

## Nitrogen Fertilizer Rule Frequently Asked Questions

The draft Nitrogen Fertilizer Rule is based on the Minnesota Nitrogen Fertilizer Management Plan (NFMP) which recommends steps for the prevention and minimization of the impacts of nitrogen fertilizer on groundwater, and emphasizes involving the local agricultural community in problem-solving for local groundwater concerns. The NFMP is available at <http://www.mda.state.mn.us/nfmp>. The MDA has also prepared preliminary maps showing which sections are subject to section wide restrictions on fall application and application to frozen soil. These will be available at [www.mda.state.mn.us/nfr](http://www.mda.state.mn.us/nfr). Please consult these references for detailed background information.

### 1. What is the Nitrogen Fertilizer Rule?

The draft Nitrogen Fertilizer Rule is based on the Minnesota Nitrogen Fertilizer Management Plan (NFMP). The NFMP outlines the state strategy for preventing contamination and responding to elevated nitrate from fertilizer in groundwater. The Rule sets out the procedures by which the Minnesota Department of Agriculture may regulate the use of nitrogen fertilizer in vulnerable groundwater areas to prevent contamination from occurring and to respond to areas that have high nitrate concentrations.

### 2. 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 some areas vulnerable to groundwater contamination public and private wells may have high nitrate levels. Too much nitrate in drinking water can pose serious health concerns for humans.

### 3. How are nitrate levels determined?

The Minnesota Department of Agriculture uses nitrate data from public and private drinking wells. Groundwater quality is monitored in order to evaluate pollution frequency and concentration trends and to protect groundwater and public and private drinking water wells from elevated nitrate concentrations. For more information see the MDA's Township Testing Program website at <http://www.mda.state.mn.us/townshiptesting.aspx> and the Drinking Water Protection website <http://www.mda.state.mn.us/protecting/waterprotection/drinkingwater.aspx>.

### 4. Why is a rule needed?

The purpose of the Rule is to minimize potential sources of nitrate pollution in the state's groundwater and to protect our drinking water. The Rule is one tool, for specific situations, that is part of a larger strategy to reduce nitrate from fertilizer in groundwater.

**5. Where does the authority for the rule come from?**

The authority for the Rule comes from the Minnesota Groundwater Protection Act, Minnesota Statute 103H.

The Minnesota Department of Agriculture has the authority to issue administrative, civil, and criminal penalties against those who violate the Rule under Minnesota Statute 18D.

**6. What is the rulemaking process?**

The Minnesota Department of Agriculture (MDA) is developing the Nitrogen Fertilizer Rule and is currently conducting a 60 day comment period to obtain comment on the draft rule. The MDA will consider all public input before completing a final rule. The proposed Rule will be published for public review and comment. If more than 25 people request a hearing, a hearing will be held before an administrative law judge. Based on the judges' comments the MDA may need to revise the Rule or redo portions of the Rule. The MDA anticipates adoption of the Rule in the fall of 2018.

**7. How will the nitrogen fertilizer rule affect me and my farm?**

There are two parts to the rule. Each part contains separate provisions. Depending on where you farm, you may be subject to one part of the rule, both parts, or neither part.

Part 1: You are subject to Part 1 of the rule if you farm in a vulnerable groundwater area. This means you cannot apply nitrogen fertilizer in the fall and on frozen soils.

Part 2: You are subject to Part 2 of the rule if your township or Drinking Water Supply Management Area (DWSMA) has groundwater with nitrate concentrations that are higher than health risk limits. These areas will be designated a mitigation level 1, 2, 3 or 4.

See the answer to Question 11 for more detailed information.

**8. What is mitigation?**

Mitigation is the action of reducing the severity of a problem. In addressing the problem of nitrate contamination, mitigation levels will be based on nitrate data collected from public and private drinking wells.

**9. How are the different mitigation levels (1, 2, 3 or 4) determined?**

*Mitigation Levels 1 and 2:*

The initial designation of mitigation levels is based on nitrate concentrations that are near to or exceed the health risk limits 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. All areas identified with elevated nitrate contamination will begin in a mitigation level 1 or 2.

