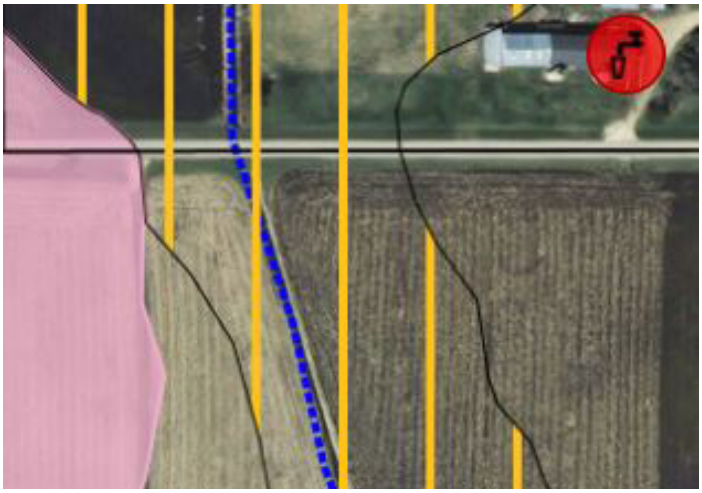
SnapPlus

Wisconsin's Nutrient Management Software



590 Nutrient Management Standard:
SnapMaps Legend Colors and Symbols Explanations

This publication explains the map symbols used in SnapMaps for nutrient management planning using Wisconsin's 590 Nutrient Management Standard.

SWQMAs (blue diagonal line patterns)

Surface Water Quality Management Area is an area 300 ft. (blue back-slash pattern) from a stream or river or 1,000 ft. (blue front-slash pattern) from a lake or pond. (Note: SWQMA is often pronounced as *swik-muh*.)

- ✓ **In the winter**, nutrient applications are prohibited when frozen soils or snow prevent effective incorporation.
- ✓ When it is <u>not</u> winter, nutrient applications are restricted. Any nutrient application must either be incorporated within 3 days <u>or</u> be accompanied by one of the following:
  - ✓ Permanent vegetated buffers.
  - ✓ Maintenance of more than 30% residue or vegetative cover (On long-term no-till fields with less than 30% residue or plant cover, nutrients can be applied within 7 days of planting).
  - ✓ Crop or cover crop establishment before or immediately after application.
- ✓ Unincorporated liquid manure application rates cannot be more than 12,000 gallons per acre at any one time.

SWQMA 1000 ft Dismissed (gray diagonal pattern)

Areas where the planner has turned off the SWQMA designation after determining the lake or pond indicated on the map is in error.

Tile lines (brown lines)

- ✓ Unincorporated liquid manure applications are limited to 12,000 gallons per acre.

Bedrock depth < 5 ft (orange areas with black outline)

Areas where bedrock is within 5 ft. of the surface have an increased risk of groundwater contamination.

- ✓ Commercial nitrogen fertilizer is prohibited in the late summer or fall except on fall-seeded crops or in blends with other fertilizers, maximum application rate is 36 lb N per acre.

Nitrogen (N) restricted soils (gold lines or squares)

Soils identified as having a high risk for allowing contaminates to leach through to groundwater have restrictions on N rates and timing.

- ✓ Fall applications of commercial nitrogen are not allowed on these soils except for up to 36 lb N per acre on fall-seeded crops or in blends with other fertilizers.
- ✓ Each soil type has additional restrictions as described below:

P (high permeability) Water moves through these soils relatively quickly.

- ✓ Fertilizer N in the spring and summer has to be applied in split applications with the majority post-planting or else applied with a nitrification inhibitor or in slow-release form.
- ✓ Late summer or fall manure N is limited to 90 lb N/a for spring-planted crops (i.e. corn, soybean) and 120 lb per acre for all other crops. Fall applications before spring-planted crops should be delayed until soil temperatures are less than 50°F <u>or</u> October 1, whichever comes first. If the manure has 4% dry matter or less, applications must be surface-applied or use a nitrification inhibitor.

R (bedrock likely to be within 20 inches of the soil surface)

- ✓ These soils have the same late summer and fall manure N guidelines as outlined above for P soils but do not have restrictions on spring or summer commercial fertilizer.

W (water table within 12 inches of the surface)

- ✓ Late summer or fall manure N is limited to 120 lb per acre.
- ✓ For fall-applied manure with 4% or less dry matter, the application is limited to 90 lb N unless one of the following is used: surface application; nitrification inhibitor; application to growing crop; cover crop established within 14 days; or application delayed until soil temperatures are less than 50° F <u>or</u> October 1, whichever comes first.

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March 2019

Exclusion areas (crosshatched areas, multiple colors)

Exclusion areas are drawn in SnapMaps and represent uncropped areas of a field that should not be included in the field acres for nutrient management planning.

