

**Kewaunee Groundwater - Compliance Workgroup
Final Agenda and Meeting Notes
Friday, September 11, 2015, 9-12PM
Coughlin Building/Oshkosh Service Center, 625 E, Cty Rd Y, Oshkosh**

Bold items from agenda – notes are in italics

Attendance - Workgroup members present: Russ Rasmussen, Kyle Burton, Bill Phelps, Mary Ann Lowndes, Davina Bonness, Joe Johnson, Judy Polczynski, Glenn Selner, Nick Guilette, Marty Nessman, Heidi Schmitt-Marquez, Lee Luft, Dean Hoegger (for Sarah Geers), Jodi Parins (for Mick Sagrillo), Cheryl Burdett, Dean Maraldo, Paul Cornette and Casey Jones

Agenda Item
<p>Convene Meeting, Welcome and Introductions (<i>meeting start at 9am</i>) Workgroup Purpose, Membership, Ground Rules and Scope & Review Meeting Dates/Locations – Casey Jones (workgroup chair)</p> <ul style="list-style-type: none"> • <i>Jones proposed every other meeting be in Luxemburg; Parins motioned to have all future meetings in Luxemburg. It was agreed that all future meetings are to be held at County LCD office location in Luxemburg.</i>
<p>Background – How did we get here and where are we going? – Russ Rasmussen (DNR)</p> <ul style="list-style-type: none"> • <i>Request/petition to EPA from Kewaunee County citizens</i> • <i>WDNR and EPA met and decided WDNR would take the lead</i> • <i>Three meetings with local farmers, government agencies, and petitioners were held</i> • <i>Concluding these three meetings 5 subgroups were developed; this being one of those sub groups</i>
<p>Compliance Overviews by Agencies:</p> <p>DNR Stepped Enforcement Overview – Judy Polczynski (DNR Environmental Enforcement Supervisor)</p> <ul style="list-style-type: none"> • <i>Discussed environmental enforcement staff roles with environmental programs</i> • <i>Reviewed stepped enforcement process (informal, written, NON, NOV, Enforcement Conference, Consent Order, DOJ, etc.)</i> <p>Septic System Compliance Overview – Glen Selner (County Zoning)</p> <ul style="list-style-type: none"> • <i>Hand-out provided with summary of sanitary system inspections conducted in Kewaunee County (attached)</i> • <i>County zoning has a GIS system to track septic systems</i> • <i>County zoning inspects all newly installed systems</i> • <i>Old systems are reviewed with use of air photos, soil map review—if found to be a non-compliant system, typically one year timeline is provided to upgrade system (order issued by county)</i> • <i>Estimate provided by Parins: “<1% of waste in Kewaunee County is from septic systems”</i> <p>Well Installation / Replacement Overview – Marty Nessman (DNR Private Well Program)</p> <ul style="list-style-type: none"> • <i>Provided overview of NR 812 Wisconsin Administrative Code</i> • <i>DNR does not seek out non-compliant private wells</i> • <i>Primary role of DNR staff is to oversee installation of newly drilled wells to ensure proper installation is done (over 10% of all new wells are inspected by DNR)</i> • <i>When a private well is suspected to be contaminated with manure, DNR drinking and groundwater program staff work with DNR runoff staff to investigate potential sources</i> • <i>MST (microbial source tracking) is an analytical test that is sometimes conducted in e coli positive wells if manure contamination is suspected; the test is a present/absent test—oftentimes both human and bovine (cow manure) genomes are detected</i> • <i>It was suggested that Mark Borchardt (USDA) present the specifics regarding genetic source tracking</i>

at a future meeting. *NOTE: The Sensitive Areas and Management Practices Workgroup have Mark Borchardt scheduled to attend their October 21st meeting.*

Farm Production Site and Cropland Compliance Overview – Davina Bonness (County LCD) & Joe Johnson (NRCS)

- *County does site compliance walk-overs of farm production sites and cropland for those participating in farmland preservation or other tax credit programs—these are tracked in a GIS mapping database*
- *County has animal waste storage ordinance and recently passed "Public Health & Groundwater Protection Ordinance" which regulates the application of all wastes on 20 feet or less to bedrock from January 1-April 15*
- *County does not enforce compliance of manure applications/plan requirements*
- *80% of cropland in Kewaunee County is covered under a nutrient management plan (NMP)*
- *County does map karst features (sinkholes, exposed fractures, etc.) and shares GIS layers with public when requested*
- *NRCS works with landowners on conservation practices—these records are confidential by law; NRCS and county LCD work together on a lot of projects*

CAFO Production Site and Cropland Compliance Overview – Casey Jones (DNR Agricultural Program)

- *Overview of DNR Agricultural Runoff Program discussed with primary focus on large CAFO regulations*
- *Written landowner agreements are summarized by landowner name in CAFO NMP narrative, however, written agreements only requested if CAFO does not have surplus land base*
- *In areas with high density of CAFO farms, DNR is having overlapped fields in multiple CAFO NMPs be placed in one CAFO NMP only*
- *Staffing levels limit compliance oversight capabilities but Northeast Region still plans to do manure hauling audits of CAFOs when applying manure to cropland.*

Industrial/Municipal/Septage Wastewater Land Application Overview - Heidi Schmitt-Marquez (DNR Wastewater Program)

- *Discussed DNR wastewater program codes/regulations for septage, industrial and municipal wastes.*
- *If offsite waste placed into a manure storage facility exceeds 10% of total volume the mixture would be considered industrial waste subject to additional sampling, storage and land application requirements; if less than 10 %, the mixture is considered animal waste*
- *Summary sheet provided to the Sensitive Areas and Management Practices Workgroup is attached*

EPA Jurisdiction / Delegation Overview – Cheryl Burdett (US EPA)

- *EPA has presence in all region 5 states, inspections of livestock facilities are focused on production site discharges from medium and large operations*
- *EPA does not have authority over groundwater discharges from livestock facilities*
- *EPA/DNR/County LCD consult and share information—only one agency takes enforcement action although there may be overlapping authorities*

Note: DATCP – unable to attend (may present at next meeting if needed)

General Discussion/Comments:

- *A comparison of DNR regulations for land application of different wastes is attached for reference*
- *A summary document of agency roles and regulations should be developed (Jones will start this task)*

Panel Discussions:

Non-farm Public Perspectives on Compliance – Dean Hoegger (Clean Water Action Council), Jodi Parins and Lee Luft (County residents)

