DEPARTMENT OF AGRICULTURE

Proposed Groundwater Protection Rule

The Minnesota Department of Agriculture (MDA) recently published the proposed Groundwater Protection Rule. The purpose of the rule is to minimize potential fertilizer sources of nitrate pollution to the state's groundwater and protect our drinking water. This fact sheet outlines the proposed rule and the changes the MDA made as a result of public feedback. It does not present the proposed Groundwater Protection Rule in its entirety and should not be viewed as comprehensive. A copy of the proposed Groundwater Protection Rule and the Statement of Need and Reasonableness is available at www.mda.state.mn.us/nfr. The proposed rule contains two parts. Each part contains separate criteria and requirements. Depending on where you farm, you may be subject to one part of the Rule, both parts, or none at all.

Why is nitrogen fertilizer a concern?

Nitrate is one of the most common contaminants in Minnesota's groundwater. The majority of Minnesota households have access to safe drinking water supplies. However, in areas vulnerable to groundwater contamination, some public and private wells have nitrate levels that exceed the health risk limit for nitrate. While elevated levels of nitrate in groundwater can result from several factors, a major contributor in rural Minnesota is nitrogen fertilizer that leaches past the crop root zone.

Summer 2017 Comment Period

The MDA informally published a draft of the rule in the summer of 2017 to provide an opportunity for public input. More than 1,500 people attended public meetings in Chatfield, Fairmont, Farmington, Hawley, Marshall, McIntosh, Roseau, St. Cloud, St. Paul, Wadena and Warren. Additional public meetings were held in Bemidji, Crookston, Mankato, Marshall, Rochester and St. Cloud as part of the Governor's Water Town Hall Meetings. The MDA also received over 820 written comments on the rule and each of those comments was reviewed during the revision process.

The MDA made significant changes to the proposed rule based on the comments received on the draft rule. These include: excluding much of northern Minnesota from fall application restrictions; refining the criteria used to define areas with vulnerable groundwater; additional exceptions to fall application restrictions for specific crops; removing townships from potential part 2 regulations; and, focusing mitigation efforts on protecting public wells with high nitrate. The contents of the final proposed rule are described below.

Nitrogen Fertilizer Management Plan

The rule is based the state's Nitrogen Fertilizer Management Plan (NFMP). The MDA uses the NFMP as the primary blueprint for preventing and minimizing impacts of nitrogen fertilizer on groundwater. The NFMP promotes the nitrogen fertilizer Best Management Practices (BMPs) developed by the University of Minnesota and was developed using a multi-stakeholder advisory committee and a public review process. It emphasizes involving local farmers and agronomists in problem-solving for local groundwater concerns when nitrate from fertilizer is a key contributor. Authority for the NFMP and rule comes from the Groundwater Protection Act, Minnesota Statute 103H.

Drinking Water Supply Management Areas (DWSMAs)

The proposed rule focuses mitigation efforts on protecting public water supply wells before they exceed the drinking water standard. A DWSMA is the surface and subsurface area surrounding a public water supply well, including the wellhead protection area. The boundaries of a DWSMA are based off of highways, section lines or other well-known boundaries.

Part 1 – Use of nitrogen fertilizer in the fall and on frozen soils will be restricted in areas with a) vulnerable groundwater and b) DWSMAs with elevated nitrate.

The application of nitrogen fertilizer in the fall or on frozen soils will be restricted on quarter-sections of land where 50% or more of the quarter-section is in an area with vulnerable groundwater, and in DWSMAs that have nitrate-nitrogen concentrations at or in excess of 5.4 mg/L. An area with vulnerable groundwater is an area where nitrate can move easily through soil and into groundwater, contaminating drinking water sources. Vulnerable areas for Part 1 of the rule are defined as areas with:

- coarse textured soils based on the United State Department of Agriculture's Natural Resources Conservation Service (USDA NRCS) soils maps;
- shallow bedrock based on USDA NRCS soils maps; or
- karst geology based on MN DNR maps.

Part 1 Exceptions

There are several exceptions to Part 1 of the rule. Fall application of nitrogen fertilizer will be allowed:

- to establish winter grains planted in the fall;
- for fall pasture fertilization;
- for perennial crops;
- for grass seed production;
- for cultivated wild rice; and
- for growing fall cover crops within a potato rotation.

There are exclusions related to the presence of clay soils with ultra-low permeability, reduced leaching potential combined with a short spring planting season, and in counties with less than 3% of the land in row crops.

Ammoniated polyphosphate (MAP and DAP) and micronutrient formulations containing nitrogen can be applied as long as the average applied rate does not exceed 40 pounds of nitrogen per acre. Fields with low or very low phosphorus levels are exempt from this restriction.

Fall nitrogen fertilizer applications will also be allowed for agricultural research and demonstrations for academic purposes, provided the area is limited to 20 acres or less, unless a higher amount is approved by the Commissioner of Agriculture.

These restrictions will not take effect until January 1, 2020.

Part 2 – Mitigation efforts in Drinking Water Supply Management Areas (DWSMAs) with elevated levels of nitrate

Part 2 of the rule applies to DWSMAs.

