natural Resources Conservation Service. Web Soil Survey.

Subp. 4. Commissioner. "Commissioner" means the commissioner of agriculture

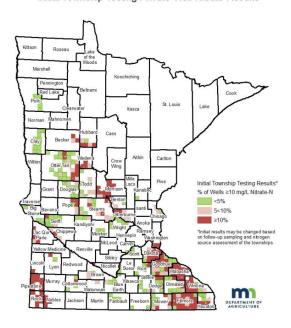
Subp. 5. Cropland. "Cropland" means land used primarily for the production or harvest of annual or perennial field, forage, food, fiber, or energy crops. Cropland includes pasture but does not include forestland.

Copyright © 2019 by the Revisor of Statutes, State of Minnesota. All Rights Reserved

Significant input received and incorporated throughout development process

Water Quality Monitoring

Initial Township Testing Private Well Nitrate Results









Township Testing Program

Volunteer Private Well Monitoring Network

Monitoring springs

Edge-of- field sites and in-situ nitrate sensors

Water Quality Monitoring



https://mda.onerain.com/

Technical Tools and Information



Nitrate Screening **Equipment and Support**

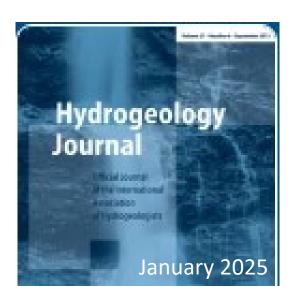


Southeast Minnesota Groundwater Resources

Videos

Infographics

Karst model & Lesson plans

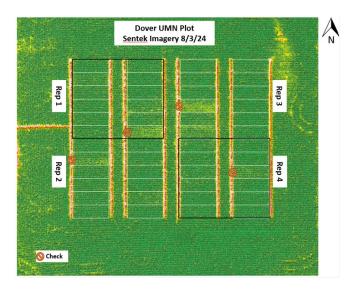


Peer Reviewed journal article

Informing nitrate
concentration trends:
estimating groundwater
residence time in a karstic,
multiaquifer system using
anthropogenic tracers
(Minnesota, USA)₅

Agricultural Research and Demonstration Sites

Updating Statewide
Nitrogen Fertilizer Best Management Practices (BMP)



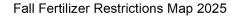
University of Minnesota
Nitrogen Rate and
Timing Trials