- *See attached written comments from Mick Sagrillo and Lee Luft*
- *Status of complaint response and follow-up should be more transparent/readily available to the public*
- *More information is necessary to fully assess options (How many cows? How much waste?)*
- *Fees or taxes should be available to fund compliance resources*
- *NMPs are not protective of water quality, just an agronomic standard for crop yields*
- *NONs and other enforcement has declined since 2012*
- *Third party compliance checks may be an option*
- *Need more inspections/field presence by DNR*

Farm Perspectives on Compliance – Nick Guilette (crop consultant), Paul Cornette (dairy farmer)

- *Focus on oversight/compliance of current regulations (not make new ones)—streamline the agency contacts; create a summary flow chart of which agency regulates what*
- *“Constant contact” communication to farmers regarding upcoming deadlines, requirements, etc. Better communication of expectations and requirements in a timely manner will assist farmers with appropriate decision-making (i.e. DNR requirements for approval of emergency liquid manure applications on frozen ground)*
- *Have CAFO owners report to DNR (hotline/email) when hauling has started so there is always the chance that fields may be inspected by DNR—may promote better compliance*
- *Manure audits by DNR are effective to educate and get changes made*
- *DATCP mapping and Snap Plus functionality needs to improve (Nick or Paul, please provide specific recommendations to DATCP if you have not already).*
- *Provide more information to the public at hearings—not just a general summary/statement on the current permit applicant or reissuance.*
- *Standard 590 may not be fully protective, but does take water quality into consideration by having recommendations that may minimize entry of nutrients into surface and groundwater*

Public comments/questions

- *Elizabeth Wheeler (Clean Wisconsin) stated that she requests to be added as a team member and will submit comments in writing*
- *Dean Hoegger (Clean Water Action Council) stated that he requests to be added as a team member*
- *Lynn Utesch (Kewaunee Cares, County Citizen) stated that DNR stepped enforcement is not working; more compliance oversight and stronger enforcement actions are needed. Some CAFO facilities have a long history of noncompliance that is not considered in enforcement decisions on new violations. More timely inspections are necessary. Written landowner agreements for fields to receive manure from CAFOs should be submitted to DNR within NMP. DNR should investigate all e coli positive wells.*

Team Goals Discussion:

- **Inform - Outreach Needs (General Public and Regulated Entities)**
- **Oversee - Monitor compliance (Where Improvement are Needed / Where to Focus Efforts With Limited Resources)**
- **What Else??**

Although topic was discussed through questions/conversation throughout meeting, this agenda item was not specifically addressed due to running out of time. Will be focus of next meeting.

Adjourn *(meeting ended at approximately 1pm)*

SANITARY SYSTEMS IN KEWAUNEE COUNTY

AS OF 8/27/15

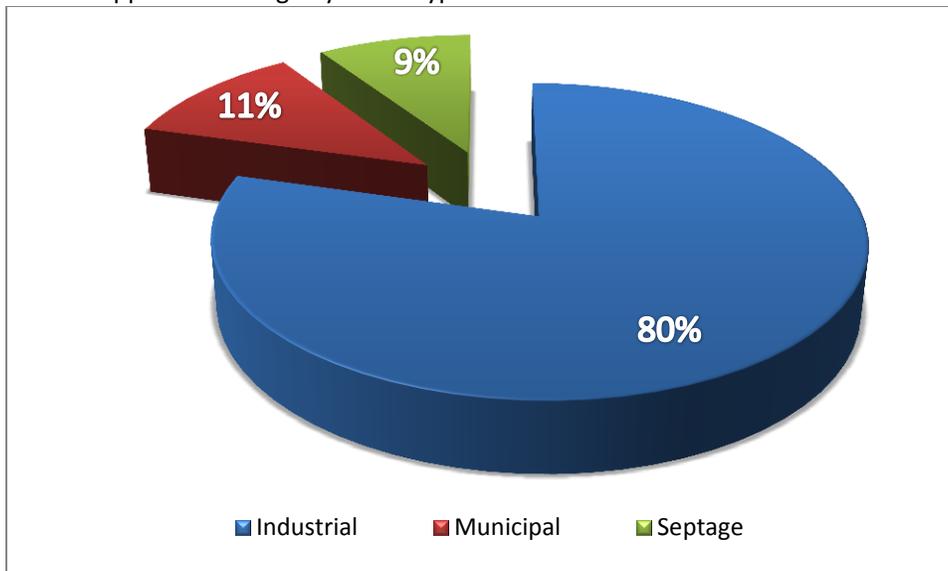
TOWNSHIP	TOTAL # OF ALL SYSTEMS	TOTAL # OF INSPECTED & COMPLIANT SYSTEMS	TOTAL # OF NOT INSPECTED SYSTEMS
AHNAPEE	435	329	106
CARLTON	467	357	110
CASCO	476	374	102
FRANKLIN	440	338	102
LINCOLN	385	324	61
LUXEMBURG	565	460	105
MONTPELIER	551	403	148
PIERCE	413	352	61
RED RIVER	463	391	72
WEST KEWAUNEE	535	428	107
VILLAGE OF CASCO	6	5	1
VILLAGE OF LUXEMBURG	4	4	0
CITY OF ALGOMA	12	9	3
CITY OF KEWAUNEE	33	22	11
TOTAL	4785	3796	989

PLEASE NOTE: THE NUMBERS ABOVE ALSO INCLUDE 158 "NOT IN USE" SEPTIC SYSTEMS. OF THE 158 "NOT IN USE" SYSTEMS, 82 ARE NOT INSPECTED SYSTEMS AND 76 ARE INSPECTED SYSTEMS. THEREFORE WE HAVE 907 NOT INSPECTED SYSTEMS THAT ARE BEING USED AND 3720 INSPECTED SYSTEMS THAT ARE BEING USED.

