April 18, 2006

TO THE MEMBERS OF THE BROWN COUNTY BOARD OF SUPERVISORS

Ladies and Gentlemen:

The LAND CONSERVATION SUB COMMITTEE met in regular session on March 22, 2006, and recommends the following motions.

1. 2005 Annual Report. Approve 2005 Annual Report & 2006 Work Plan.

2. Town of Morrison update. No action.

3. Communication from Supervisor Bernie Erickson re: Brown County mark all fractures in the rock structure in the Wayside area. (Referred from March County Board.) Direct the summer intern to make the Karst fractures in the Wayside area.

4. Director's Report. No action.

Approved by:

_____

COUNTY EXECUTIVE Date

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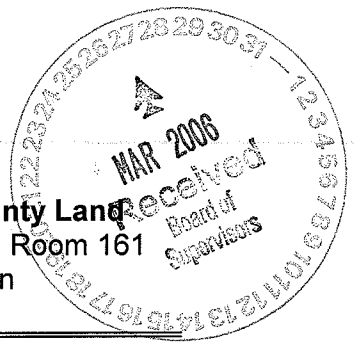

PROCEEDINGS OF THE BROWN COUNTY
LAND CONSERVATION SUBCOMMITTEE

Pursuant to Section 19.94 Wis. Stats., a regular meeting of the **Brown County Land Conservation Subcommittee** was held on Wednesday, March 22, 2006 in Room 161 of the Ag & Extension Center – 1150 Bellevue Street, Green Bay, Wisconsin

Present: Norb Dantinne, Jr.-Chair; Bernie Erickson, Mike Fleck, Jack Krueger, Mary Scray, Merlin VandenPlas
Also Present: Bill Hafs
Other Interested Parties, Media

1. **Call Meeting to Order:**

   The meeting was called to order by Chairman Norb Dantinne, Jr. at 7:00 p.m.

2. **Approve/Modify Agenda:**

   Motion made by Fleck and seconded by Supervisor Scray to approve the agenda. MOTION APPROVED UNANIMOUSLY

3. **Approve/Modify Minutes of Land Conservation Subcommittee of September 28, 2005:**

   Motion made by Supervisor Krueger and seconded by Erickson to approve the minutes. MOTION APPROVED UNANIMOUSLY

4. **2005 Annual Report (to be distributed at meeting):**

   The 2005 Annual Report and 2006 Work Plan (see County Board office and County Clerk office) was distributed by Bill Hafs for review. Included are the projects that were implemented with landowners in 2005:
   - Land & Water Requirements and Accomplishments
   - Land & Water Resource Management Plan Goals and State Standard Implementation including watersheds, buffers, 590 plans, manure management prohibitions, soil loss, locations, for a total of 6.59 miles of stream protected buffers, 70 acres of nutrient management plans implemented (590 standards), 19 animal waste management prohibitions installed, and 31 acres of cropland reduced.
   - Priority Watershed Accomplishments
   - Funding History
   - Buffer Installations
   - Other 2005 Accomplishments & Photos

   Also included in the report is the 2006 Work Plan which includes Town of Morrison groundwater issues.

Motion made by Supervisor Erickson and seconded by Supervisor Fleck to approve the 2005 Annual Report and 2006 Work Plan.
MOTION APPROVED UNANIMOUSLY

5. **Town of Morrison Update:**

Mr. Hafs reported that at the last meeting of the County Board $40,000 was approved for emergency water quality in the Town of Morrison. A handout which has also been sent to Brown County Legislators, the Governor, Secretary of DATCP, and the Secretary of the DNR regarding Morrison Groundwater Protection was distributed (attached).

Mr. Hafs explained the recommendation/options that have been developed by his department in regard to this issue: extension of the Branch River Priority/ Watershed for 5 years by bringing all manure storage to a six month minumum; to buffer all streams and Karst features; to complete Nutrient Management Plans on all ag fields; and to abandon all old used wells, estimated at approximately 100.

Other goals include creation of a well compensation program; a well testing program; Karst mapping for all of Brown County; to create a well abandonment program; to expand the County Ordinances; education; and to develop a regional composting facility.

Also attached were the minutes from a meeting held on 3/2/06 on the Morrison Ground Water Issue. At that meeting the real and perceived issues were listed, in addition to short-term plans, intermediate plans (1-2 years), and a five year plan (attached).

Mr. Hafs explained there is not enough land in Morrison for the waste being applied, pointing out that it is over capacity for spreading. The department has identified 47 manure storage facilities to be inspected and re-evaluated, with seven new facilities in the planning stages. In addition, all wells that have gone bad will be evaluated, with a goal to install conservation practices that will reduce that number.

