

Wisconsin Department of Natural Resource
Sensitive Areas and Management Practices Workgroup
Tuesday October 21, 2015, 1-4:30pm
Luxemburg Fairgrounds Expo Center, Luxemburg, WI

Workgroup Members: **Present** - Sarah Geers, Betsy Doolittle, Kevin Erb, Andrew Craig, Nathan Nyssee, Kevin Masarik, Jeff Polenske, Ryan Debroux, Mick Sagrillo, Andy Wallander, Lynn Utesch, Dale Konkle (for Bill Schuster), Joe Baeten, Don Niles, Bill Phelps, Kyle Burton, Brad Holtz, Sara Walling (via phone). **Absent**-Russ Rasmussen, Mary Anne Lowndes (DNR) and Tom Davenport (EPA).

Invited Speakers: Heidi Schmidt Marquez (DNR), Mark Borchardt (Research Microbiologist)

**Notes below are in order of discussion by Joe Baeten and Andrew Craig.

Welcome and Introductions (1:05pm)

Agenda Review

- No comments

Review September Meeting Notes

- The group discussed whether CAFO were only required to have nutrient management plans (NMP) and report manure spreading activities to state or local agencies. It was clarified:
 - other farms are required to have a NMP through various programs but are not required to report manure spreading activities, like CAFOs.
 - CAFO's are required to have a NMP, keep a daily spreading log and then submit an annual report of manure applications to DNR.
- Lynn Utesch expressed his concerns re: accuracy of CAFO reported manure applications and reporting frequency. Lynn suggested CAFO reporting be more frequent (within 30 days vs. annual basis). No action was taken on this suggestion because it was beyond the scope and purpose of the workgroup.

UW-Extension Karst Training Update

- The training in Green Bay was not held due to the lack of applications. A total of four people signed up for the training but, at a minimum, 10 participants are needed in order to hold the training.

November Meeting

- Three dates were selected from the DNR doodle poll.
- Some workgroup members expressed concern that EPA was not present for the meeting.
- It was recommended to make sure EPA can attend the next meeting.
- The majority of the work group settled on November 23rd to hold the next meeting.
- Andrew Craig will confirm with Tom Davenport (EPA) to make sure he can attend the November meeting. NOTE: Tom Davenport (EPA) confirmed by email that he will attend the November and December workgroup meetings.

Presentations

Ted Winkelman from Agropur was scheduled to speak, however, due to a scheduling conflict he could not make the meeting. Ted explained he would be willing to come speak during another meeting. He also stated Agropur has reduced and currently does very little land application within Kewaunee County.

Heidi S Schmidt Marquez (DNR) Presentation

- Andrew Craig will provide copy of presentation to all workgroup members by email.
- Questions following the presentation:
 - Are wastewater treatment plants operating with aerobic treatment?
 - Typically somewhere in the process is aerobic treatment.
 - Are any facilities complete anaerobic?
 - No, however it's common to have an anaerobic digester as one of the steps.
 - What percent pathogen kill is sufficient for discharge?
 - Not sure if discharge permits have standard pathogen percentage reduction. Each discharge permit has a specific pathogen limit that is partially based on where the discharge point is located and what technology is used for pathogen treatment. Some surface water discharge permits have a 200 FC/100 mL discharge limit.
 - No discharge permits reflect beach criteria for pathogens
 - Do the small wastewater treatment plants have all the steps described in the presentation?
 - No, they typically don't discharge to surface water and are held to different requirements.

Mark Borchardt Presentation

- Andrew Craig will send copy of the presentation by email to all workgroup members. NOTE: Andrew Craig will also send copy of Mark Borchardt's groundwater research proposal to DNR by email.
- The proposed research project has been funded by DNR (\$80,000).