Summary of Wastewater Land Application in Kewaunee County

- Wastewater includes industrial wastes, municipal waste/sludge, and septage waste.
- Applicable administrative codes:
 - Chapter NR 113, SERVICING SEPTIC OR HOLDING TANKS, PUMPING CHAMBERS, GREASE INTERCEPTORS, SEEPAGE BEDS, SEEPAGE PITS, SEEPAGE TRENCHES, PRIVIES, OR PORTABLE RESTROOMS.
 - Chapter NR 204, DOMESTIC SEWAGE SLUDGE MANAGEMENT.
 - Chapter NR 214, LAND TREATMENT OF INDUSTRIAL LIQUID WASTES, BY-PRODUCT SOLIDS AND SLUDGES.
- Definition of terms:
 - Industrial waste (per NR 214.03):
 - “By-product solids” means waste materials from the animal product or food processing industry including, but not limited to: remains of butchered animals, paunch manure and vegetable waste materials such as leaves, cuttings, peelings and actively fermenting sweet corn silage.
 - “Liquid waste” means process wastewater and waste liquid products, including silage leachate, whey, whey permeate, whey filtrate, contact cooling water, cooling or boiler water containing water treatment additives, and wash water generated in industrial, commercial and agricultural operations which result in a point source discharge to a land treatment system.
 - “Sludge” means the accumulated solids generated during the biological, physical or chemical treatment, coagulation or sedimentation of water or wastewater.
 - Municipal waste (per NR 204.03):
 - “Sewage sludge” or “sludge” or “biosolids” means the solid, semi-solid or liquid residue generated during the treatment of domestic sewage in a treatment works. Sewage sludge includes scum or solids removed in primary, secondary or advanced wastewater treatment processes and material derived from sewage sludge. Sewage sludge does not include ash generated during the firing of a sewage sludge incinerator or grit and screenings generated during preliminary treatment of domestic sewage in a treatment works. Note: All 3 terms defined here are interchangeable and recognized by the department, as they are all in common use.
 - Septage (per NR 113.03):
 - “Septage” means the wastewater or contents of septic or holding tanks, dosing chambers, grease interceptors, seepage beds, seepage pits, seepage trenches, privies or portable restrooms.

Current approved acreage by waste type:



Industrial = 13,944.1
Municipal = 1,983.3
Septage = 1,631.3
Total = 17,558.7 acres
– 13.5% of 130,000 acres of agricultural land available in Kewaunee County

Industrial facilities = 10
Municipal facilities = 7
Septage businesses = 2

Table 1. List of facilities/businesses that are approved to land apply industrial, municipal, and septage waste in Kewaunee County.

Facilities Included in this Summary	Waste Type	Facility/Business Location Based in Kewaunee County	Approved Land Application Sites* in Kewaunee County
Agropur Inc Luxemburg	Industrial	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
BelGioioso Cheese Inc Denmark	Industrial	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
BelGioioso Cheese Inc Langes Corner	Industrial	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Dominion Energy Kewaunee, Inc	Industrial	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
JBS Green Bay Inc Lime Kiln	Industrial	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Land O Lakes Inc Denmark	Industrial	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
NEW Organic Digestion LLC	Industrial	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Packerland Whey Products Inc	Industrial	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Sanimax USA LLC	Industrial	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Thiry Daems Cheese Factory Inc	Industrial	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Algoma WWTF	Municipal	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Appleton WWTF	Municipal	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Casco WWTF	Municipal	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Denmark WWTF	Municipal	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Kewaunee WWTF	Municipal	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Luxemburg WWT	Municipal	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Sturgeon Bay Utilities WWTF	Municipal	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Pelishek Sanitation	Septage	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Renier Sanitation Service	Septage	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

* Includes manure storage structures approved for industrial waste storage.

Table 2. Total amount of acres in Kewaunee County used for land application of wastewater by the facilities identified in Table 1, 2010-2014.

Year	2010	2011	2012	2013	2014
Total Acres Land Applied	2,484.4	2,158.1	1,272	759.2	705.5

ADDITIONAL NOTES:

- This information was compiled on August 25, 2015, and is subject to change based on permittee operations/activities within the parameters and requirements of their WPDES permits.
- Permittees with land application outfalls may change their approved sites at any time, which includes applying for new sites and/or abandoning sites that they no longer use.
- The total acreage approved for land application only represents what is available for land application, not what is used every year for land application of wastewater. Facilities are able choose which sites from their approved list to use for land application during a crop year. This decision is usually affected by proximity of sites, availability of sites/crop rotation, and volume of wastewater produced.
- Some facilities reserve certain sites for only emergency usage, which means that those sites are only used when the usual sites or disposal methods are not available.

- Once land application sites are reviewed and approved by DNR, the facilities can manage those sites according to their needs as long as all WPDES permit and administrative code requirements are met at all times.
- Land application is a complex process to manage for facilities and can become more of a logistical burden than a benefit (cost, equipment, availability of acreage, site management, employee/hauler management), which results in reducing land application activity.
- Table 2 shows that the total amount of acreage in Kewaunee County used for land application of wastewater has steadily decreased over the past 5 years. This is due, in part, to one of the major industrial land applicators in Kewaunee County (Agropur Luxemburg) undergoing a wastewater treatment plant upgrade in 2013 and essentially eliminating land application as a disposal method.
- According to wastewater program records, the following manure pits are approved for industrial waste acceptance in Kewaunee County:
 - Deer Run Dairy pit; located in the Town of Franklin; approved for less than 10% industrial wastewater from JBS.
 - 3 pits owned by Gerald Stahl; located in the Town of Luxemburg; approved for industrial sludge from Sanimax.

Wastewater Storage Options

1. Industrial Wastes:
 - a. Liquid wastewater
 - i. Chapter NR 214.17(1): Exemption for less than 10% industrial waste in manure pits.
 1. Industrial liquid wastes mixed into liquid manure at a volume less than 10% of the volume of the mixture at the time it is landspread may be exempted in writing by the department on a case-by-case basis from the requirements of s. NR 214.17 (2), (3), (4) and (7) if the liquid waste mixture has beneficial properties as a soil conditioner or fertilizer, is applied in accordance with accepted agricultural practices and does not cause detrimental effects.
 - a. Manure/industrial waste mixture is land applied to fields owned/operated by the manure pit owner and is regulated as animal waste.
 - b. Land application sites for this manure/industrial waste mixture are not required to be reviewed and approved for industrial waste application.
 - c. Industrial waste generator is required per WPDES permit requirements to keep records of the waste volume disposed of in manure pits and the hauling schedule of the pit to ensure the less than 10% waste volume requirement is met at all times.
 - i. This information is reported to DNR via annual reports.
 - d. Industrial waste disposed of in manure pits through this exemption should be accounted for in the nutrient management plan for the farm that owns/operates the manure pit.
 - ii. This exemption is available only for liquid industrial waste/wastewater. It is not available for industrial sludge or by-product solids.
 - b. Liquid wastewater >10%, industrial sludge, and by-product solids.
 - i. Chapter NR 213 – LINING OF INDUSTRIAL LAGOONS AND DESIGN OF STORAGE STRUCTURES.
 1. Industrial wastewater storage greater than 10% allowed in NR 214.17(1) = 100% waste storage and requires review and approval in accordance with NR 213 standards.
 - a. Any waste mixture containing greater than 10% liquid industrial waste volume is managed as industrial waste and all WPDES permit requirements of the waste generator and NR 214 apply for the monitoring and disposal of that waste.
 2. Any volume of industrial sludge and by-product solids proposed for storage requires review and approval in accordance with NR 213 requirements.
 - a. Fields identified for land application of this waste are required to be reviewed and approved in accordance with NR 214 and the waste generator's WPDES permit. All permit and code requirements apply at all times.
 3. Industrial waste generator is required per WPDES permit requirements to keep records of the sampling/monitoring, waste volume disposed of in manure pits/storage facilities, the approved sites used for disposal, and the application rate for each site.
 - a. This information is reported to DNR via annual reports.
2. Municipal waste/sludge.
 - a. Chapter NR 110.26 – SEWERAGE SYTEMS: Sludge handling, storage and disposal.
 - b. Chapter NR 204.10: Storage facilities.
 - i. Any volume of municipal waste/sludge proposed for storage requires review and approval in accordance with NR 110 and NR 204 requirements.