County ordinances have been reviewed and a recommendation will be made that will require permits for winter spreading between December 1st and April 15th; that buffers (no-spreading zones) be marked around exposed rock, and sinkholes; to establish spreading setbacks on land near streams; to establish procedures for handling manure spills and for capping and sealing unused wells; that fines for manure handling violations be increased, and that land spreading permits for each town be reviewed.

Also attached is a letter directed to Senator Alan Lasee from the Kewaunee County Land & Water Conservation Department regarding winter/early spring land application of manure (attached). A list of action steps for well owners in the Town of Morrison was also distributed for review (attached).

Motion made by Supervisor Scray and seconded by Supervisor Krueger to suspend the rules to allow interested parties to speak.
MOTION APPROVED UNANIMOUSLY

Tom Christensen - Town of Morrison Chairman
Mr. Christensen thanked the Land Conservation staff for manning the town office for a few hours each day to answer questions from individuals coming in. He stated that testing of wells will proceed in May with the help of the UW system with the goal of determining a baseline on water quality. The Town of Morrison is willing to cost share the testing project, which will be conducted over a five year period. DNR is also offering a Well Compensation Program basically in the Wayside area. Education with farmers is critical, Christensen stated.

Bob Heezen - Denmark
Mr. Heezen noted that in July and August of 2005, liquid manure was spread in the Denmark area which contaminated a stream. He indicated that in his opinion there is no time that is 100% safe for spreading.

Fred Heezen - Denmark
Stated that a common sense approach should be used, noting that education of school age children, in addition to others is important.

Tim Loritz – Brown County Highway
Mr. Loritz stated that in his position with the Highway Department he has been in charge of steaming out frozen culverts. Over a period of four years he has reported to the DNR issues he has seen with leaking storage and runoff and has had no response. He stated that any aquatic life which existed has disappeared.

Supervisor Bill Clancy thanked the Land Conservation Department and this committee for their support given to the Town of Morrison.

Motion made by Supervisor Krueger and seconded by Supervisor Scray to return to regular order of business. MOTION APPROVED UNANIMOUSLY

5a. **Communication from Supervisor Bernie Erickson re: Brown County mark all fractures in the rock structure in the Wayside area. (Referred from March County Board):**

Supervisor Erickson suggested that Karst features and fractures in the rock structure in the Wayside area be marked with a sign and t-post. It is estimated there are approximately 185 fracture traces, with 43 sink holes. Mr. Hafs agreed to review this as a possible summer intern job.

Motion made by Supervisor Erickson and seconded by Supervisor Fleck to direct the summer intern to mark the Karst fractures in the Wayside area.
MOTION APPROVED UNANIMOUSLY

6. **Director's Report:**
Because of the upcoming 5/4/06 election and changes that may bring with committee structure, Mr. Hafs thanked the present committee for their cooperation in working with him and his department.

7. **Such Other Matters as Authorized by Law:**
Chairman Dantinne also thanked the committee for their input on the various issues that have been before them during their term.

Motion made by Supervisor Krueger and seconded by Supervisor Erickson to adjourn at 8:05 p.m. MOTION APPROVED UNANIMOUSLY

Respectfully submitted,

Rae G. Knippel
Recording Secretary

Morrison Groundwater Protection

(5)

Recommendations /options for LCC 2-22-06 (Progress 3-21-06)
Sent to Brown County Legislators, Governor, Secretary of DATCP, Secretary of DNR

Extend Branch River Priority Watershed 5 years. DNR funded

a. Bring all manure storage to 6 month minimum
b. Buffer all streams and Karst features (field verified)
c. Nutrient Management Plans on all ag fields
d. Abandon all old unused wells (100 estimated 3-21-06)

Progress

- 47 manure storage, 28 permitted, all must be re-evaluated. 7 new manure storage and 1 abandonment planned to be installed this summer and fall through Branch River Watershed program. $600,000 available for cost share for conservation projects in 2006 through Branch River Priority Watershed Project.
- Streams & sink holes need to be evaluated for buffer needs – buffer distances must be studied and set (35 feet is current ordinance on streams). Buffer setbacks from Karst need to be included in Animal Waste Management Ordinance and Buffer Strip Ordinance.
- 14,533 acres cropland, 11,626 (79%) of cropland has 590 plan accomplished. Set backs (200 ft is well code distance) from sink holes and karst features need to be established for land spreading. Kewaunee is proposing 500 foot radius in winter from wells.
- 100 estimated unused wells in Morrison (based upon landowner information and 1938 photos); NRCS has 31 applications for abandonment cost share. All unused wells must be properly abandoned and GPS located.

