

## NR 151.075 Silurian Bedrock Performance Standards

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# Background

- NR 151 Targeted Performance Standard
  - Rule signed
  - Effective July 1, 2018
  - Areas in Brown, Calumet, Dodge, Door, Fond Du Lac, Kenosha, Kewaunee, Manitowoc, Milwaukee, Outagamie, Ozaukee, Racine, Sheboygan, Walworth, Washington, Waukesha



Last Revised November 2, 2017, by J. B. Baeten, WDNR

# Background

- Rule modification was developed to address land spreading of manure on soils in sensitive areas of the state
  - Depth to Silurian bedrock
    0-20 feet
- Result of groundwater studies that showed high percentage of private wells contaminated by fecal bacteria
- Targeted Performance Standard set to prevent pathogens from manure from entering groundwater



## NR 151 Performance Standards Silurian Bedrock

#### • For CAFOs:

- New regulations for fields in Silurian bedrock areas will be incorporated into existing permits when they are reissued or if the permit is modified
- Prior to reissuance, new regulations will apply to fields in Silurian bedrock areas added to a CAFO NMP after July 1, 2018 (substantial modification)
- 5-year NMP's and substantial revisions will be required to meet standard before submission by February 18<sup>th</sup>



## NR 151 Performance Standards Silurian Bedrock

#### For CAFOs:

- Compliance will be assessed, in part, via annual reports (of nutrient application) and on-site manure hauling audits.
- 2015 NRCS 590 must be followed in these areas.

#### Chapter NR 151

#### RUNOFF MANAGEMENT

subchapter I General Provisions		NR 151.124	Infiltration performance standard.
R 151.001	Purpose.	NR 151.125	Protective areas performance standard.
NR 151.002	Definitions.	NR 151.126	Fueling and vehicle maintenance areas pe
NR 151.003	BMP Location.	NR 151.127	Location.
NR 151.004	State targeted performance standards.	NR 151.128	Timing.
VR 151.005	Performance standard for total maximum daily loads.	NR 151.13	Developed urban area performance stand
R 151.006	Applicability of maximum extent practicable.	NR 151.14	Turf and earden nutrient management per
		NR 151.15	Implementation and enforcement.
subchapter l	II — Agricultural Performance Standards and Prohibitions		
R 151.01	Purpose.	Subchapter I	V - Transportation Facility Performan
R 151.015	Definitions.	NR 151.20	Purpose and applicability.
R 151.02	Sheet, rill and wind erosion performance standard.	NR 151.21	Definitions,
NR 151.03	Tillage setback performance standard.	NR 151.22	Responsible party.
NR 151.04	Phosphorus index performance standard.	NR 151.225	Construction site performance standard fi
R 151.05	Manute storage facilities performance standards.		routine maintenance.
NR 151.055	Progess wastewater handling performance standard.	NR 151.23	Construction site performance standard for
R 151.06	Clean water diversion performance standard.	NR 151.24	Post-construction performance standard.
R 151.07	Nutrient management.	NR 151.241	Post-construction performance standards
NR 151.08	Manute management prohibitions.	NR 151.242	Total suspended solids performance stand
NR 151.09	Implementation and enforcement procedures for cropland perfor-	NR 151,243	Peak discharge performance standard.
	manor standards.	NR 151.244	Infiltration performance standard.
NR 151.095	Implementation and enforcement procedures for livestock perfor-	NR 151.245	Protective areas performance standard.
	mance standards and rechibitions.	NR 151 246	Fueling and vehicle maintenance areas re-
R 151.096	Local livestock operation ordinances and regulations.	NR 151.247	Location.
R 151 097	Variances	NR 151 248	Timine
	and the second	NR 151 249	Savale in atment performance standard
subchapter l	III - Non-Agricultural Performance Standards	NR 151 25	Developed urban are a performance standa
R 151.10	Purpose.		the state of the s
R 151,105	Construction site performance standard for non-permitted sites.	NR 151.26	Enforcement
NR 151.11	Construction site performance standard for sites of one acre or more.		There are an a second
NR 151.12	Post-construction performance standard for new development and redevelopment.	Subchapter V — Technical Standards Development F tural Performance Standards	
R 151 121	Post-construction performance standards	NR 151 30	Purnose
SR 151,122	Total suspended solids performance standard.	NR 151.31	Technical standards development process
R 151 123	Back discharge performance standard	NR 151 32	Dissemination of technical standards.
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#### Subchapter I - General Provisions