- ii. All requirements of the waste generator's WPDES permit and NR 110 & 204 apply at all times.

3. Septage waste.

a. Chapter 113.12: Septage storage facilities.

- i. Small storage facilities – capacity of less than 25,000 gallons of waste storage.
 - 1. Allowed if the storage facility has been previously approved under ch. SPS 383 or meet the standards in NR 110 and DNR is notified of the activity via Form 3400-137, Septage Storage Facility Permit Application.
 - 2. Permits are not usually issued for small facilities but can be on a case-by-case basis.
 - 3. Waste cannot be stored for longer than 2 years.
 - 4. Waste disposal must follow all requirements of NR 113.
 - a. Disposal volumes reported to DNR via annual reports.
- ii. Large storage facilities – capacity of greater than 25,000 gallons of waste storage.
 - 1. Specific WPDES permit required.
 - a. Submission of WPDES permit application materials.
 - 2. Facility meets NR 110 standards.
 - a. Plan and specification approval required by DNR plan review engineers.
 - 3. Inspection and adequacy of sealing report submitted and accepted by DNR.
 - 4. Waste cannot be stored for longer than 2 years.
 - 5. Waste disposal must follow all requirements of NR 113.
 - a. Disposal volumes reported to DNR via annual reports.

iii. Other storage facilities.

- 1. Includes manure pits.
 - a. Pits under buildings where animals are housed are not allowed.
 - b. Potential conflict if farm has a grade A dairy license.
 - c. Pit must meet NRCS 313 standards.
 - d. Submission of Form 3400-137 required.
 - e. Waste cannot be stored for longer than 2 years.
 - f. All requirements listed in NR 133.12(4) must be followed.
 - i. Submit a report that includes:
 - 1. The location of the storage facility;
 - 2. The type and volume of the storage facility including construction and sealing details;
 - 3. Sufficient site characteristics information to evaluate the environmental impact and suitability of such waste storage;
 - 4. The name and address of the owner of the storage facility;
 - 5. Any contractual arrangements involved;
 - 6. The type and composition of any wastes other than septage to be stored at the facility;
 - 7. Annual sampling and analysis of the combined wastes in accordance with requirements in the permit;
 - 8. The methods to be used for landspreading the septage or septage mixture; and
 - 9. *If septage makes up 10% or more of the mixture in the storage facility or if there are 25,000 gallons or more of septage in the mixture, a certification statement that the entire contents of the storage facility shall be landspread in accordance with this chapter.*