Create well compensation program-

a. Low interest loans if new well is needed
b. Non conforming shallow wells that have tested positive
c. 10 year max repayment or tax roll
d. Ask State to create well compensation program

Progress

- Senator Lasee, representative Ott legislation. DNR administer program. Proposed 250 feet of casing.
- $50,000 available in fund until July. DNR has set special eligibility area near Wayside.
- Meetings by DNR 6pm – 8:30 pm Wayside fire station March 21, 10 am - noon March 25.
- DNR issued boiled water order for Town of Morrison.
- DNR has been providing free bottled water to residents. (15-25 per week)

Well testing program -

a. Follow up tests for town residents
b. 3 times per year for wells that have tested positive
c. GIS tracked by LCD for township
d. UWSP May well testing for Morrison- 50% cost share for triazine, n, bacteria

Progress

- Two runoff events so far in 2006; January rain –runoff event, and March 11-12 rain- runoff event. 385 well tests to date **76 bad.** Percentages spike to 50% bad after rainfall /snowfall events.
- Will need to test 76 bad wells again in 2007(county health).
- Evaluate land use activities within 1 mile of bad well. Goal: install conservation practices that reduce bad wells from 76 (2006) to 25 in 2007.

- UW Stevens Point well testing (homeowners package) May 9, 2006. Town of Morrison will pay for this cost. Homeowner package includes bacteria, nitrate, chloride, pH, alkalinity, hardness, corrosivity.
- DNR waiting for next major spring runoff event to do well testing.
- DATCP is well testing milk producers in Town of Morrison.
- UW Stevens Point will help evaluate and coordinate well testing procedures.
- DNR has done DNA testing of some wells near Lark.

Karst mapping for all of Brown County - Grant funded

a. Branch River Watershed currently mapped
b. Use karst mapping to cross reference land spreading activities
c. Grant application for this activity/ in cooperation with UWGB

Progress

- Currently working with UW Madison – Kevin Erb, UW Stevens Point – George Kraft, UW Green Bay – Kevin Fermanich, Ed Dietz – Wrightstown High school for (2) summer students to field verify karst features in Morrison, GPS, GIS map and stake and sign the karst feature.
- Need to design the contact strategy and where to start in Morrison.
- Expand karst mapping to all of Brown County – especially the Niagara escarpment/karst area. UW Grant/ Masters program.
- Students working in Morrison not covered by UW to be paid for by county emergency fund or donations from private sports clubs.
- USDA may provide sonar for locating karst features.

Create Well abandonment program

a. Use priority watersheds 70% and town15% Morrison
b. Offer cost share for well abandonment 3 years- county wide
c. After 3 years, require abandonment county ordinance
d. GIS tracked by County

Progress

- USDA NRCS has allocated $50,000 for well abandonment and has obtained 31 applications for cost share for farmers.
- Branch River Priority watershed offers 70 % cost share for abandonment for all landowners.
- Town of Morrison is offering 15% for well abandonment to put on top of other cost share programs.
- Old unused wells need to be field verified and GPS/ GIS tracked by summer interns.
- Goal to get 50 % of old wells properly abandoned in 2006

Expand County Ordinances - County wide

a. No winter spreading (all waste) without permit (Dec 1 - April 15)
b. Buffers required on Karst Features -field verified
c. Spreading setbacks on streams and Karst- field verified
d. Emergency spill provisions
e. Well abandonment provisions
f. Revise citation and fines
g. Review land spreading permits for towns

Progress

- Morrison placed moratorium on all land spreading of waste until April 1, 2005.
- Land Conservation reviewed/approved 2 winter spreading plans with Morrison farmers in March.
- Review Manitowoc County Emergency spill provisions and coordinate with emergency government, add provisions to county Animal Waste Management Ordinance.
- Revise fines. Current fines ($50/day) cost less than daily haul to prevent manure pit overflow or emergency spill correction.

Education

a. Town Meetings
b. Land Conservation Department Web Site
c. Meet with Ag Lenders
d. Meet with Feed Mills and implement dealers
e. Meet with waste haulers
f. Emergency spill meeting for farmers
g. Offer well testing program through UWSP to towns
h. Continued notification to all farmers yearly
i. Promote creation of groundwater guardian group

Progress

- Plan of action assembled with cooperation of many agencies including Health, DNR, DATCP, Land Conservation, Glacier land RC&D, Zoning, UW Extension, and State Department of Health.
- UW hire Groundwater education specialist for northeast Wisconsin (60%) of time dedicated to Brown County.
- Land Conservation Web Site on Groundwater
- DNR Well users guide developed
- UWEX developed sanitary guide information for food preparation, etc.