This part of the rule is a combination of voluntary and regulatory efforts and is designed to work with local farmers and their agronomists to find solutions that are tailored to their specific situation. There are four levels in Part 2 of the rule. Levels 1 and 2 are voluntary, and Levels 3 and 4 are regulatory. Under Levels 3 and 4 the Commissioner of Agriculture will work with local advisory teams to consider the appropriate regulatory requirements.

DWSMAs that fall under Part 2 of this rule will be monitored and will move up or down according to changes in water quality. DWSMAs may only move up one mitigation level at a time. For example, a DWSMA will never go from Level 1 to Level 3 in a single cycle

Level One

Fields located in DWSMAs that contain 5.4 to less than 8 mg/L nitrate-nitrogen fall under Level 1. At this mitigation level the MDA will encourage the voluntary adoption of the University of Minnesota's Best Management Practices (BMPs) for nitrogen fertilizer.

Level Two

Fields located in DWSMAs that are at or exceed 8.0 mg/L nitrate-nitrogen or have been at or exceeded that level at any point during the previous 10 years, or that are projected to exceed the drinking water standard of 10 mg/L nitrate-nitrogen in ten years, will be included in Level 2. The MDA will promote the implementation of BMPs and conduct surveys to assess the adoption rates of BMPs.

Level Three

A Level 2 site will progress to Level 3 if one of the following occurs: 1) after three growing seasons the BMPs are not adopted on 80% of the cropland acres (excluding soybean acres); or 2) after not less than three growing seasons the residual soil nitrate below the root zone increases; or 3) after not less than three growing seasons or the estimated lag time, whichever is longer, the nitrate concentrations in groundwater continue to increase. The Commissioner of Agriculture – in consultation with a local advisory team – would then require landowners to implement best management practices, testing, and educational programs.

Level Four

If nitrate-nitrogen in the public water supply well exceeded 9 mg/L for any three samples in the previous 10 years; or after three years the residual soil nitrate below the root zone increases; or after three years or the estimated lag time, whichever is longer, the nitrate levels continue to increase, then the DWSMA would be given a Level 4 designation. The Commissioner of Agriculture – in consultation with a local advisory team – could require landowners to implement additional practices beyond best management practices. These practices would be determined on a site specific basis following guidance outlined in MN Statutes Chapter 103H.275 Subd. 2(a). However, they may not include restrictions on the primary crop or require fertilizer rates below the low end of the University of Minnesota recommended fertilizer rate range.

Part 2 Exceptions

Progress Under Way – In areas where progress is being made, the Commissioner of Agriculture could grant a one-time exemption for each level before moving the area to the next level of regulation.

Comment on the Proposed Rule

There are two ways to participate in the rulemaking process:

1. Provide comments in writing to the Office of Administrative Hearings by visiting, www.mda.state.mn.us/gwprhearingnotice.
2. Attend one of the five public hearings around the state and provide testimony before the Administrative Law Judge.

What was changed from Draft #1 to Draft #2 of the rule?

Location	Date	Time
Robert Boeckman Middle School 800 Denmark Avenue Farmington, MN 55024	Monday, July 16, 2018	1:00 – 6:00 PM
Stewartville Civic Center 105 First Street East Stewartville, MN 55976	Wednesday, July 18, 2018	10:00 AM – 4:00 PM
Minnesota West Community and Technical College 1450 College Way Worthington, MN 56187	Thursday, July 19,2018	10:00 AM - 4:00 PM
River's Edge Convention Center 10 Fourth Avenue South St. Cloud, MN 56301	Wednesday, July 25, 2018	10:00 AM - 4:00 PM
American Legion 900 First Street East Park Rapids, MN 56470	Thursday, July 26, 2018	9:00 AM - 3:00 PM

Timeline and Next Steps

June 2017	Draft rule released for an informal public comment period.
Summer 2017	Seventeen public listening sessions and multiple stakeholder group meetings held around the state in order to explain the draft rule, listen to concerns, and collect comments.
Fall 2017/ Winter 2018	MDA staff reviews comments and revises the proposed rule.
March 2018	The Governor and MDA Commissioner hold a press conference to announce the framework of the proposed rule.
April 23, 2018	MDA staff completes the proposed rule and the Statement of Need and Reasonableness. MDA begins outreach to stakeholders to explain the content of the proposed rule.
April 30, 2018	MDA publishes the proposed Groundwater Protection Rule and Statement of Need and Reasonableness. The comment period is open for 80 days until July 31, 2018.
Summer 2018	The MDA holds eight informational meetings around the state. Hearings are held at five locations throughout the state before an Administrative Law Judge.
Fall 2018	Administrative Law Judge completes report, gives MDA time to respond to ALJ report.
December 2018	MDA submits the final Groundwater Protection Rule to the Office of Administrative Hearings, the Office of the Revisor of Statutes, and the Governor.
January 2019	Governor signs final rule.
January 2020	Fall fertilizer application prohibition goes into effect.

Date Revised: 5.24.18 • File Name: Proposed Groundwaer Protection rule.indd