

Learn More

- View a full copy of the draft Nitrogen Fertilizer Rule.
- Attend a listening session near you.

For more details visit:
www.mda.state.mn.us/nfr

Please share your thoughts

There is a 60-day written comment period. Please submit comments by Friday, August 11, 2017.

Submit written comments to:

Larry Gunderson
Minnesota Department of Agriculture
625 Robert St. North
St. Paul, MN 55155
Larry.Gunderson@state.mn.us

“The approach is to involve the agricultural community in problem solving at the local level. We all need to work together to respond to and address localized concerns about unsafe levels of nitrate in groundwater.”

— Dave Frederickson,
Commissioner of Agriculture

Draft Nitrogen Fertilizer Rule

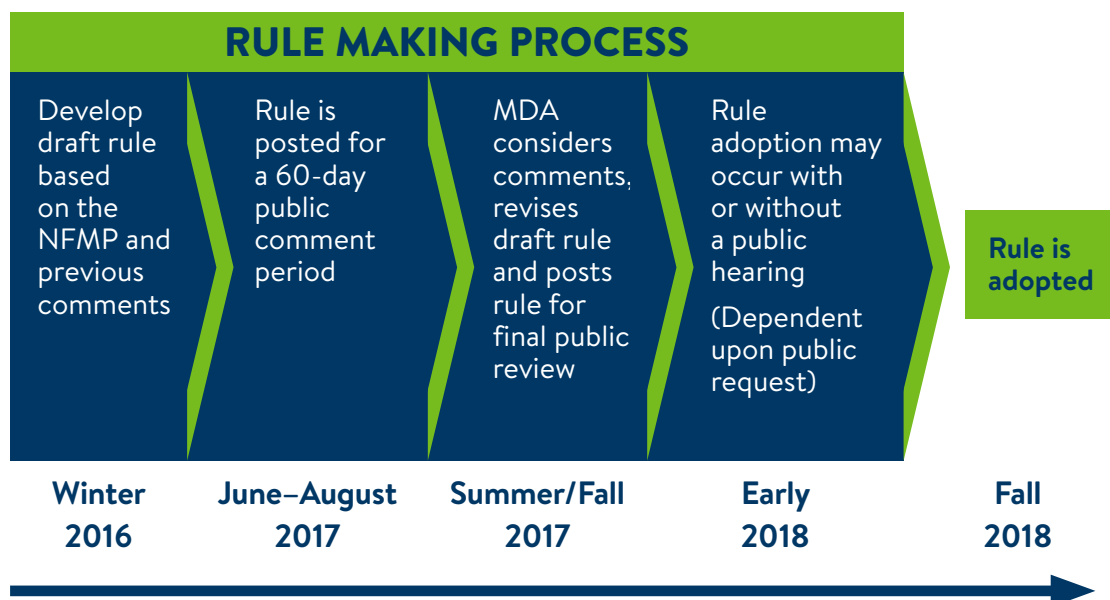
The Minnesota Department of Agriculture (MDA) is developing a Nitrogen Fertilizer Rule (Rule), and is seeking public comment. The purpose of the Rule is to minimize potential sources of nitrate pollution in the state’s groundwater and protect our drinking water. The Rule presented in this factsheet is draft and may change based on public input. This factsheet highlights some of the key features of the rule and is not meant to be all inclusive. Please view the complete draft for additional details. The Rule is expected to be adopted in the fall of 2018.

Why is nitrogen a concern?

Nitrate-nitrogen (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 may have high nitrate levels. Too much nitrate in drinking water can pose serious health concerns for humans.

Nitrogen Fertilizer Management Plan Background

The MDA uses the state’s Nitrogen Fertilizer Management Plan (NFMP) as the blueprint for prevention and minimization of the impacts of nitrogen fertilizer on groundwater. The NFMP, revised in 2015, 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 Rule comes from the Groundwater Protection Act, Minnesota Statute 103H. View the NFMP at: www.mda.state.mn.us/nfmp.



