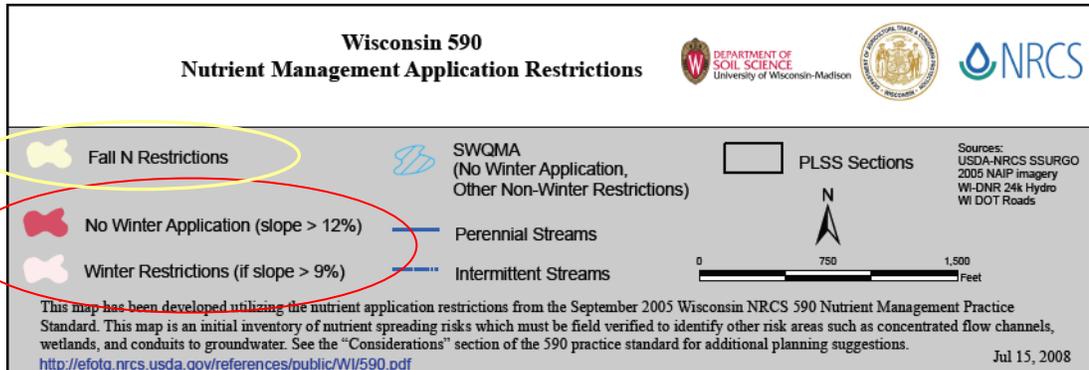




## Winter/Slope and Fall N Restricted Soils on My Farm



### Why do some soil types have a “Fall N Restriction”?

Areas identified in yellow on these maps are believed to be hazardous because of the strong possibility that they are direct conduits to groundwater. These soils fit into at least one of the following categories:

- Highly permeable, allowing water to flow downward very quickly, or
- Have less than 20 inches to bedrock
- Have less than 12 inches to the water table

### How does a fall N-restricted soil affect my farm management?

For fields containing an N-restricted soil type, the general rule of thumb is to restrict the majority of crop N applications to the spring. The following restrictions also apply and must be followed:

- **Fall application of commercial N to these soils is prohibited**, except for establishment of fall-seeded crops, in which case applications may not exceed 30 lbs of available N/acre.
- **Manure-N restrictions:**
  - When manure is fall-applied and soil temperatures are higher than 50° F:
    - use a nitrification inhibitor with liquid manure and limit rate to 120 lb N/acre, or
    - apply after Sept. 15 and limit rate to 90 lb N/acre, or
    - apply to perennial or fall-seeded crops and limit rate to 120 lb N/acre or crop N need, whichever is less.
  - When manure is fall-applied and soil temperatures are lower than 50° F, limit the application rate to 120 lb N/acre or the crop's N need, whichever is less.
- **On irrigated fields:**
  - split N applications, applying the majority of N after crop establishment, or
  - use a nitrification inhibitor with ammonium forms of N.

### Why do some soils have a No Winter Application restriction?

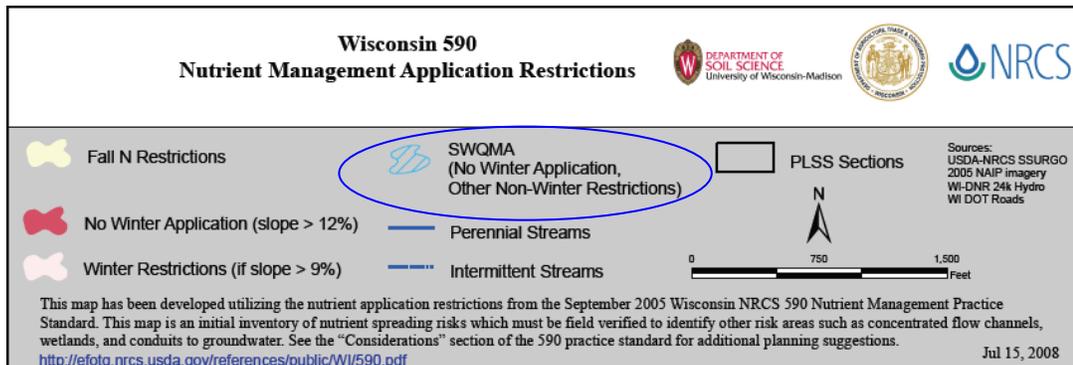
Winter applications of nutrients are prohibited on slopes greater than 12% due to high risk of erosion and nutrient losses (unless effective incorporation can occur at the time of application). Winter conditions are defined as having either frozen and/or snow covered soil. Areas that have been identified as having slopes greater than 12% are depicted in red on these maps.

### What does it mean to have a soil labeled with “Winter Restrictions (if slope > 9%)”?

The 590 Nutrient Management Standard restricts manure applications on slopes >9% (unless it is contour plowed, in which case manure applications can be made on slopes up to 12%). Many areas in Wisconsin have been mapped as having slopes between 6-12%; these soils are depicted in pink on the 590 NM Application Restriction maps. Fields labeled with this (pink) restriction must be checked to determine their actual slope.



## SWQMA Areas on My Farm



### What is a SWQMA?

A Surface Water Quality Management Area, or SWQMA, is defined as the area within 1,000 feet of lakes and ponds and within 300 feet of perennial rivers and streams. These areas are given special consideration due to the higher likelihood of soil and nutrients applied to these areas entering and polluting the water body.

### How does a SWQMA designation affect how I apply nutrients to my fields?

Nutrient application restrictions within a SWQMA are different for winter and other parts of the year.

#### Winter:

Nutrient applications are prohibited on frozen and/or snow-covered soils in SWQMAs (fields within 1,000 ft of lakes/ponds, or within 300 ft of perennial streams).

#### Non-winter:

Nutrient applications on unfrozen/non-snow covered ground in SWQMAs are restricted in the following ways:

- Nutrient applications must be accompanied by at least one of the following:
  - establishment of permanent vegetative buffers
  - maintenance of greater than 30% residue or vegetative cover
  - incorporation of nutrients within 3 days
  - establishment of cover crops after application
- Unincorporated liquid manure application rates are restricted based on soil type and soil moisture.
- Maximum acceptable rates for unincorporated liquid (less than 12% solids) manure applications are shown below. If these rates are not enough to meet the desired nutrient application rate (consistent with the 590 standard), you can may sequential applications. Wait at least 7 days or use the "allowable soil moisture description" below to make sure that the soil is dry enough for another application.

<b>Max. Unincorporated Liquid Manure Application Rate within a SWQMA on Unsaturated soils</b>			<b>Allowable Soil Moisture Description for Applications</b>
<b>Percent crop residue or vegetative cover on surface after manure application</b>	<b>&lt; 30%*</b>	<b>≥ 30%*</b>	
<b>Fine soil texture</b> <i>clay, silty clay, silty clay loam, clay loam</i>	3,000	5,000	<i>Easily ribbons out between fingers, has a slick feel.</i>
<b>Medium soil texture</b> <i>sandy clay, sandy clay loam, loam, silt loam, silt</i>	5,000	7,500	<i>Forms a ball, is very pliable, slicks readily with clay.</i>
<b>Coarse soil texture</b> <i>loamy sand, sandy loam, sand, peat, muck</i>	7,000	10,000	<i>Forms a weak ball, breaks easily.</i>

For more information about Nutrient Management and the NRCS 590 Nutrient Management Standard, please visit:

<http://www.datcp.state.wi.us/arm/agriculture/land-water/conservation/nutrient-mngmt/planning.jsp>