NR 151.001 Purpose. This chapter establishes runoff pollution performance standards for non-agricultural facilities and transportation facilities and performance standards and prohibitions for agricultural facilities and practices designed to achieve water quality standards as required by s. 281.16 (2) and (3), Stats. This chapter also specifies a process for the development and dissemination of department technical standards to implement the non-agricultural performance standards are required by s. 281.16 (2) (b), Stats. If these performance standards and prohibitions do not achieve water quality standards, this chapter specifies how the department rung develop targeted performance standards in conformance with s. NR 151.004. Bissory: CO: 00:20::Respect Specifies 2002. No. 561.ett. 01-00.

#### NR 151.002 Definitions. In this chapter:

(1) "Adequate sod, or self-sustaining vegetative cover" means maintenance of sufficient vegetation types and densities such that the physical integrity of the streambank or lakeshore is (4) "Best management practices" or "BMPs" means structural or non-structural measures, practices, techniques or devices employed to avoid or minimize soil, sediment or pollutants carried in runoff to waters of the state.

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(5) "Combined sewer system" means a system for conveying both sanitary sewage and stormwater runoff.

(6) "Connected imperviousness" means an impervious surface connected to the waters of the state via a separate storm sever, an impervious flow path, or a minimally pervious flow path.

Note: An example of minimally pervious flow path would be roof ranoff flowing across alows of less than 20 fort, to the driveway, to the street, and finally to the storm sever. The department has a guidance document to ad in the application of this term that is available from the department at (608) 267–7694.

(7) "Construction sile" means an area upon which one or more land disturbing construction activities occur, including areas that are part of a larger common plan of development or sale where multiple separate and distinct land disturbing construction activties may be taking place at different times on different schedules but under one plan. A long-range planning document that

### **Overview of Rule**

- Broken out into 4 depth categories
  - 0-2ft, 2-3ft, 3-5ft, 5-20ft
- Mechanical application of manure is prohibited on less than 2ft to bedrock
- Options for Manure/Process Wastewater Applications (2-20ft):
  - Application rate/nutrient restrictions
  - Timing of application
  - Pathogen Reduction
- Pre-tillage and incorporation requirements, additional setbacks to sensitive features and areas, headland stacking restrictions, and winter spreading restrictions
- As the depths increase, restrictions decrease

# **General Requirements**

- Infield bedrock verification or best available map must be used
  - Currently SNAP maps has best available map for 0-20ft to Silurian bedrock
- Fields must be ranked for risk of pathogen delivery to groundwater
- If Pathogen reduction is selected as an option
  - Fecal coliform bacteria density must be shown to be less than 500,000 colony-forming units per 100 milliliter sample
- Pre-tillage exemptions for fields in long term no till, perennial or established crop
  - Surface applications limited to 6,750 gal/acre on 2-3ft to BR and 3-5ft to BR
  - Surface applications limited to 10,000 gal/acre on 5-20ft to BR

# **General Requirements**

- Mechanical application prohibited on frozen or snowcovered ground if 0-5ft to BR
- Headland stacking prohibited on frozen or snow-covered ground if 0-5ft to BR





# Setback Requirements

- Setbacks only required on Silurian BR areas
  - 1000ft from community well (Already CAFO prohibition)
  - 250ft manure setback to a private well
  - 300ft manure setback to direct conduits to groundwater
    - Wells, sinkholes, swallets, fractured BR at the surface, mine shafts, non-metallic mines, tile inlets discharging to groundwater, quarries, or depressional groundwater recharge areas over shallow fractured BR
  - 100ft manure setback to concentrated flow channel leading to a community well, private well, or direct conduit to groundwater
  - 100ft setback on or within Silurian BR in a closed depression
    - Unless manure is injected or incorporated within 24 hours prior to precipitation capable of producing runoff, whichever is first
    - Does not apply to no till fields, perennial veg fields or established crop
  - Surface application prohibited on slopes >6% that have flow channels that drain to closed depression
    - Unless manure is injected or incorporated within 24 hours prior to precipitation capable of producing runoff, whichever is first
    - Does not apply to no till fields, perennial veg fields or established crop