Note that the above timeline simply highlights the opportunity for public participation. The full rulemaking process includes review by the governor and other administrative state agencies. A more detailed timeline is available at www.mda.state.mn.us/nfr

Draft Nitrogen Fertilizer Rule

What to Know

The Rule is based on the nitrogen fertilizer Best Management Practices (BMPs) developed by the University of Minnesota. Use of nitrogen fertilizer BMPs can minimize the loss of nitrogen in the environment. The Rule is designed to involve local farmers and agronomists in adopting and promoting BMPs and other practices that can reduce nitrate in groundwater. View BMP information at: www.mda.state.mn.us/nitrogenbmps.

The 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 not at all. Review the following details to understand how the two parts of the Rule may apply to your area.

You may be subject to one part of the Rule, both parts or not at all.

PART 1

Use of nitrogen fertilizer in the fall and on frozen soils will be restricted in vulnerable groundwater areas.

Vulnerable Groundwater Areas

The application of nitrogen fertilizer in the fall or on frozen soils will be restricted in areas with vulnerable groundwater. An area with vulnerable groundwater is an area where nitrate can move easily through soil and into groundwater. The criteria used to determine vulnerability include the saturated hydraulic conductivity of a soil ($K_{sat} > 10 \mu\text{m/sec}$, roughly 1.4 inches/hour), near-surface bedrock or karst geology. K_{sat} is a physical property of the soil and is widely used by soil scientists to describe the soil's capacity to transmit water. Because Part 1 of the Rule is based on soils and geology, the area covered by the Rule is not subject to change over time. A field in a vulnerable groundwater area will always be subject to Part 1 of the Rule. A detailed vulnerable groundwater area map is available at www.mda.state.mn/nfr. You can use the interactive map to view individual sections and determine the areas subject to Part 1 of the Rule.

A vulnerable groundwater area is an area where nitrate can move easily through soil and into groundwater.

Vulnerable groundwater areas will be determined section by section

In areas where more than 50% of the section has vulnerable groundwater, fall and frozen soil application will not be allowed in the **entire section**.

If 50% or less of the section has vulnerable groundwater, fall and frozen soil application is restricted on fields with karst or near-surface bedrock or where the predominant soil type is vulnerable.

Exceptions to the restriction

Fall application of nitrogen fertilizer will be allowed in vulnerable groundwater areas to:

- establish small grains,
- fertilize pasture,
- apply phosphorus fertilizers (MAP, DAP) and other micronutrients that contain nitrogen; the overall applied nitrogen rate must not exceed 20 pounds per acre,
- conduct agricultural research on areas 20 acres or less in size.