Regional Composting facility

a. Promote option to farmers for winter disposal of animal waste
b. Meet with industrial waste haulers to fund facility
c. Brown County could provide 60 acres - 5 year lease

Progress

- LCD applied for grant from USDA for 1 million dollars for composting facility.
- Soil Solutions Company is meeting with Town of Holland – April agenda for approval of construction in Holland.
- Soil Solutions Company will meet in future with County Board.

Plan of Action

Working Group:
Morrison Ground Water Issue
Minutes: 3-2-06

Attendance: Paul Lemke (BC Land Conservation); Bill Hafs (BC Land Conservation); Jim Jolly (BC Land Conservation); Dave Bougie (WDNR); Judy Knudsen (BC UW-Extension); Veerinder Taneja (Bioterrorism Consortium of Lake Michigan); Jim VandenBrook (WDATCP); Chuck Warzecha (WI DHFS); Bernie Erickson (BC Board Supervisor); Bob Barnum (WDNR); Gary Paplham (WDNR); Bill Bosiacki (BC Zoning); Chuck Lamine (BC Planning); Peter Schleinz (BC Planning); Joel Reetz (Wayside Home Owner); Greg Hines (WI USDA); Jessica Stoller (BC County Executive's Office); Dan Helf (WDNR); Kelley O'Conner (WDNR); Becky Williamson (WDATCP); Judy Friederichs (BC Health Dept.); John Paul (BC Health Dept.)

Real and Perceived Issues

- 8 issues listed in Morrison Ground Water Protection Plan of Action (this document was distributed to the group)
- Some calls have been received by the Health Department regarding concerns related to calf sources of contamination such as salmonella. A state representative said that salmonella is not as much of a concern because it is not as long-lived as some other organisms like cryptosporidium and giardia. It is not clear who might be responsible for responding, or what the procedure would be, to address concerns regarding this kind of contamination.
- Residents of the area have many questions such as:
  - How often do I shock my well and what if it doesn't work?
  - How long will bottled water from DNR be available?
  - Is my well compliant/conforming (do I need a new well)? If so, how deep should the well be?
  - How deep should casing on a new well be? (Current requirements are 40 ft. the DNR will be recommending 100-170 ft. in the town of Morrison and town of Green Bay for new wells)
- The DNR will be putting together an informational sheet for residents.
- It would be helpful to put together a list of names with phone numbers and responsibilities for residents who have questions. DNR will include this with their informational handout – meeting attendees should review the draft of this document and forward suggestions to the DNR.
- An explanation of how well testing is completed, when results are considered unsafe and when wells should be tested again. John Paul explained the sample collection procedure for Health Department water samples and distributed materials that are given to people whose wells test

unsafe. Kelley O'Conner explained that the reason the DNR requires a more scientific collection method (as opposed to the Health Dept.'s method of collecting a sample inside the residence) is because they need to know what wells are truly unsafe and may qualify for state funding to replace the well, whereas the health department is testing at the point of common use by the homeowner. Additionally, some homeowners don't have or know where to find the faucets near the pressure tanks.

- The widespread testing of Morrison area wells brings to light a number of wells that were probably unsafe before the recent suspected contamination. The plan is to retest around the time of the next thaw. This testing will probably be done through the State Lab of Hygiene which requires testing at the pressure tank after torching the sample spout; this testing can be done without charge to the consumers or the locals.
- In a random sample of wells around the state in 1994, about 23% of wells tested positive for total coliform; about 2.4% tested positive for E Coli.
- Health Dept. change to current protocol for drawing samples was based on recommendations from the most recent certification inspector.
- DNR recommends that the Health Dept. switch their testing protocol to require people to draw their samples using the same method required by the State Lab.
- The group discussed the value of tracking re-testing of wells.
- Judy asked if the Health Dept. is testing too large of an area by testing the entire town of Morrison. DNR said that the area they are most concerned with is the Wayside area. All of the E Coli positives are associated with the town of Wayside. It was noted that there are other areas of unsafe wells, though not E Coli positive. A final consensus was not reached re testing area.
- There was some discussion as to how long the boil water order should remain in effect and whether wells can be declared "safe" after 2 samples test negative. Unless a well is built using the new DNR recommendations, it can probably not be considered truly "safe".
- DNR is looking for funding to have a professional draw samples from Wayside wells to be tested at the State Lab of Hygiene in an effort to get more reliable results.
- UW Stevens Point will be testing 150 wells with the test to be run on May 9th. After the tests are complete, an educational program is run for the people whose wells were tested. Homeowners would pay up to $91 for all 3 of the testing packages available.
- Township residents are concerned about land-spreading such as agricultural, septic, municipal and industrial wastes. The Town Chairman is looking at enacting an ordinance to prevent spreading of things such as whey from the local cheese factory. This is a legitimate concern considering risk of seepage into wells.
- There was some discussion as to whether high total coliform levels can be tied to animal waste spread near a well. There are several things that can affect these results – testing for nitrates makes the results more reliable.