- An SOC team has been organized to come up with a technical standard regarding bedrock verification methodology
  - This team is lead by DATCP
  - Will be discussing verification methods as well as updates to current maps
  - A draft document is out for public comment
    - Includes multiple verification processes ranging from hand probs to seismic refraction
- The department is committed to assisting farms and NM planners with implementation of the rule change



## Nitrate Targeted Performance Standards

Chris Clayton Agricultural Runoff Section Chief (608) 333-9265



## Nitrate TPS Scope

#### December 2019

Natural Resources Board approved scope and public hearing authorization

#### Purpose of revising NR 151

To establish targeted agricultural nonpoint source performance standards that:

- Reduce nitrate pollution in areas of the state with highly permeable soils that are susceptible to groundwater contamination (sensitive areas)
- Achieve compliance with the nitrate groundwater standards

## Groundwater Data

had been and here ade



## **Technical Advisory Committee**

#### <u>Task</u>

Recommend targeted agricultural performance standards to achieve compliance with the nitrate groundwater standards

Provide input:

- Definition of sensitive areas
- Performance standards that will apply in sensitive areas

**Scheduled Meetings** 

• February – October 2020

Cropland within Nitrogen Restricton Area County Boundary **Civil Townships** Municipality Boundary LOREN

40 Miles

#### 590 N-Restricted Soils

- (P) high permeability
- (R) <20" bedrock
- (W) wet soils <12" water table
- Shallow Soils <5' to bedrock
- < 1,000' community well

## **Sensitive Areas**

Sensitive areas defined as:

- Nitrogen restricted soils means N restricted soils as provided in NRCS Technical Standard 590, dated December 2015.
- 2. Nitrogen restricted townships (to be defined in standard).

 $\sim 15\%$  of towns (PLSS)



N Restriction Soils - derived by merging datasets consisting of soils within 5 ft of bedrock, 1000ft buffer of community wells, and NM 590 High Permeability Soils, Rock Soils (less than or equal to 20 inches to bedrock), and Viet soils (which have an Apparent Water Table within 12 inches of the surface at any time of the year). Source: NRCS SURGO Soil, community wells (WDNR).

Tier 1 Townships are PLSS townships that have 10% of wells exceed ES and average nitrate concentration is greater than 5.0 mg/L. The data provides the average of nitrate/img/L) per Section in the state of Wisconsin then converted to Township. Well data gathered from 08/1972 - 03/2019 by UWSP GWC, DATCP, WDNR, Eau Claire and Lacrosse County.

Cropland data created from reclassifying 2019 CDL dataset

### Working Draft of Performance Standards & Prohibitions

Performance Standard:

Application of commercial fertilizer, manure, or other nutrients may not cause leaching of nitrate below the root zone in the soil to groundwater that will cause an exceedance of the groundwater quality standard for nitrate.

Irrigated Cropland Requirement:

Nutrient management plans must account for nitrogen applied through irrigation water to crops.

Prohibitions:

- Fall prohibition of commercial nitrogen fertilizer applications, with exceptions
- Fall prohibition of mechanical liquid manure applications, with exceptions



### Next Steps

- Complete the work of the Technical Advisory Committee
- Two public comment periods in 2021
  - Economic Impact Analysis
  - Draft rule
- Approval by Natural Resources Board, Governor and Legislature in 2021-2022
- Rule effective in mid-2022
- Creation of a technical standard and incorporation into ATCP 50

# **Contact Information**

- CAFO Permitting: Tyler Dix (608) 220-2096
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- CAFO Nutrient Management: Aaron O'Rourke (715) 214-5503
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  - Michael.Gilbertson@Wisconsin.gov
- Other policy questions: Chris Clayton (608) 333-9265
  - <u>Christopherr.Clayton@Wisconsin.gov</u>



# Questions?