

NR 151 TAC Meeting Notes
February 16, 2017
Great Wolf Lodge
Wisconsin Dells, WI

Attendees: Scott Laeser, Kevin Erb, Nathen Nysse, John Ramsden, Davina Bonness, Eric Cooley, Amy Callis, Sara Walling, Tim Strobel, Jen Keuning, Mitch Breunig, Jim Winn (for John Holevoet), Paul Zimmerman, Mary Anne Lowndes, Jordan Lamb, Audrey Boerner, Dean Hoegger, Sarah Gatzke, Bill Eberle (for Todd Willer), Colin Geisenhoffer, Raj Shukla, Eric Birschbach, Roy Lemmenes, Maureen Muldoon, Ryan Temperly, Josh Noble.

Opening message describing the purpose of the meeting was presented by Mary Anne Lowndes.

Discussion on the challenges of nutrient management in southwest Wisconsin, Eric Birschbach, Ryan Temperly, Josh Noble.

- Not as many marshes and lakes in the driftless area.
- 1-2 T soil loss, need to minimize tillage to meet this target.
- Have not seen the same type of karst at the surface in the southwest as the alfalfa field in De Pere.
- They haven't done a lot of soil pits but they believe there could be a gravel and stone layer where the county maps say it is bedrock.
- Soil pits have revealed root depths from corn 5 feet deep, and alfalfa roots much deeper.
- Have not seen as much fracture growth patterns in fields in southwest, but they do exist in southwest and are easier to see during drought conditions.
- Strip cropping can intercept surface runoff. Challenge of dealing with surface applied manure to incorporate and still meet T.
- Solids and liquid are generally not incorporated
- They use contour strips on slopes
- They don't till on slopes
- They typically apply liquid at 5,000 gallons up to 16,000 gallons in really dry conditions.
- Southwest has beef cow/calf operations, dairy, and cash grain operations. There is some swine and minimal poultry. The amount of liquid manure in Lafayette Co. has increased over the last 20 years.
- Small farms are generally not pulled into larger farms but purchased by Amish or Mennonite farmers and remain as small farms.
- There are pockets where grazing is common.
- Lafayette County has 6 CAFOs – Cottonwood Dairy is one of them and Jim Winn was at the TAC meeting as an alternate for John Holevoet.

- Cottonwood has 2500 acres in 350-370 fields. They inject all liquid manure and they use contour strips. They can meet the 1-2 T limit with their operation. They are in a part of Lafayette County that is flatter with deeper soils.
- Geology is different in southwest than northeast.
- Winter spreading ordinances (county reviews fields to spread) in Manitowoc Co. and Brown Co. has reduced the number of brown water events, but does not prevent brown water events. Winter manure spreading plans have been effective in reducing the risk of brown water events. It's still the responsibility of the producer to not cause an environmental impact.
- Haulers can be limited for non-CAFOs because CAFOs have to get down to 6 months storage by November so the haulers work with the CAFOs first.
- There is a lot of sandstone in the SW that the public may not realize is there.
- The SW doesn't seem to have brown water events but wells are still reported as contaminated in the Stevens Point database for bacteria and nitrates.
- Winter cover crops are popular in southwest, plant into it, not harvested. Surface broadcast or drill in covers after crop harvest cover seed has had effective establishment.
- Resource impacts have been mostly related to surface water so that is where public interest has been, there is less interest in groundwater data collection. The northeast has had more public interest in groundwater and less surface water.
- Discussion occurred around under reporting of NMP implementation in the SW. DATCPs data comes from NRCS 590 compliant checklists that are submitted to them. If there are more NMPs than recorded, it could be because they are not submitted by the counties to DATCP, the counties don't have them or they are not NRCS 590 compliant.
- There was discussion on the inaccuracies of the NRCS soils layer. The NRCS county soils maps were generated using bucket auger and push probes. This data needs to be enhanced.
- Characterization of the soils may be difficult.
- Farms with fields having only a section of a field in a shallow soil area, how are farmers dealing with these situations? We need to be clear on what tests are appropriate and what maps to rely on.

Presentation on 'closed depressions' by Andrew Craig, WDNR.

Andrew Craig presented the recommendation of the Kewaunee County Workgroup and developed some drawings to illustrate the implications of the recommendations.

- There was some confusion about the recommendations that seemed to conflict. After the lunch break, the setback distance was clarified as having been developed for points that are areas susceptible to groundwater contamination and it didn't consider closed depressional areas at that time. This part of the recommendations would not include closed depressional areas.
- The closed depressional areas recommendation was for 20 feet of soil over fractured bedrock, which has been shown through research to be a problem in the NE, particularly during recharge events.
- There needs to be a tool if we have to determine the 20 feet. This already exists for the NE in the Sherrill maps. There are no maps for this in the SW.