- **Yellow** = not farmed
- **Green** = vegetated buffer
- **Black** = sinkhole/ other karst feature
- **Magenta** = grass filter area
- **Blue** = non-metallic mine
- **Purple** = other
- **Solid blue** = waterbody

✓ Nutrients cannot be applied in exclusion areas.

County Defined Karst Features (black triangle)

These are karst features mapped by the county in Brown, Door, Kewaunee and Manitowoc counties. They are considered direct conduits to groundwater.

✓ No fertilizer (except corn starter) within 50 ft.

✓ No manure within 50 ft. year-round and within 300 ft. in winter.

County-identified layers: Farms in Door and Kewaunee counties may have an area with local prohibitions (brown diagonal lines) and farms in Manitowoc county may have a white outline around an area contributing runoff to a direct conduit to groundwater (Contact the county for more information).

Municipal Wells (black symbol): Also known as Community Wells.

✓ Manure and other organic amendments may not be spread within 1,000 ft. unless treated to remove pathogens.

✓ Commercial nitrogen fertilizer is prohibited in the late summer or fall except on fall-seeded crops or in blends with other fertilizers, max. application rate is 36 lb N/a.

Points | Direct Conduits to Groundwater (various symbols)

The following may provide a direct pathway for water to carry contaminants from the surface to groundwater. Unless noted below, these have the following application setbacks:

✓ No fertilizer (except corn starter) within 50 ft.

✓ No manure within 50 ft year-round and within 300 ft in winter.

Drinking well is a private well for a household or farmstead.

Public well is a well that serves at least 25 people for at least 6 months per year. Also known as non-community potable water wells, examples include schools, restaurants and churches.

✓ No manure within 100 ft. unless its been treated to remove pathogens.

Irrigation well is used only for irrigation, never drinking water.

✓ No nutrient application within 8 ft.

Sinkhole is a depression in the ground that has no natural external surface drainage so that rainwater or runoff entering the sinkhole typically drains to the subsurface.

Non-metallic mine is typically a gravel pit or sand mine.

Nutrient prohibited areas (red areas)

Red areas on maps show where there is a prohibition on manure or other nutrient applications. SnapMaps automatically draws these areas around restricted areas, or planners can draw them to indicate places to avoid manure.

Concentrated flow channels (solid colored lines)

Grassed waterway, non-eroding channel or ditch: Natural and man-made channels where field runoff comes together as it drains from the field.

✓ Nutrients should not be applied directly to concentrated flow channels.

✓ Manure cannot be applied in winter to fields with concentrated flow channels unless at least two of the following conservation practices are followed: **a)** contour buffer strips or strip cropping; **b)** no residue removed and no fall tillage, **c)** intermittent applications on no more than half of the field; d) applications on no more than 25% of the field at a time, with 14 days between applications; **e)** applications limited to the lowest of 3,500 gallons or 30 lb P_2O_5 per acre; **f)** 200 ft. no-application set back from all concentrated flow channels; or **g)** fall tillage on contour (only applicable where slopes are less than 6%).

Ephemeral erosion channel: Can be removed by tillage but often reoccur in the same location year after year.

✓ Conservation practices must be implemented to control ephemeral erosion in fields where it is identified.

Gully: An eroding channel that cannot be tilled through.

✓ These areas should be repaired by establishing perennial vegetation.

Winter restrictions

Winter conditions are defined as having frozen or snow-covered soils that prevent effective incorporation at the time of application.

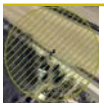
Winter restrictions slope > 6% (pink areas)

Areas in pink are likely to have slopes greater than 6%. For the WI 590 standard, winter manure applications on fields with slopes greater than 6% require special management to protect against manure runoff.

✓ At least two of the following conservation practices must be followed: **a)** contour buffer strips or strip cropping; **b)** no residue removed and no fall tillage, **c)** intermittent applications on no more than half of the field; **d)** applications on no more than 25% of the field at a time, with 14 days between applications; **e)** applications limited to the lowest of 3,500 gallons or 30 lb P_2O_5 per acre.

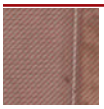
Channelized Flow 200 ft Buffer (orange diagonal lines)

This 200 ft. set back for winter manure applications is useful to show on the map if the setback is one of the two selected winter manure strategies for fields with concentrated flow channels. Note that this setback is not automatically removed from the winter spreadable acres.



Direct conduit to GW 300 ft (khaki diagonal line pattern)

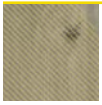
✓ Direct conduits to groundwater (described above) have a 300 ft. setback for winter manure applications.



Well compensation (red diagonal line pattern)

Areas where wells have been contaminated with livestock manure in the past.

✓ No liquid manure applications in February and March.



Silurian soils (yellow diagonal line pattern)

Soils likely to have less than 5 ft. of soil over Silurian dolomite bedrock. This type of dolomite bedrock has numerous cracks and fractures that can allow water to flow rapidly from the soil to groundwater.

✓ No liquid manure and/or organic by-products in February and March.