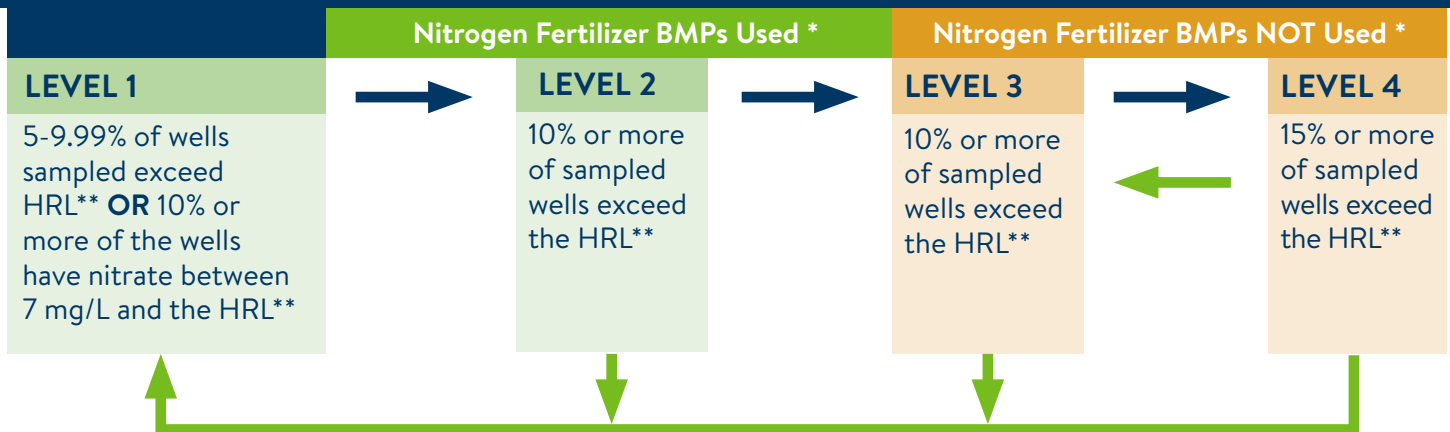
Mitigation Level Designations

The Rule outlines a multi-level approach designed to involve local farmers and agronomists in helping to reduce nitrate losses in areas with high nitrate in groundwater. There are four mitigation levels. Mitigation is the action of reducing the severity of a problem. The initial designation of a mitigation level is based on nitrate concentrations that are near to or exceed the nitrate health risk limit of 10 milligrams per liter. Nitrate data from public and private wells will be used to prioritize areas of greatest concern and to determine if mitigation is necessary. Because Part 2 of the Rule is based on nitrate concentrations in drinking water, the area covered by the Rule is subject to change over time. An area may move in and out of the mitigation levels. All areas identified with elevated nitrate contamination will begin in a voluntary mitigation level 1 or 2.

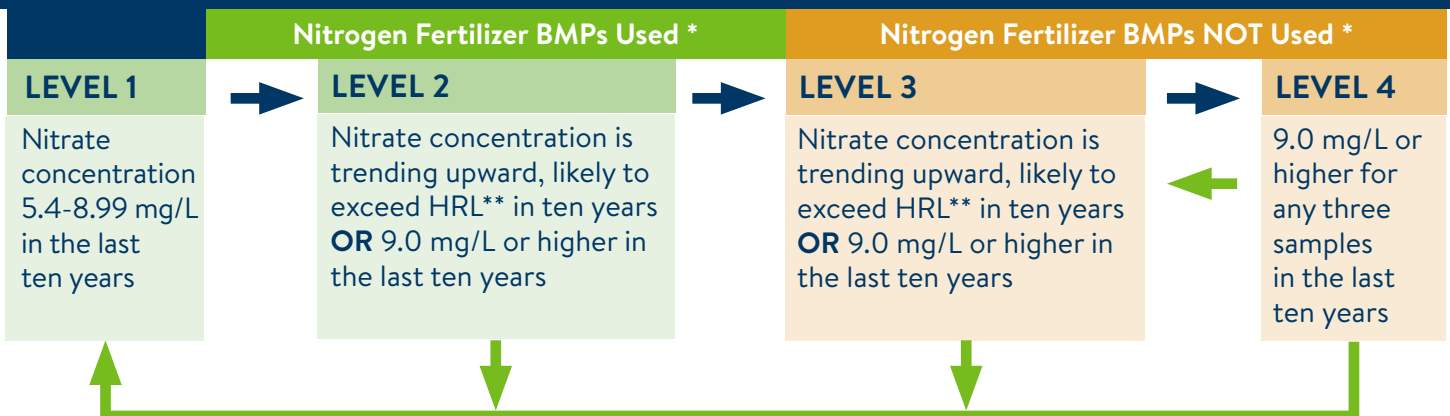
The area covered by the designation will be defined using township boundaries (for household/private wells) or drinking water supply management area boundaries (for community/public wells). A drinking water supply management area (DWSMA) is the area from which water will reach a public water supply well within approximately 10 years. DWSMA boundaries are defined by the Minnesota Department of Health.

A local advisory team, consisting primarily of producers and Ag professionals, will advise the MDA regarding appropriate response activities for the area and to support implementation of these activities. Recommended nitrogen fertilizer Best Management Practices (BMPs) and alternative practices will be promoted within these vulnerable areas. After three growing seasons, the MDA will reevaluate the mitigation level. If nitrogen fertilizer BMPs are being used on 80% or more of cropland in the designated area (township or DWSMA), regulations will not be required. If nitrogen fertilizer BMPs are not being used, the area can move into a regulatory level. The Rule will include a list of site specific management practices that may be required in areas that progress to regulatory mitigation levels 3 and 4. The mitigation criteria is shown in the diagram below. A flowchart outlining the steps of the mitigation process is included on the back.

DESIGNATIONS USING PRIVATE WELL DATA



DESIGNATIONS USING PUBLIC WELL DATA



* The MDA will conduct surveys to determine if at least 80% of cropland is under the nitrogen fertilizer BMPs. Surveys will be completed after three growing seasons. See Rule section 1573.0100 for additional regulatory actions for mitigation levels 3 and 4.