- A private sewage system inspection system has been in place since 2000. If the system passes the initial inspection it is put on a maintenance program. The systems that haven't passed and those that haven't been inspected constitute about half of the systems in the area. This program could potentially be accelerated to include all of the wells – however this will cost the landowner $200 - $300 for an inspection plus the cost of any repairs needed.
- When municipalities install sewer systems, private systems must be properly abandoned. We don't know if that has happened in the smaller townships.
- The town may want to wait to introduce an ordinance to prohibit spreading until additional, more reliable testing including testing for nitrates is completed. The maps showing vulnerabilities in the landscape are a more compelling case against spreading than test results showing total coliform.

Short-Term Plans
(next few months)

- Continue to provide bottled water to people with unsafe wells. This will continue through the DNR through the spring thaw. The maximum is 6 months.
- Health Department will continue to provide fee-free bacteriological testing of wells (receipt Mon-Thurs) through March to the Morrison township and reevaluate at end of that period. Positive results will continue to be called within 24 hours after test setup, and all results mailed out. Cumulative statistics on testing from the Morrison area will be posted on website.
- Health Department will Continue to distribute/develop educational materials as needed.
- Health Department will continue to respond to media questions related to well testing/ health issues related to contaminated wells.
- A joint press release talking about the work being done by the DNR, Dept. of Agriculture, Health Dept. and County Executive. This can also help to characterize and clearly state the issue for the public.
- Designate one person to represent each agency for this and future incidents. Establish a "team". This list may include a description of what each agency is responsible for.
- Recommend a restriction on land application for the town of Morrison. Town of Morrison is proposing a moratorium on land application of waste until April 1, 2006 and development of ordinance to regulate land spreading activities.
- DNR will develop technical educational materials.
- Dept. of Agriculture will check on the procedures for addressing salmonella outbreaks in animals.
- DNR will increase well casing requirements.

- Chuck and Bill from DHFS will speak with UWSP regarding their testing parameters, follow-up and education.
- DNR and Health Dept. will work together to finalize procedures for upcoming sampling, including the sampling through the State Lab of Hygiene.
- The Health Dept. will switch to the recommended DNR protocol for well water sample collection.
- Zoning will talk to the township regarding the inspection program for existing systems and whether they wish to expand the program.
- Land Conservation and Health will look into a protocol for testing areas with known Karst features.
- USDA has $50,000 for well abandonment and sink hole problems – apply for this funding during the week of March 6-10.
- Data sharing should start with DNR, Ag, Eh. County. Include the Planning dept. for information about subdivisions, plats, Karst features, and active/abandoned wells per subdivision projects.
- The town should check with the sanitary district contractor regarding proper abandonment process and plumbing connection upgrades.
- Set up tracking of data for wells over time. Land Conservation may work with Vinny T. on a database.
- Jim and others from the Dept. of Ag will work on Atrazine and Nitrate data geo-coded with names.
- DATCP will provide historical data on dairy tests done 2 years ago.
- The County Executives office will check with the Manitowoc County Executive's office on legal issues researched during Manitowoc's water issues.
- Land Conservation Department will staff the Morrison Town Hall daily for 2 hours. LCD will collect water samples, gather information on sink holes and old unabandoned wells, track well sampling results on GIS, sign up landowners for Branch River Priority Watershed cost share practices, work with Town to review land spreading activities.
  UW Stevens Point will provide well testing program for the town of Morrison beginning on May 9, 2006 that will include expanded well testing parameters including Nitrates.
- Continue to identify methods to maintain communication/collaboration among various providers of service to assure the best service to the citizens.

Intermediate Term Plans
(1-2 years)

- DNR will re-look at the industrial waste land-spreading approval process.
- A comprehensive long-term database for land-spreading and geology.
- Replace failing systems (dependent on town review and zoning).