Parameters	NR 214.17 (Industrial Wastewater and By-Product Solids)	Code Reference	NR 214.18 (Industrial Sludge)	Code Reference	NR 204 (Municipal Biosolids)	Code Reference	NR 113 (Septage, Holding Tank, and Grease Trap Wastes)*****	Code Reference	NR 243 (Animal Feeding Operations) Spring, Summer, Fall Spreading	Code Reference	NR 243 (Animal Feeding Operations) Winter Spreading*	Code Reference
Soil Characteristics												
Available Water Capacity	limitations considered by WDNR review staff	NR 214.17(4)(a)	limitations considered by WDNR review staff	NR 214.18(4)(a)	5 inches above high GW or BD	NR 204.07(3)(c)	allowed if > 5 inches above GW and BD	NR 113.07(3)(b)	NA	NA	NA	NA
Permeability	limitations considered by WDNR review staff	NR 214.17(4)(a) and NR 214.17(4)(d)(2)	limitations considered by WDNR review staff	NR 214.18(4)(a)	allowable if rate is ≤6 inches/hour	NR 204.07(3)(d)	allowed if rate ≤ 6 inches per hour	NR 113.07(3)(b)	limit application rate to 90-120 lbs N (fall applications only)	NR 243.14(1) and NRCS 590(V.)(B.)	NA	NA
Vertical Setbacks												
Depth to Bedrock >36"	max/acre week = 27,000 gallons**; case-by-case basis	NR 214.17(2)(h) and NR 214.17(4)(d)(6)	allowable	NR 214.18(2)(g)	allowable	NR 204.07(3)(c)	allowable	NR 113.07(3)(b)(12)	allowable	NR 243.14(2)(b)(7.)	allowable/restricted - <60" depth to bedrock is restricted	NR 243.14(2)(b)(10)
Depth to Bedrock 18-36"	max/acre/week = 13,500 gallons**; case-by-case basis	NR 214.17(2)(h) and NR 214.17(4)(d)(6)	allowable on case-by-case basis; reduced application rate	NR 214.18(2)(g)	typically restricted	NR 204.07(3)(c)	typically restricted	NR 113.07(3)(b)(12)	allowable/restricted - <24" depth to bedrock is restricted	NR 243.14(2)(b)(7.)	restricted	NR 243.14(2)(b)(10)
Depth to Bedrock <18"	restricted	NR 214.17(2)(h) and NR 214.17(4)(d)(6)	restricted	NR 214.18(2)(g)	restricted	NR 204.07(3)(c)	restricted	NR 113.07(3)(b)(12)	restricted	NR 243.14(2)(b)(7.)	restricted	NR 243.14(2)(b)(10)
Depth to Groundwater >36"	max/acre week = 27,000 gallons**; case-by-case basis	NR 214.17(2)(h) and NR 214.17(4)(d)(6)	allowable	NR 214.18(2)(g)	allowable	NR 204.07(3)(c)	allowable	NR 113.07(3)(b)(12)	allowable	NR 243.14(2)(b)(7.)	allowable	NR 243.14(2)(b)(7.)
Depth to Groundwater 18-36"	max/acre/week = 13,500 gallons**; case-by-case basis	NR 214.17(2)(h) and NR 214.17(4)(d)(6)	allowable on case-by-case basis; reduced application rate	NR 214.18(2)(g)	typically restricted	NR 204.07(3)(c)	typically restricted	NR 113.07(3)(b)(12)	allowable/restricted - <24" depth to groundwater is restricted	NR 243.14(2)(b)(7.)	allowable/restricted - <24" depth to groundwater is restricted	NR 243.14(2)(b)(7.)
Depth to Groundwater <18"	restricted	NR 214.17(2)(h) and NR 214.17(4)(d)(6)	restricted	NR 214.18(2)(g)	restricted	NR 204.07(3)(c)	restricted	NR 113.07(3)(b)(12)	restricted	NR 243.14(2)(b)(7.)	restricted	NR 243.14(2)(b)(7.)
Slope												
Slopes >12%	restricted	NR 214.17(2)(f)	restricted	NR 214.18(2)(f)	restricted	NR 204.07(3)(o)	restricted	NR 113.07(3)(b)(12)	No slope restriction exists however; slope directly affects the tolerable soil loss (T) for a field. Applications are prohibited on fields that exceed T.	NR 243.14(1) and NRCS 590(V.)(A.)(2.)(6)	restricted	NR 243.14(6) and NR243.14(7)
Slopes 6-12%	allowable on non-frozen ground	NR 214.17(2)(f)	allowable on non-frozen ground	NR 214.18(2)(f)	allowable for injection/incorporation w/in 6 hrs only	NR 204.07(3)(o)	allowable if waste is injected/incorporated w/in 6 hrs	NR 113.07(3)(b)(12)			restricted/allowable - solid up to 9% slopes; liquid prohibited	NR 243.14(6) and NR243.14(7)
Slopes < 2%	allowable, winter is a case-by-case basis	NR 214.17(2)(f)	allowable, winter is a case-by-case basis	NR 214.18(2)(f)	allowable for surface, injection, and incorporation	NR 204.07(3)(o)	allowable for all application methods (surface, injection, and incorporation)	NR 113.07(3)(b)(12)			allowable	NR 243.14(6) and NR243.14(7)
Horizontal Setbacks												
Private Well	250 feet	NR 214.17(2)(c)	250 feet	NR 214.18(2)(c)	250 feet	NR 204.07(3)(o)	250 feet	NR 113.07(3)(b)(12)	100-200 feet	NR 243.14(2)(b)(9.) and NRCS 590(V.)(A.)(2.)(4)	300-600 feet	NR 243.14(6) and NR243.14(7)
Community Well	1000 feet	NR 214.17(2)(c)	1000 feet	NR 214.18(2)(c)	1000 feet	NR 204.07(3)(o)	1000 feet	NR 113.07(3)(b)(12)	1000 feet		1000 feet	NR 243.14(2)(b)(9.)
House	500 feet*	NR 214.17(2)(b)	500 feet*	NR 214.18(2)(b)	range 200-500 feet ****	NR 204.07(3)(o)	range 200 to 500 feet****, also depends if waste is lime stabilized	NR 113.07(3)(b)(12)	NA	NA	NA	NA
Wetland	application method dependent, range 50 feet to 200 feet	NR 214.17(2)(g)	application method dependent, range 50 feet to 200 feet	NR 214.18(2)(d)	slope & application method dependent, range 100-200 feet	NR 204.07(3)(o)	range based on application method and slope; range 100 to 200 feet	NR 113.07(3)(b)(12)	25-100 feet	NR 243.14(4)	200-400 feet	NR 243.14(6) and NR243.14(7)
Surface Water	application method dependent, range 50 feet to 200 feet	NR 214.17(2)(g)	application method dependent, range 50 feet to 200 feet	NR 214.18(2)(d)	slope & application method dependent, range 100-200 feet	NR 204.07(3)(o)	range based on application method and slope; range 100 to 200 feet	NR 113.07(3)(b)(12)	range 21 to 100 feet. SWQMA established 300 to 1,000; applications in SWQMA subject to additional requirements	NR 243.14(4)	300-2000 feet	NR 243.14(6) and NR243.14(7)
Dry Run, Drainageway, or flow channel	application method dependent, range 50 feet to 200 feet	NR 214.17(2)(g)	application method dependent, range 50 feet to 200 feet	NR 214.18(2)(d)	slope & application method dependent, range 50-100 feet	NR 204.07(3)(o)	range based on application method and slope; range 25 to 100 feet	NR 113.07(3)(b)(12)			200-400 feet	NR 243.14(6) and NR243.14(7)
Miscellaneous												
Nitrogen Restrictions	Nitrogen needs of cover crop***	NR 214.17(4)(d)(9)	Nitrogen needs of cover crop***	NR 214.18(4)(a) and NR 214.18(4)(d)	Nitrogen requirements of cover crop	NR 204.08(a) and NR 204.08(b)	Max annual application rate = 39,000 gallons/acre/crop year; assumes ~100 lbs of N is provided per acre with this application rate	NR 113.09(4)	up to 20% more than the recommended N rate**	NR 243 & NRCS 590	NA	NA
Phosphorus Restrictions									Rotational phosphorous index (PI) shall not exceed 6. If soil test P is 100-200 ppm P, manure applications limited to 50% rotational P removal. If soil test P is greater than 200 ppm P, manure applications are prohibited.**	NR 243.14(5)	Maximum of 60 lbs. P per acre for solid and liquid manure. For liquid manure, PI must be 4 or less.	NR 243.14(6) and NR243.14(7)
Chloride Restrictions	170 pounds/acre/year or 340 pounds/acre/2 years	NR 214.17 (4)(d)(7)	limitations may be considered by WDNR review staff	NR 214.18(4)(a)	consider additional monitoring and limits as necessary	NR 204.08(f)	NA	NA	NA	NA	NA	NA
Soil pH	NA	NA	pH 6.5 or higher at time of spreading	NR 214.18(4)(e)	pH > 5.5 (>6.0 for biosolids containing radium)	NR 204.07(3)(e) and NR 204.07(n)(1)	NA	NA	adjust soil pH to the specific range of the crop(s) ground to optimize nutrient utilization	NR 243.12(1) and NRCS 590(V.)(A.)(e.)	NA	NA
Metal Restrictions	may consider additional parameters that may impact GW	NR 214.17(4)(b)	cumulative metal limits for several metals	NR 214.18(4)(b) and NR 214.18(4)(g)	Minimum of Class B metals (ceiling and lifetime cumulative loading) and pathogen restrictions; Class A more restrictive	NR 204.07(5)(a)	NA	NA	NA	NA	NA	NA
Winter Land Application	wastewater: allowable--optimal soils and slope; by-product solids: not allowed	NR 214.17(2)(f) and NR 214.17(4)(d)(5); NR 214.17(4)(e)(7)	allowable on case-by-case basis unless incorporation required	NR 214.18(2)(f) and NR 214.18(3)(c)	generally prohibited; may be allowed in emergencies on a case-by-case basis	NR 204.07(3)(m)	Restricted to HT wastes and emergency ST, approved on case-by-case basis (<2% slope, 750 ft to surface waters)	NR 113.07(3)(13)(c)(5), NR 113.07(1)(c), NR 113.07(1)(3)(d)				
Hydraulic Rate Restrictions	daily and weekly restrictions based on soil capacity (ponding/runoff); nutrient/paramter limits based on cover crop need also determine rate	NR 214.17(4)(a), NR 214.17(4)(d)(5), and NR 214.17(4)(d)(6)	limitations may be considered by WDNR review staff	NR 214.18(4)(a)	limited by capacity of soil (ponding/runoff); nutrient/paramter limits based on cover crop need also determine rate	NR 204.07(3)(h)	HT & ST: 13,000 gallons/acre/week and 39,000 gallons/acre/crop year (excludes high use fields); grease trap waste > 25% of load: 4,300 gallons/acre/week and 12,900 gallons/acre/year	NR 113.09(5)	limited by crop demand, soil test P levels, manure N & P levels, ponding/runoff, soil saturation	NR 243 & NRCS 590	Liquid manure limited to a max of 7000 gallons per acre. No applications during melting.	NR 243.14(6) and NR243.14(7)