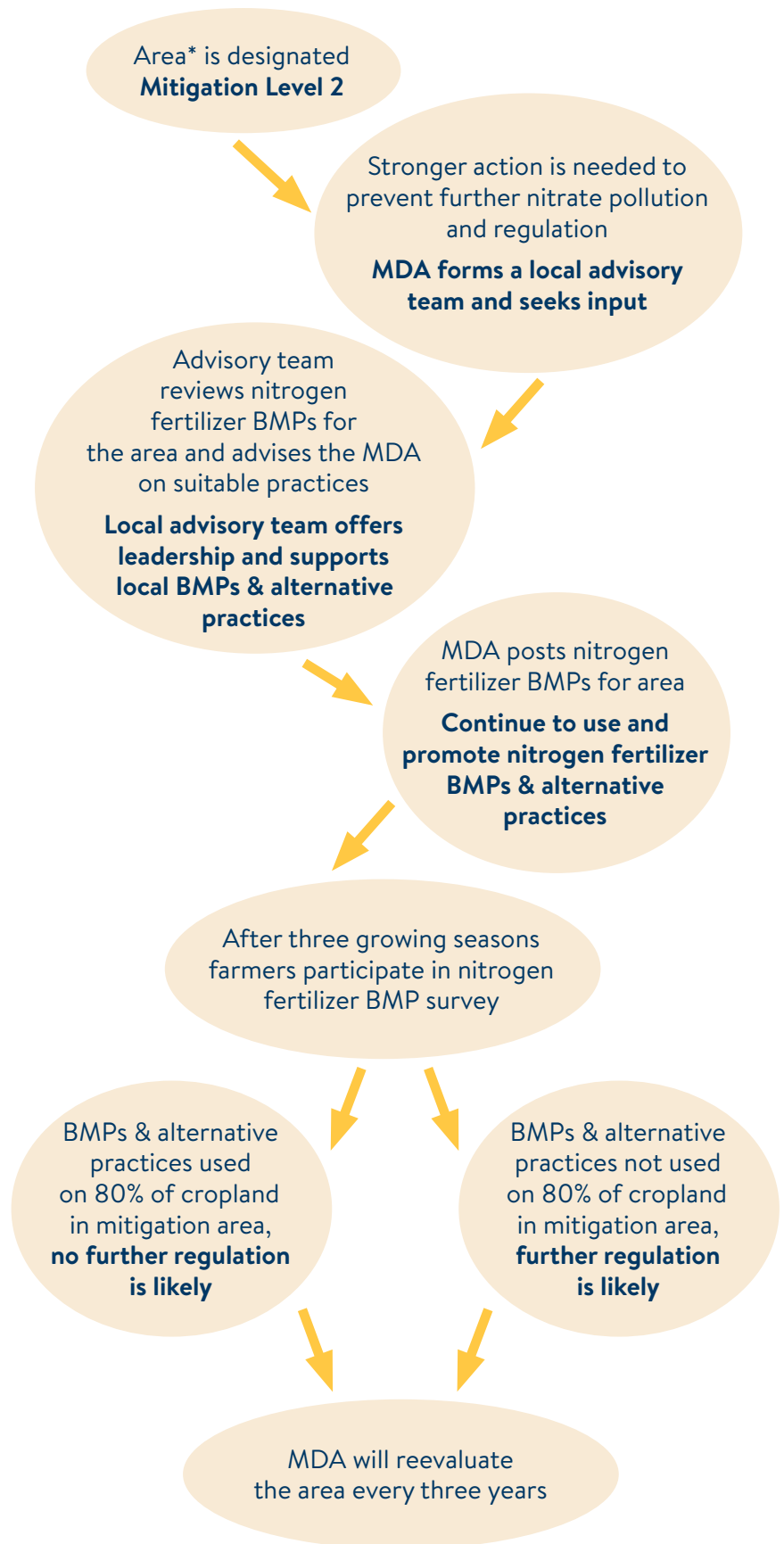
** Health Risk Limit (HRL) for nitrate-nitrogen in water is 10 mg/L

My Area is in Mitigation... Now What?

Mitigation Level 1



Mitigation Level 2



* Township boundaries and drinking water supply management area (DWSMA) boundaries will be used to define mitigation areas.