

NR 151 TAC Meeting Notes
November 15, 2016
State Natural Resources Building (GEF 2) Room G09

Presenters: Maureen Muldoon, Dave Hart, Jason Nemecek, Eric Cooley, Joe Baeten

TAC Attendees: Jordan Lamb, Paul Zimmerman, Cameron Field (sub for John Holevoet), Scott Laeser, Matt Krueger (sub for Raj Shukla), Andy Wallander (sub for Dean Hoegger), Sarah Gatzke, Colin Geisenhoffer, John Ramsden, Sara Walling, Davina Bonness, Amy Callis, Mitch Breunig, Tim Strobel, Todd Willer, Nathen Nysse, Jen Keuning, Eric Cooley, Kevin Erb, Maureen Muldoon, Audrey Boerner, Pam Biersach, Mary Anne Lowndes.

Summary of the first TAC meeting was provided, along with a description of the purpose of today's meeting, focusing on the definition of sensitive areas and tools to use to verify soil depth.

Presentation: Hydrogeology of Wisconsin Karst Landscapes
-- Maureen Muldoon, UW – Oshkosh

This presentation provided information on extensive research of the hydrogeology in carbonate areas, primarily in northeast Wisconsin. This presentation can be found on the NR 151 rules changes web page at <http://dnr.wi.gov/topic/nonpoint/nr151strategy.html>.

Key differences between the geology of the easternmost part of the carbonate bedrock map and the southern and westernmost part were explained.

Questions to consider for a future presentation include:
What is the die off rate of pathogens during manure storage?
When manure is spread on field, what happens to die off rate of pathogens?
What is the die off rate of pathogens in groundwater?

Presentation: WGNHS Resources and Methods to Determine Depth to Bedrock
-- Dave Hart, WGNHS

Dave Hart gave a presentation on mapping tools and methods used by the Wisconsin Geological and Natural History Survey to measure depth of soil over bedrock and prepare maps. This presentation also demonstrated similar water quality issues in southwest and northeast Wisconsin. This presentation can be found on the NR 151 rules changes web page at <http://dnr.wi.gov/topic/nonpoint/nr151strategy.html> .

Presentation: NRCS Methods to Develop County Soil Maps
 -- Jason Nemecek, NRCS

Jason Nemecek presented on the status of the methodology used by NRCS to develop the county soil maps. No presentation slides were used.

Exercise: Which of the factors identified in the brainstorming session of the previous meeting should be incorporated into the definition of sensitive areas (where on the landscape would performance standards apply)?

Type of bedrock (fractured carbonate) should be included as a factor.

Subset of the fractured carbonate bedrock: Additional presentation would inform the necessity of including the driftless area in the 'sensitive area' definition?

In addition to the factors identified by the TAC, the principle factors used for the map of areas susceptible to groundwater contamination included:

- Depth to water
- Depth to bedrock
- Type of soil (0-60")
- Type of bedrock
- Characteristics of surficial deposits (> 60")

The TAC identified two of the factors for inclusion in the definition of sensitive area using the following table. Some of the discussion included which factors should be in a performance standard but this will be a topic for a later meeting.

**Factors related to Groundwater Contamination Susceptibility
 Should it be in the definition, as a performance standard or as a
 technical standard?**

Factor	Definition	Performance Standard	Technical/Guidance
Depth to bedrock	X		
Soil Type (0-60")		X	
Infiltration Rate			
Presence of macropores			
Depth to Groundwater			
Surficial deposits (> 60")		X	
Weather – precipitation forecast			

Weather – saturated soil			
Weather – sunny conditions			
Proximity to groundwater conduits			
Crop or bare soil			
Manure application process			
Proximity to wells			
Animal density			
Use of inorganic fertilizers			
Bedrock type	X		
Position in flow system			
Areas of focused infiltration			

Depth: There was no decision on what part of the carbonate bedrock area would be included in the sensitive area definition. There was a proposal to have soil thickness be set at 50' since there is a map with that depth identified. There was discussion on how to define what a useable tool to verify depth is.

Presentation: Mapping Carbonate Bedrock Surfaces in Glaciated Landscapes: ‘What Have We Learned’

-- Eric Cooley, Discovery Farms

A presentation was given regarding the options and challenges to determine depth of soil over carbonate bedrock. This presentation can be found on the NR 151 rules changes web page at <http://dnr.wi.gov/topic/nonpoint/nr151strategy.html>.

Presentation: Evaluation of Shallow Soils Over Carbonate Bedrock in Wisconsin and the Potential Impacts to the Agricultural Community.

-- Joe Baeten, WI DNR

A presentation was given on the amount of agriculture acres and number of dairy producers affected by a performance standard at soil depths of 0-5' over carbonate bedrock in Wisconsin. This presentation can be found on the NR 151 rules changes web page at <http://dnr.wi.gov/topic/nonpoint/nr151strategy.html>.

Action items for future meetings:

- DNR to provide a table of current manure restrictions between NR 151, 243, 590, ATCP 50, etc.
- Request to have Madeline Gotkowitz (WGNHS) present on southwest Wisconsin karst at the December TAC meeting.
- Request to have a speaker on soil type and pathogen predation/breakdown.
- Move February meeting because WLWCA Food, Land, and Water Project conflicts.