*200 ft with owner permission and injection/incorporation
 ** application rate is dependent on soil texture (refer to Table 3 in NR 214.17 Wisconsin Adm. Code)
 ***minus any other nitrogen (fertilizer, manure, etc.) added to the site/field
 ****range based on application method and whether or not permission granted by owner of residence
 *****list does not consider high use septage fields, column generalized across all septage-grade wastes

*winter spreading of liquid manure is prohibited unless an emergency situation should arise.
 **Adjustments shall be made to assume nutrient credits (i.e. comm. Fertilizers, biosolids, legume credits, etc.)

BD = Bedrock
 GW = Groundwater
 winter = defined as frozen and/or snow covered ground
 HT = Holding Tank Waste
 ST = Septage Waste

Non-agency public panel discussion questions:

From : Lee Luft, N4702 Lakeshore Drive, Kewaunee, WI. Kewaunee County Supervisor, Chair, Kewaunee County Groundwater Task Force, Secretary, Kewaunee County Land and Water Conservation Committee, Chair, Finance Committee.

1) What is your understanding of different agencies roles in compliance? Does this need to be clarified? Do you have any suggestions on how agencies with regulatory overlap could be more effective and efficient?

My understanding is that DATCP is charged with reviewing Livestock Siting Ordinances (ATCP 51) and ATCP 50 (Soil and Water Resource Management) among many other requirements. I believe DATCP's primary agricultural role has been to encourage agricultural development and DATCP has used the significant powers granted under ATCP 51 to advocate for large-farm expansions in areas that are sometimes unsuitable for these kinds of operations. One of DATCP's most highly publicized goals is the 30 x 20 goal (30 Billion pounds of milk by the year 2020). The concern my constituents have, and which I share, is that achievement of this goal is taking precedence over proper and reasonable siting decisions. Large farms requiring multiple high-capacity wells are being sited in areas already experiencing significant declines in their water table or substantial reductions in lake, stream, and river surface water levels. In Kewaunee County we have sited 16 CAFOs in a relatively small county with extensive areas of shallow soils and Karst bedrock. We have allowed construction of liquid manure holding ponds containing tens of millions of gallons of untreated waste with very unfortunate but very predictable results. If reaching our 30 x 20 goals requires some areas of the state and our county to have what our media calls "third world water conditions" I believe the citizens who I represent will continue to contest these siting decisions.

Among many other things, the DNR oversees compliance with NR 151 (Runoff Management). The DNR is also charged with compliance of NR 102 through 105 (Surface Water Quality Standards) and NR 140 (Groundwater Quality Standards). The concern among many of my constituents is the lack of reasonable and consistent monitoring and enforcement of these administrative codes. In Kewaunee County the monitoring of farm impacts on our water resources has essentially been delegated to citizens. However, even when photographic evidence of significant water resource impairment is provided, follow up is often delayed or impacts are minimized. The recent review of DNR follow-up on CAFO runoff problems by the Socially Responsible Agricultural Project is alarming to those citizens who are aware of this information. The release of this report was widely reported by all three major TV stations and many radio stations in NE Wisconsin. This report, based upon data from the DNR's own records (data which had to be obtained by Freedom of Information Act petitions), should trigger a very serious review by the top levels of the DNR and the DNR Board. Often, repeat violations are met with yet another notice of non-compliance or notice of violation. Kewaunee County citizens are not surprised our water conditions here have not improved given this lack of enforcement and the continued "downplaying" of even major spill events. One example is the recent spill of 640,000 gallons of liquid manure into the Sugar Creek, near Brussels, WI. DNR officials were quick to indicate that the spillage of over 100 tanker loads of liquid manure running into a creek and then from there to other waterways, was in fact no substantial threat at all. However, a body shop owner who burned five gallons of waste paint thinner was turned over to the DOJ and fined (see attached article). Our citizens rightly ask, why such a difference in enforcement proceedings? Without a timely and concerted response from the DNR, citizens are quickly providing their own answers to that question.

2) What improvements or recommendations do you feel are necessary by agencies to promote compliance to regulated entities? Is more outreach necessary—what outreach methods would be most effective? Is more compliance oversight or enforcement necessary? What methods would be most effective?

Our hope is that our compliance work group will find and then implement significant reforms. These reforms may include some or all of the following; additional funding for water testing, on-farm inspection, and additional staffing to complete this testing and then significantly greater monitoring and enforcement. I believe setting a goal to stem and then reverse the water contamination issues here in our home community of Kewaunee County should be the overarching purpose of our compliance workgroup. Reliance upon “self-monitoring” or citizen monitoring has not proven to be effective here. As you will see from the notes taken at the recent Lake Michigan Area Land and Water Conservation Association meeting of May 29th, the Nutrient Management Plan documents the DNR relies upon to manage wastes here in NE Wisconsin have major flaws. In Door County, eight of eight plans had what the Door County Conservationist called, “misrepresentations” and only 25% of the manure haulers charged with the spreading of millions of gallons of farm waste had the plans they would need for safe spreading. This kind of information is reaching the general public and the DNR’s slow response has not gone unnoticed. As property values near the larger farms decline and reports of citizens being sickened by improper manure spreading and spills become more commonplace, the pressure is building for significant improvement in monitoring and enforcement by the very agency charged with protecting our ground and surface waters. Literally, not a week goes by without new information about water problems here and the DNR’s lack of a thoughtful, unified approach has only exacerbated citizen concerns. While many citizens here have expressed concerns about ever-greater Federal involvement in daily life, there is, I believe, growing interest and support for the petition filed with the EPA to intervene here in Kewaunee County. My hope is that we can address these citizen concerns with the effort now being put in place (the five DNR-sponsored workgroups) such that the DNR and citizens can have confidence that our precious, and yes, irreplaceable water resources are being protected.