- The discussion on whether we should consider if the groundwater elevation is less than 20 feet in this area determined that groundwater depth is a separate issue not to be covered by the scope of this effort.
- There continues to be concern that if these new rules and existing rules are not implemented then we will not see water quality improvement. Implementation is not part of the scope of this effort.
- The discussion on avoiding hydraulic overload by, for example, split applications became problematic where compaction and tillage are not desired.

May need to revisit this discussion in March.

Soil depth areas 5-20 ft.

3a. Avoid exceeding hydraulic load of the soil, greater than 36" depth to groundwater of bedrock NR 214.14

- Current rules don't allow applications on saturated soil conditions and no ponding of manure.
- There was discussion on split applications or apply all at one application. Is there better timing for manure applications to minimize nutrient loss and maximize uptake potential? Multiple applications are better than putting it all out at one time. Multiple passes may cause compaction issues.

3b. Solid manure applications according to A2809, and incorporate within 72 hrs.

- Discussion occurred regarding requirements based on site specific conditions. Is the risk of daily hauling seasonally, generally or geographically problematic.

3c. Don't inject or incorporate below 8" depth.

- *Consider keeping*

3d. As many applicable mitigation practices for 2-3 ft to bedrock soils.

New Issues to Consider

- Should we recommend winter spreading plans? Discuss in March meeting.
- Is it possible for NRCS or WGNHS to develop better maps with data that is behind the existing maps?

Site Assessment Criteria

Mary Anne presented the handout which was a compilation of the Kewaunee Workgroup Recommendations pulled into one place.

- (a) is only for 0-5 ft of soil over fractured bedrock

- (a) should the list of sources be an “and” or an “or” for field verification? Given that a list of maps are also included and not all would be available everywhere, the sentence structure would suggest it should be “or”.
- Discussion occurred regarding the liabilities of site assessment, abilities to site assess, and consistent methods identified across county boundaries. Verification may take a combination of assessment tools (i.e. NRCS soil surveys may not be accurate enough).

For soil depth ranges (20-40”), it would be encouraged to achieve the performance standards of the most restrictive depth (20”).

(b) and (c) are for 0-20 feet of soil over fractured bedrock

(b) Instead of yearly, consider spring because that is the time to see anything.

(c.) Discussion occurred on how to prove that the fields were verified. Recording this information and including it in the NMP is one way.

(d.) Create maps and show the restrictions.

(e.) Prioritize or rank fields in order from lowest to highest risk. Could this section also include something about a winter spreading plan?

Summary of information collected from the TAC (October through January)

Mary Anne presented a summary table of what DNR has recorded from the discussions to date. The request of the TAC was to think about their comments so far and whether we captured their concerns. Since the TAC didn’t have time to review this before the meeting, the invitation is open to send comments to Mary Anne via email up to two weeks before the March meeting so we can consider whether something needs to be a topic at that meeting.

Discussion was encouraged based on the summary for each topic area.

Sensitive Areas Definition:

- The 5 ft. soil depth maps exist for the entire area of the carbonates and this could be the depth identified in the definition.
- The 20 ft. soil depth maps exist in the NE and this could be the depth identified in the definition for the parts of the state where it is available.
- The 50 ft. soil depth maps exist for the entire area of the carbonates and this could be the depth identified in the definition.
- The point of using the 50 ft. map is to show that there is a greater risk of groundwater contamination which is evident from the groundwater susceptibility maps.

- Other maps could be developed.
- While we know that 20-50 feet represents a moderate risk for groundwater contamination, we did not propose any performance standards in this category
- The definition could just be for the Silurian Dolomite areas in the NE
- The definition could have two zones
- The definition could include soils slopes, etc. It could be expanded beyond type of bedrock and depth of soil over the bedrock
- Alternatively, soils, slopes, etc. could be incorporated into the performance standards.
- Can the rule include a variance option?
- Is there a way to allow for a functional equivalent (such as treatment) and the flexibility to allow for future technology and innovation?
- Encouraged to maintain flexibility in the rules to allow for options for the producers/agronomists if still protective.

Performance Standards

- The performance standard notes didn't include the concerns voiced about the SW part of the state including but not limited to the concern for surface application without incorporation. Need to acknowledge that the SW part is different.
- Recommended to expand on the geological differences between NE and SW.
- Consider ability to treat the manure would allow applications in all areas?
- There was discussion about what could be allowed if the manure was treated, if it was irrigated, or if some new technology came along.
- While having permanent markers can be a hindrance in the field, could the recommendation be that the information about shallow soils over bedrock and karst topography be passed on to future owners as maps?. Could the counties be the depository for this information so that future farmers and CCAs would have easy access to it?
- Recommend to require maintaining permanent markings for direct conduits, and pass along to next field operator. County GIS system?
- SNAP Maps could incorporate the features so that they could be geo-located on the tractor.

At the March meeting we will be covering the pros and cons of the recommendations, which ones read more like technical standards, revisit the sensitive area definition, closed depressional areas and winter spreading plans.

TAC members are encouraged to send any additional observations of the summary from the first four meetings to Mary Anne before the March 14, 2017 TAC meeting.