- Continue exploring what data can be shared among DATCP, Brown County and DNR.
- Targeted promotional efforts will be encouraged from private and public labs encouraging annual well testing.
- Learning more about various tests and their effectiveness/limitations in identifying source(s) of contamination.
- Land Conservation Department will field verify, GIS map, stake karst features (225 estimated), coordinate land spreading with farmers and the Town of Morrison and other land applicators, enter into cost – share agreements, evaluate 47 manure storage facilities, find safe stacking and spreading areas, properly abandon old unused wells, install buffer strips, engineer and/or install new/ modifications to animal waste storage facilities.
- Land Conservation Department will develop emergency spill response procedures for animal waste.
- Land Conservation Department will develop ordinance language for buffer strips associated with Karst features, winter spreading Plans, and well abandonment procedures for consideration by Brown County.
- Land Conservation Department will conduct a number of educational activities with livestock operators, and animal waste haulers to assist in adoption of precision agriculture concepts that will prevent land application of waste near karst features.
- GIS map fields approved for industrial, septic, municipal waste.

Five Year Plans

- Regional composting facility.
- Continue education regarding issues related to well water contamination and ways that citizens can monitor/prevent occurrence.
- Continue to promote working relationships between private sector labs and public labs esp related to routine well water testing.
- Extend the Branch River Priority Watershed Program that provides staff funding and cost share dollars to landowners for Manure storage, nutrient management plans, buffer strip installation, sink hole treatment, proper well abandonment.
- Obtain grants for livestock operations/industrial operations to install precision agriculture techniques for land application of waste

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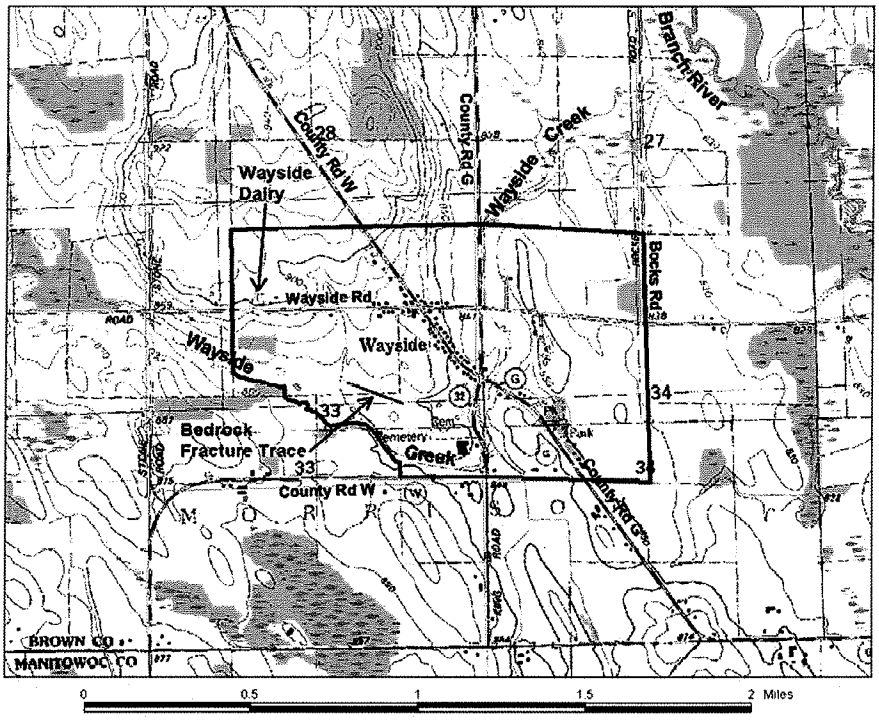
RURAL COMMUNITY OF WAYSIDE
Special Area of Well Compensation Eligibility
T21N, R21E, Town of Morrison, Brown County

March 17, 2006

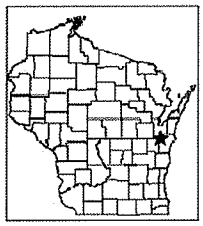


Special Eligibility Area Boundary

Wells constructed within the "Special Area of Well Compensation Eligibility" shall be constructed with a minumum of 250 feet of cement-grouted casing using either the 'Bradenhead' or Grout Shoe' grouting method.

N

Scale 1:20000



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Kewaunee County

Land & Water Conservation Department

March 17th, 2006

Senator Alan Lasee
State Capitol - Room 220 South
P.O. Box 7882
Madison, WI 53707-7882

SUBJECT: Winter/Early Spring Land Application of Manure

Dear Senator Lasee:

The recent well contamination events in Brown County have once again resurrected the issues concerning winter/early spring applications of manure and its effects on our local groundwater resources. I'm sure you're well aware of the concerns of the citizens from the Town of Morrison as well as the local Brown County Land Conservation Department. However, as a County Conservationist, and constituent of yours, I'd like to provide you with a few of my thoughts and concerns as they apply to winter/early spring manure spreading and its effects on our local groundwater quality in Kewaunee County.