3) What could agencies do better to inform and communicate to the public what the regulations are and how the agencies are monitoring regulation compliance? What recommendations, if any, could be suggested to the regulated entities to inform the public on what they are doing to meet or exceed regulations?

Speaking solely for me, I would certainly hope that the DNR would do nothing to try to defend the agencies action/inaction to date regarding clean water monitoring and enforcement. The recent addition of the East Twin watershed to the EPA’s list of impaired waterways, the closed beaches, the loss of once-vital stream/river fisheries, the accumulation of algae on our shores, the dead zones in the bay of Green Bay and Lake Michigan, the liquid manure spills, the sickened residents all seem to point to the fact that whatever it is the DNR has done or was supposed to do has been ineffective at best and at worst, a contributing factor to our problems.

Please do NOT under any circumstances try to reinforce the notion that Wisconsin farms are the “most highly regulated” in the country. While it may be true that Wisconsin’s largest farms are highly regulated, the impact of those regulations has been far from ideal. Eighty percent of Kewaunee County’s farmlands are under a nutrient management plan. If those plans were effective, Kewaunee

County should have some of the best ground and surface water conditions in the state – but as we all know, we have some very serious water quality concerns. These highly touted plans and regulations may indeed be very well intended, but without proper monitoring and enforcement they have no positive impact on water quality.

My suggestion would be to very quickly admit (publicly) that all areas of Wisconsin are NOT created equally and that 16 CAFOs and a ~50% increase in herd size since the 1980's might be fine in say Lincoln County* but they have been a major problem here in Kewaunee County. Then as soon as you are ready, begin to talk about what you/we are doing now, today, this week to deal with these issues and what concrete steps you will take to address these issues and finally, what measures you will employ to ensure progress is being made – up to and including a moratorium on substantial new herd increases until our issues are fully understood and appropriate practices are in place to deal with higher animal populations. In a county with shallow soils, Karst bedrock, high levels of groundwater contamination and impaired waterways, that will be the very least we can do to restore confidence in the ability of our DNR to carry out their stated mission, “To protect and enhance our natural resources, our air, land and water; our wildlife, fish and forests and the ecosystems that sustain all life...” The DNR needs to be seen as carrying out this mission and not as the support agency for DATCP's 30 x 20 goals.

All of us will leave a legacy. My hope is that the DNR's current team of professionals will leave a legacy that includes near-term and on-going improvement in our water quality, our health and our overall quality of life here in NE Wisconsin and statewide. Together we can leave this kind of legacy and the five workgroups are, in my opinion, a very good start.

* Just an example, I don't know anything about the suitability of Lincoln County to absorb the wastes from 16 CAFOs.

Thank you for the opportunity to comment and to be a part of the Compliance Workgroup.

Sincerely,

Lee Luft

Non-agency public panel discussion questions

Mick Sagrillo, E3971 Bluebird Rd. Forestville, WI. Chair, Town of Lincoln Plan Commission

1) What is your understanding of different agencies roles in compliance? Does this need to be clarified? Do you have any suggestions on how agencies with regulatory overlap could be more effective and efficient?

DATCP is tasked with reviewing and commenting on Livestock Siting Ordinances and related issues, including ATCP 51.

DNR is tasked with overseeing compliance with NR 151 and NR 243, well drilling and location regulations, reviewing and “approving” nutrient management plans for farm operations, and issuing WPDES permits to applicants if their application is complete, regardless of whether it is correct. The DNR is also tasked with investigating citizen concerns and complaints about groundwater and surface water rule infractions as well as well water contamination. It is my understanding that the DNR is responsible for testing any well that comes back positive for e-coli (as opposed to just coliform positive).

We hear that our science is lacking and we have no real data. Most recently it has become apparent that no one agency has accurate, actual, animal numbers that include all farms in the county. DNR has the actual numbers at CAFOs, no one has actual numbers at the rest of the farms. That seems to be a very large gap, in my opinion. We – all the Taskforce Groups – need those numbers so we can procede.

2) What improvements or recommendations do you feel are necessary by agencies to promote compliance to regulated entities? Is more outreach necessary—what outreach methods would be most effective? Is more compliance oversight or enforcement necessary? What methods would be most effective?

The DNR is tasked with compliance monitoring, although, in most cases, this is pretty laissez-faire and lax. It seems that DNR enforcement of compliance infractions is non-existent, at least in our area although hard to tell unless lengthy open records requests are issued. Most often, the entity involved is “talked to” by the DNR office. Occasionally, we have heard of an entity being issued a letter on non-compliance, which is entered into their file. Such letters have seemingly no impact on the entity involved. Letters on non-compliance have no teeth, no penalty for the infraction involved, so are not taken seriously, especially with repeat offenders, and they do not appear to impact WPDES permit issuance or continuance.

All too often we hear about using best management practices instead of compliance monitoring and, especially, enforcement, an idea fostered by the WDBA and agribusiness industry. BMPs are mere behavioral modification suggestions at best, ineffectual in reality, and mostly used as public relations fodder by the ag industry and WDBA. If BMPs worked, we’d incorporate them in other areas, and have, for example, traffic BMPs instead of rules of the road and laws with penalties for infractions. Or BMPs for not engaging in such activities as embezzlement, insider trading, shoplifting, or bank robbery.

Whether a voluntary BMP or regulations with no enforcement or laws with no independent verification, these are the practices that have gotten us to our current state. As Kyle Burton said in his opening remarks in the Short Term Solutions Group, “We’re here because we are not doing a good job now”. Clearly, rules and laws with enforcement and penalties for infractions work far better than compliance monitoring with little to no effective enforcement.

Any enforcement needs to have teeth that are commensurate to the infraction. A slap on the wrist or a token fine that is essentially donut money for the entity involved will do little to change behavior if it is more cost-effective to break the law and pay the fine rather than change the non-complying farming behavior.

Representatives Joel Kitchens held two listening sessions in Kewaunee County on September 1st. At one point, the issue of voluntary versus required compliance for agricultural regulations was raised. Representative Kitchens firm response was that without teeth, compliance will always be a cat and mouse game, will always be an unsolvable problem. **Without regular and forceful enforcement, compliance will not likely improve much. If we continue to do what we've been doing, nothing is going to change.** (Representative Kitchens also strongly suggested adopting increased spreading setbacks from streams and drainages.)