- The project seeks to quantify the extent of groundwater contamination by nitrate-N, sanitary quality indicator bacteria, and enteric pathogens in Kewaunee County.
- The project has five objectives:
 - Design a randomized, synoptic sampling plan that evaluates groundwater quality throughout Kewaunee County. The randomized sample will be stratified by depth to bedrock. Collect and analyze samples from the randomized sampling frame for nitrate and indicator bacteria.
 - Sample a subset of wells from the randomized and stratified sampling frame on a bi-weekly basis (i.e., once every two weeks) to assess seasonal variation in groundwater quality.
 - Sample a subset of wells once per season (four times per year) for viruses and fecal markers capable of distinguishing septic versus bovine sources of contamination.
 - Install an automated sampling system on one or more wells in order to determine the timing of peak transport for viruses and indicator bacteria.
 - Perform statistical analysis of samples collected from this study and of existing water-quality data from Kewaunee County to assess whether these data can shed light on spatial and temporal patterns of contamination.
- Questions following the presentation:
 - How many wells will be sampled as part of the research?
 - ~420 wells.
 - Will well sampling allow for making statistically significant determinations for contamination rates at various rock depths (i.e., 0-5 feet, 6-20feet and > 20 feet)?
 - No. The amount of DNR funding (\$80,000) provided for this study will not allow for making statistically significant contamination determinations for various rock depths. However, this county wide, stratified, random sampling study design, in conjunction with Bonness and Masarik's 2014 groundwater study*, is an improvement upon using existing drinking water well data to identify sensitive areas spatially and temporally.

*= Bonness, D. and Masarik, K. 2014. Investigating intra-annual variability of well water in Lincoln Township. Final Report to Town of Lincoln, WI. http://www.uwsp.edu/cnr-ap/watershed/Documents/Lincoln_FinalReport.pdf

Break (3:15pm)

Resume Discussion (3:30pm)

Public Comments

- 1) Bill Iwen
 - Are we getting spray irrigation in Kewaunee County?
 - Manure irrigation is a legal method of application within Wisconsin. The DNR funded manure irrigation research does not support making changes to this policy.
 - Can septage waste be irrigated with manure?
 - Farms cannot irrigate septage waste via the septage standard.
 - Grade A farmers can't have septage in their lagoons; they will lose their Grade A milk license if they do.

Kewaunee County Agricultural Nutrient Balance

- This item was previously discussed at the September 22 workgroup meeting.
- DNR staff reviewed how and why manure N concentration values were revised and the assumptions it made regarding N uptake by legumes and extent of manure generated and applied both within and outside of Kewaunee County.
- Overall, there is no nutrient imbalance within Kewaunee County.
- The total amount of N, P and K utilized by existing Kewaunee county crops is higher than the total amount of manure nutrients produced by all dairy milking, dairy replacement and beef cows in the county.
- How were the tons of manure calculated?
 - Tons were determined by tons excreted.
- It was recommended that if the nutrient balance is evaluated further that 6,500 gallons/cow and the nutrient values from the Midwest Plan Service be used.

DNR and Kewaunee County Practices Discussion

- Crop rotations should be considered as a practice (e.g., to build up organic matter and increase soil infiltration/absorption of nutrients). The 2007 Karst report did not address crop rotations.
- Workgroup Management Practice Recommendation: All nutrient sources and not just manure should be considered by the workgroup when making practice recommendations.
- Manure from a flush system is different than manure that is pumped from a reception tank to the lagoon and land application practices could be different.
- Workgroup Management Practice Recommendation: Base practices on manure type and not farm size. Manure characteristics (e.g., solids, nutrient and pathogen content) help better define groundwater contamination risk(s) and should be a primary criteria for practice recommendations.
- Workgroup should consider the regulatory discrepancies between CAFOs and non-CAFOs when drafting recommended practices for manure applications. Example: if a

small farm puts manure in a CAFO lagoon he can't take the manure back and apply it on his land later on if he has shallow soils (i.e. the manure is now considered CAFO manure).

- The workgroup may attempt to describe some of the 'trade offs' associated with recommended practices. Example: Practice X is avoid applying liquid manure on soils with < 2 feet to bedrock before or during the growing season– How many total acres in county will be reduced by this recommendation? Some areas of the county will be more impacted by this recommendation than others. Are there enough remaining acres in these areas to maintain a nutrient balance? Are other recommendations (e.g., crop rotation changes) needed in conjunction with practice X?

Workgroup Homework

- Each member was asked to develop a set of 5-10 recommendations for the next meeting that they support. Members are encouraged to use the meeting materials already reviewed/discussed or provided at prior workgroup meetings as basis for recommendations.
- The recommendations should be submitted at least 2 days ahead of the next meeting date to Joe Baeten (Joseph.Baeten@Wisconsin.gov) and Andrew Craig (Andrew.Craig@Wisconsin.gov).
- Don't include your name on the recommendations.
- Workgroup members may also submit topics/subjects for further discussion that may lead to recommendations before the next meeting.

Adjourn (4:40pm)