It's true that there is long list of potential groundwater contamination sources. Some of these sources include air pollution; fertilizer/manure storage; use and misuse of pesticides; landfills; ponds, lagoons and disposal of wastewater; private onsite wastewater treatment (septic) systems; spills and illegal dumping of commercial and industrial chemicals; leaking underground storage tanks; improperly abandoned wells and drainage wells; as well as natural sources of contamination. However, I believe that if we look at the prevailing land use pattern within Kewaunee County it becomes apparent that agriculture (dairy operations in particular) is the overwhelming land use. This being the case, I believe that it only makes sense to try to address the agricultural sources first off, and then work on any remaining sources. Of greatest concern is land application of manure during the winter/early spring time period on specific areas that have shallow depth to groundwater or fractured bedrock.

One thing that the overwhelming majority of your constituents have in common is that we purchase a lot of milk, meat and cheese. We also <u>all</u> consume drinking water. For the vast majority of citizens in Wisconsin, this means groundwater. We depend not only on a thriving agricultural economy, but we also require safe, clean groundwater. A thriving agricultural industry and clean, safe drinking water <u>can</u> co-exist together. We need key legislators to step up and provide thoughtful legislation; legislation that is truly focused on protecting Wisconsin's valuable groundwater resources in order to protect public health and welfare.

Locally, since 2004, the Kewaunee County Land & Water Conservation Department, along with a great amount of help from our local Groundwater Guardians Group, has been coordinating a countywide rural well testing program. We're scheduled to have our next round of testing the end of this month. The program's main focus is on educating local citizens about where their drinking water comes from and why it's important to protect their local groundwater sources. To date we've completed three rounds of testing. **Overall, 142 different wells have been tested through this program; 22% have been analyzed as "bacteria positive" and 11% have been analyzed as having nitrate levels above the 10 milligrams per liter human health standard.** Again, it's true that rural septic systems could be a minor source, however, with the overwhelming majority of our local rural land use being devoted to agriculture, I think it's reasonable to assume that land application of manure, specifically on soils having shallow depths to groundwater or fractured bedrock, plays the most significant role.

USDA SERVICE CENTER
127 COMMERCE DRIVE • LUXEMBURG, WISCONSIN • 54217
PHONE: (920)845-1360

I ask that you please read over the following points and, if possible, support and champion them in your role as a state legislator.

- For the past two years our Department has provided section-level air photos to all operators of cropland with soil depths of less than 36 inches to fractured bedrock. The air photos depict the specific locations of these shallow soil areas. We ask the operators to voluntarily refrain from applying any manure in these areas during the months of December through March unless absolutely, positively necessary. The reasoning behind this time period is that even though most of our actual runoff events occur during the months of February and March, whatever has been applied to the land surface during December and January, and not adequately incorporated into the soil for crop uptake, is readily available for whatever runoff events occur in February and March. If manure must be applied on these areas we ask that the operator use extreme caution and apply the manure at a rate of one-half of the maximum allowed rate in their nutrient management plan (if they have one), and double any setback distances included in the plan. **Right now we're doing this on a voluntary basis in Kewaunee County, however, I believe that this should be legislated into a statewide required practice on these types of soil areas, as well as soils having depths to groundwater of less than 36 inches.**

- At the present time, USDA Natural Resources Conservation Service (NRCS) standard 590 (Nutrient Management) states that if "ponding" of manure occurs application must stop. The problem is that there is no actual definition of "ponding" found in the 590 standard. "Ponding" is not even defined in any of the nonpoint rules and regulations covering manure application. However, NR113.03(40), Wis. Adm. Code, defines the "ponding" of septage as *"...the presence of free liquid over an area of 4 square feet or more, visible 2 hours after the application of the septage. An example of a 4 square foot area would be an area 4 feet by 1 foot."* **A similar definition needs to be incorporated somewhere in the nonpoint rules relating to applied liquid manure. Actually, I think the above definition of "ponding" would do just fine if you could just have the word "septage" striken, and the words "liquid manure" inserted.**

- At the present time, NRCS standard 590 (Nutrient Management) includes "fractured bedrock at the surface" in its definition of "direct conduits to groundwater". This certainly will help protect local groundwater, however, in the interest of truly protecting the public's health and welfare, the criteria of fractured bedrock deeper than just "at the surface" should be taken into account. The recent investigations completed down in Dodge County has provided some interesting results that would lead a reasonable person to assume that even 12 feet of soil may not be enough of a buffer between the surface and fractured bedrock, as far as manure applications and groundwater quality are concerned. **I think a prudent action to take would be taking fractured bedrock anywhere within at least 36 inches of the soil's surface into account.**

- Presently, there are 1,000-foot radius wellhead protection areas designated around municipal wells. **I believe that private citizens should have the option of officially designating similar private wellhead protection areas around their private rural wells.** For example, a private well owner could, through a county land conservation committee action, designate a 500-foot radius wellhead protection zone (specifically in soil areas having shallow depth to fractured bedrock or groundwater) around their well restricting the application of manure during the times of the year that are most vulnerable to causing groundwater pollution.