Level 1 Mitigation designations may be reevaluated every ten years. Level 2 Mitigation designations will be reevaluated after no fewer than three growing seasons, using nitrate concentration data collected from

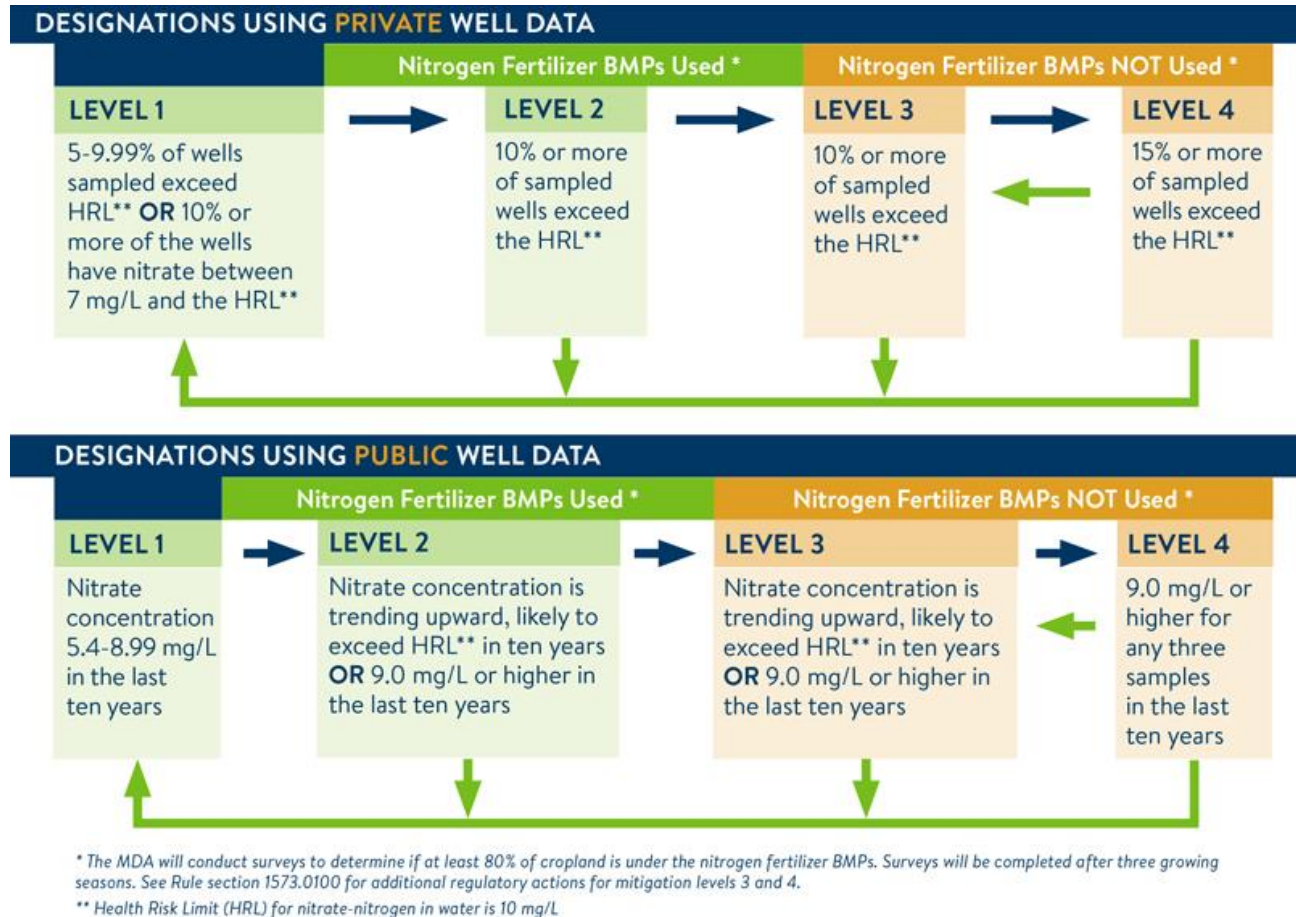
## Nitrogen Fertilizer Rule - Frequently Asked Questions

private and public wells and surveying the effectiveness of nitrogen fertilizer best management practices (BMPs). If nitrogen fertilizer BMPs are being used on 80% of cropland in the designated area (township or drinking water supply management area), it is unlikely the area will move up to a regulatory mitigation level.

### Mitigation Levels 3 and 4 (regulatory):

If nitrogen fertilizer BMPs are not being used and nitrate groundwater levels are over the health risk limits, the area may move to a regulatory mitigation level (3 or 4) by order of the Commissioner of Agriculture.

The criteria used to designate and reevaluate areas for mitigation are included in the table below.