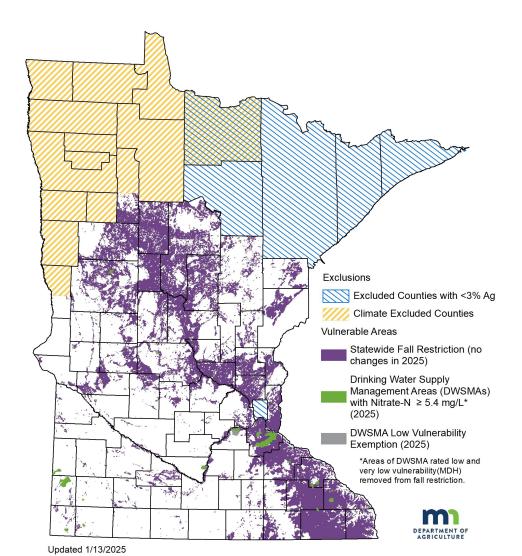


Nutrient Management Initiative (NMI) and Southeast BMP Program

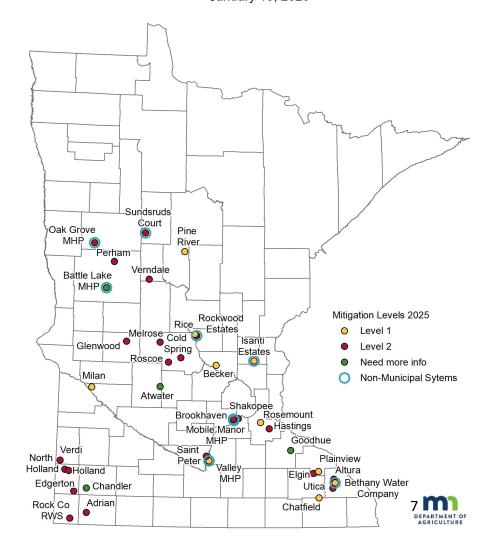


Groundwater Protection Rule





Drinking Water Supply Management Area Mitigation Levels
January 13, 2025



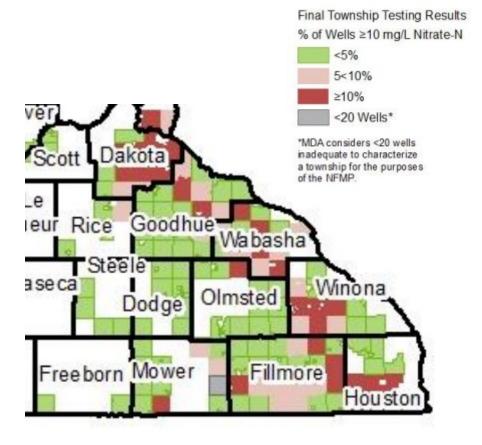
Accelerating Voluntary Work in High Nitrate Townships







High Nitrate Townships in Southeast Region



Minnesota Agricultural Water Quality Certification Program (MAWQCP)

- Over 1,100,000 MAWQCPcertified acres statewide
- 277 MAWQCP-certified farms in the 8 SE Counties
- 221,147 MAWQCP-certified acres in the 8 SE Counties
- Currently, 70 active applications submitted for MAWQCPcertification in the 8 SE Counties





Soil Health Financial Assistance Program (SHFAP)

- For purchase of new/used soil health equipment and parts to retrofit equipment
- \$2.375 million (\$625K General Fund and \$1.75M Clean Water Fund) in FY25 statewide with addition of one-time \$495,000 General Fund in the 8 SE counties
- 15 of 27 total grants in SE due to the FY25 one-time \$495,000

FY25 Awards	FY25 \$ Awarded	FY25 Acres
Statewide	Statewide	Statewide
90	\$2,792,717.69	132,332
8 SE Counties	8 SE Counties	8 SE Counties
27	\$815,550.45	22,928

Partnerships and Outreach



Working together

- Individual Farmers and Crop Advisers
- Crop Retailers and Commodity
 Organizations
- Soil and Water Conservation Districts (SWCDs)
- Cities and Counties
- University of Minnesota- Extension
- State Agencies









Nitrate Mitigation in Southeast Counties

SF No. 4942, Conference Committee Report - 93rd Legislature (2023-2024)

(o) \$2,800,000 the second year is for nitrate home water treatment, including reverse osmosis, for private drinking-water wells with nitrate in excess of the maximum contaminant level of ten milligrams per liter and located in Dodge, Fillmore, Goodhue, Houston, Mower, Olmsted, Wabasha, or Winona County. The commissioner must prioritize households at or below 300 percent of the federal poverty guideline and households with infants or pregnant individuals. The commissioner may also use this appropriation for education, outreach, and technical assistance to homeowners. The commissioner of agriculture may transfer money to the commissioner of health to establish and administer a mitigation program for contaminated wells located in Dodge, Fillmore, Goodhue, Houston, Mower, Olmsted, Wabasha, or Winona County. Notwithstanding Minnesota Statutes, section 16B.98, subdivision 14, the commissioner may use up to 6.5 percent of this appropriation for administrative costs. This is a onetime appropriation and is available until June 30, 2027.

Reverse Osmosis Installations

- MDA executed a Joint Powers Agreement (JPA) with Olmsted County
- JPA is administered by Olmsted SWCD and they have sub-contracted with county offices and SWCDs in the seven other counties.
- 135 systems installed to date
 - ~13% installed RO's were for households in a vulnerable population
 - ~30% of households below 300% of the federal poverty level
 - Post treatment nitrate sampling shows that the median concentration of treated water is 1.7 mg/L well below the 10 mg/L standard.





Thank you

Margaret Wagner

Margaret.Wagner@state.mn.us