We often hear from large farms that they are very heavily regulated now, over regulated in fact. Most of these of entities are confusing a requirement to submit an application or annual census form with regulation, or having to design based on NRCS or DNR standards as regulation. They are not the same.

What would help is more “boots on the ground”, more frequent on site reviews (at least annually vs every five years for CAFOs) and drive-bys, especially in the late fall when field spreading is at peak.

And just a note that the extensive research done recently in the “RAP sheets” compiled by the *Socially Responsible Ag Project* shows a very severe drop off in violations, investigations, and notices of non-compliance since 2012 – just after Wisconsin was declared “open for business” and Kewaunee County lost our DNR Warden.

I understand that your hands are tied in many regards. For example, no choice but to issue a WPDES permit if the application is filled out correctly and if the applicant lists enough land to spread the wastes it generates on. Other decisions seem to be purely discretionary or be missing sufficient penalty that would deter repetition of the action.

Three examples of various discretionary enforcement or enforcement without “teeth”:

1. One farm entity has been cited with a notice of non-compliance for an “unapproved method of manure application for the use of a traveling gun without a DNR permit”. No financial penalty was levied. Subsequently, this entity requested to be one of the center pivot irrigation test sites for the UW-Extension Manure Irrigation Workgroup. When the NONC issued was raised, the DNR official involved stated that this entity was now “grandfathered in”, even though this entity still did not have a permit from the DNR to use such methods of manure application. Rather than a penalty for the non-compliant action, the operation was REWARDED.
2. A second seemingly arbitrary decision involved our own (Mick's) well. The spring of 2013 was very wet following a snowy winter and rainy late winter. Manure was spread on the snow covered field next door to us all winter, all the way through the rains and subsequent snow melt that spring. Under contract with the Town of Lincoln, Davina Bonness, Kewaunee County Land and Water Conservation District, was taking monthly well samples from ten wells over the course of a year. Our well was one of those being tested. The March 18, 2013, sample came back positive for e-coli, the first time ever in 17 well tests over the course of 13 years. As required by law, Davina informed the DNR about the e-coli results. It was our understanding (as was Kevin Masarik's of UW-SP Center for Watershed Science and Education) that the DNR is required to do a microbial source tracking test to determine the source of the e-coli, human or bovine when manure spreading was suspected as the source.

The DNR informed Davina that it was declining to do the MST test on our well, with no explanation given. Discretionary decision?

3. And the third illustration is from the DNR records of violations from another operator's file. On Dec 9 of 2010 DNR Warden Kuhn had a verbal interaction with an Operator who had spread liquid waste on a frozen field. The record reads "Warden Kuhn explained (to the operator) that it was the farm's responsibility to have enough storage to make it through winter... Warden Kuhn advised (operator) could not continue to spread the liquid manure without first getting approval to do so from the WDNR Agricultural Waste Specialist."

The DNR records from 4 months later in March of 2011 read "Department staff observed ponded frozen manure to have been applied to the field at the above location. (Operator) stated that (Operation) spread manure on the frozen field because it did not have enough storage to make it through the winter. Department staff explained that it is the farm's responsibility to make sure it has adequate storage Department staff directed (Operator) to cease all land spreading of manure and (Operator) advised that (Operation) would not be doing any more land spreading, as the storage is now empty. Department estimates indicate (Operation) may have only 4.5 months of storage at the Site, not 180 days as required."

The report continued:

"Based on the long history with the Site, the Department believes (Operation) failed to provide a minimum of 180 days of liquid storage as required, applied liquid manure to frozen ground and allowed the manure to pond at the application site, failed to complete an engineering evaluation as required, failed to submit a written description of the runoff control system, failed to submit plans and specifications for review and approval to permanently correct adverse runoff control conditions, as required. The Department is very concerned with the seriousness of the on-going alleged violations and (Operation) lack of attention to Permit conditions."

No fine was levied in either case.

Unfortunately, none of these examples are unique, nor have they stopped. And THAT is why the answer to your question is much too complex to give a simple response.

Some suggestions for the DNR:

1. Any enforcement would be better than the seemingly discretionary situation we have now, with essentially no enforcement.
2. 3rd party compliance spot checks reportable to both the DNR and EPA
3. More "eyes and ears" in the field during heavy spreading or weather events
4. Easier public access to reporting logs and 590 plans (transparency)
5. Better protocol for citizen complaints which would include on-site response within 4 hrs.
6. Confirmed violations would have larger and non-negotiable financial penalties, a portion of which would go to a yet-to-be-established "Clean Water Fund" that would be used to pay for clean water and supplies to those families whose wells have been impacted by manure and nutrient contaminants. We're talking thousands of dollars for the first infraction, daily multipliers and even more significant amounts for repeat infractions.
7. Bill Schuster told me that the original 590s were intended as MAX application rates for crops. In Kewaunee County, if Operators want to really be part of solution, voluntarily agree to a 25% reduction of spreading rates until we get the ground (and surface waters) cleaned up.

3) What could agencies do better to inform and communicate to the public what the regulations are and how the agencies are monitoring regulation compliance? What recommendations, if any, could be suggested to the regulated entities to inform the public on what they are doing to meet or exceed regulations?

Based on my response to #2, you still want to inform the public about this poor job the DNR is doing to monitor and enforce regulation compliance? You can't be serious. Unless, of course, you would be using the opportunity to help shape the public's image of the DNR, which would be tantamount to whitewashing the seriousness of this situation. The public has already lost confidence in the DNR's ability to regulate or force compliance on large farm operations. This is why municipalities like the Town of Lincoln have taken it upon themselves to try to figure out how to accomplish this on their own within the confines of rules like ATCP 51 and other blanket regulations that tie the town's hands and restrict what the rational person understands needs to be done to protect our groundwater.

This isn't as simple as a PR issue for the DNR. If you think so, you are completely missing the point of why we are gathered together. It's not about educating the public, it's about contamination, particularly manure, getting into our groundwater. Other agencies (Groundwater Coordinating Council in their reports to the Legislature, the authors of the Karst Report, researchers at UW-SP, UW-GB, UW-O, the USDA, and the WI Geological and Natural History Survey) all seem to understand all too well the source of Kewaunee County's groundwater contamination primary source: too much liquid manure. Yet the DNR seems to be confused about the issue, unable to resolve the groundwater contamination problem in KC, or perhaps just unwilling.

You should worry about enacting laws, regulations, statutes, etc and enforcing same that will stop this from happening; the PR will then take care of itself.

As to what suggestions I'd make to the regulated entities: Run a "more than compliant" operation, avoid anything close to the appearance of improper practices and keep your name off the likes of the SRAP Rap Sheets.