## 10. What is a vulnerable groundwater area?

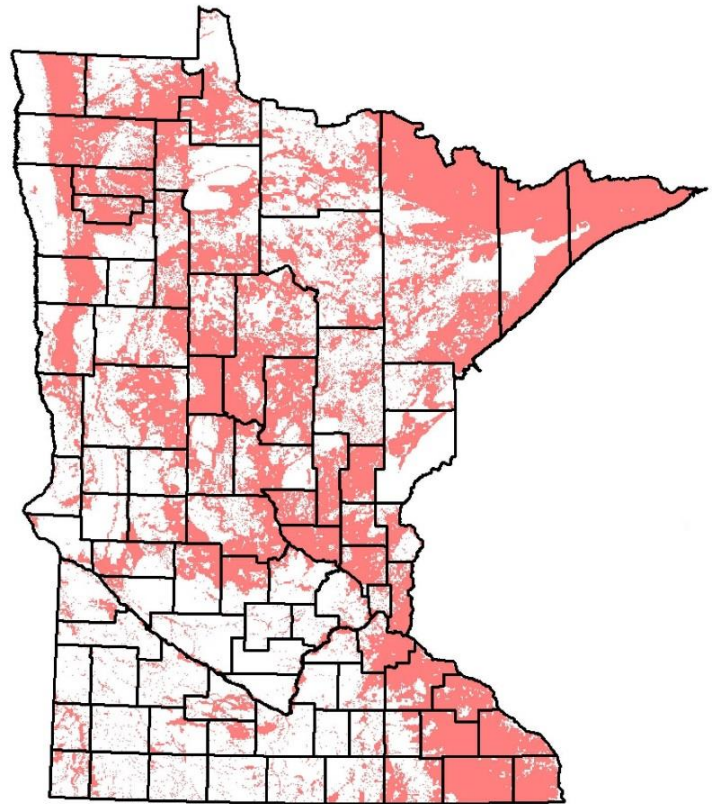
A vulnerable groundwater area is land where nitrate can move easily through soil and into groundwater. The criteria used to determine vulnerability includes the saturated hydraulic conductivity of a soil ( $K_{sat} \geq 10$  micrometers/second, roughly 1.42 inches/hour), or karst or bedrock at or near the surface. The saturated hydraulic conductivity of the soil profile was selected because it is a better indicator of groundwater infiltration than soil texture alone. Saturated hydraulic conductivity data come from the Natural Resources Conservation Service. The Department of Natural Resources Pollution Sensitivity of Near-Surface Materials Report was used to identify the locations of karst and near surface bedrock.

**11. How will I know if I live or farm in a vulnerable groundwater area and subject to Part 1 of the rule?**

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 includes the saturated hydraulic conductivity of a soil ( $K_{sat} \geq 10$  micrometers/second, roughly 1.42 inches/hour), the depth to fractured bedrock and karst geology. Vulnerable groundwater areas are considered the most vulnerable to pollution. The map on this page shows where the Rule may apply. Areas in pink are considered the most vulnerable to pollution.

More detailed maps showing vulnerable areas are available on MDA's web site at [www.mda.state.mn.us/nfr](http://www.mda.state.mn.us/nfr).

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.



**Draft Vulnerable Groundwater Area**

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.

**12. How will the Nitrogen Fertilizer Rule address manure?**

The Minnesota Department of Agriculture has the authority to regulate nitrogen fertilizer. The Rule calls for following the nitrogen BMPs. One of the BMPs is to properly credit all nitrogen sources, including manure, when determining the nitrogen fertilizer rate. The Minnesota Pollution Control Agency has the authority to regulate manure.

**13. What if I am already managing nitrogen fertilizer by using nitrogen fertilizer best management practices and the groundwater nitrate concentrations in my area still exceed the health risk limits?**

If the nitrogen fertilizer best management practices (BMPs) are implemented on more than 80% of the cropland in your area, regulations will not be required. If 80% or less of cropland in a township or drinking water supply management area (DWSMA) is not following the BMPs, then all of the township or DWSMA can move to a regulatory level.

In cropland areas with high nitrate concentrations in the groundwater, the Minnesota Department of Agriculture (MDA) strongly encourages farmers to consider using Alternative Management Tools or AMTs. In the Rule, Alternative Management Tools are defined as “specific practices and solutions approved by the commissioner to address groundwater nitrate problems.” Examples of AMTs include, but are not limited to, cover crops, annual crops, and alfalfa. The MDA will maintain a published list of approved AMTs. This list will be updated on an annual basis. Under the Nitrogen Fertilizer Rule, land with AMTs in place will be considered BMP compliant in the BMP survey.

**14. What are the consequences for not following the Nitrogen Fertilizer rule? What types of penalties will be enforced with the new rule?**

Non-compliance with the Nitrogen Fertilizer Rule will generally first be addressed by providing compliance assistance to the landowner. Except for cases that involve human endangerment, the general progression of penalties involves 1) education, 2) compliance assistance, and 3) enforcement.

The Minnesota Department of Agriculture (MDA) has the general authority to issue administrative, civil, and criminal penalties for violations of its rules through Minnesota Statutes 18D. Penalty actions are based on the severity of the violation and the facts of the case. The MDA takes a progressive enforcement approach, meaning that repeat violations will be met with stronger penalties than first violations.

Penalties would be issued only to those in violation of the fall/winter nitrogen fertilizer application restriction and to those who violate a Commissioner’s order for mitigation levels 3 and 4. If a regulated party disagrees with a proposed penalty, the party will have the opportunity to challenge it.