- **I think that a State Well Compensation Program providing 70% cost-sharing of installing a new private rural well if contaminated by bacteria/nitrates of agricultural origin is a great idea.** Of course, some kind of local on-site investigation and documentation would need to be completed certifying that the well owner's septic system or manure from the well owner's own animals was not a possible source of the contamination. **We also have to guard against just temporarily throwing cost-share dollars at the problem while ignoring the ongoing root causes of groundwater contamination.**

- **The state (i.e. legislators, DNR, DATCP, land conservation department staff) should begin a process of developing a model public health/land conservation ordinance that could be locally adopted and jointly administered through county Health Departments and Land Conservation Departments.** The model ordinance should address application of manure and fertilizer on shallow depth to bedrock or groundwater soil areas as well as soil areas with low or very low groundwater pollutant attenuation capacities during times of the year when groundwater contamination is most likely. Counties and Towns would then have the option to locally adopt this ordinance.

- Back in 2004 the Land & Water Conservation Department, local UW-Extension Ag Agent and County Emergency Management Office, jointly developed a local *Manure Spill Response Guide*. A copy of the guide booklet was provided to all of our local farmers countywide. **There should be a statewide commitment to developing these types of guides for distribution to all agricultural producers.**

I also want to voice my support for the recommendations found in the Final Report of the State's Manure Management Task Force (March 1, 2006), specifically;

1. Mandatory, locally tailored, winter manure spreading plans
2. Certification and licensing of custom manure haulers
3. Emergency manure spill response guides
4. Providing increased funding for statewide implementation of nutrient management plans
5. Web-based manure spreading weather/soil conditions advisory system

In summary, the recent well contamination events in Brown County have once again brought up the issues concerning winter/early spring applications of manure and its effects on our local groundwater resources. For areas in Kewaunee County this has been an ongoing concern for quite some time now. I hope that you'll support and champion any efforts to protect our vital local groundwater resources.

Thank you for taking the time to read through this letter. I'd be happy to discuss any of these ideas with you or answer any question you might have.

Sincerely,

Andy Wallander
County Conservationist / Department Head

cc: office files
Representative Garey Bies
Kewaunee County Land & Water Conservation Committee
Kewaunee County Board of Supervisors
Kewaunee County Health Department

Action Steps for Well Owners in the Town of Morrison

1. Collect water samples from your well for bacteriological and nitrate analysis, especially if you notice an unusual odor, color, or taste to your drinking water. If you notice a sudden change in the quality of your drinking water, do not drink or use your water for food preparation until you have it tested. Drinking water should be free of total coliform and E. Coli bacteria. Furthermore, the nitrate level in your drinking water should not exceed 10 milligrams per liter (mg/l) or parts per million (ppm).

   A test kit for bacteria analysis can be obtained from the Brown County Health Department by calling 920-448-6400. Test kits for bacteria and nitrate analysis can also be obtained from private commercial laboratories which are listed in the yellow pages of your telephone book under "Laboratories". The State Laboratory of Hygiene in Madison also offers water testing services. You can reach the State Lab by calling 1-800-442-4618.

   As you may be aware, a free sampling program is currently being conducted by the Brown County Health Department in cooperation with the Brown County Land Conservation Department. Residents in the Town of Morrison can obtain a free bacteria test kit at the town hall. Please contact Bill Hafs, Brown County Land Conservation (920-391-4633) or the Brown County Health Department (920-448-6400) for more information.

   Additional sampling programs are planned for this spring. The Wisconsin Division of Public Health (in cooperation with DNR) and the University of Wisconsin-Stevens Point are both scheduling programs. The date of these programs will be announced in your local newsletter.

2. A safe water sample is an indication that no harmful bacteria or viruses were present in your water supply at the time the sample was collected. However, conditions may change. Thus, the more samples you collect from your well, the greater assurance you have that no disease-causing microorganisms are present in your drinking water. It is recommended that you collect at least one bacteriological water sample per month during a thaw (January – April) and one sample in September or October.

3. If an unsafe sample is collected, you should resample your well before chlorinating it. Use a fixed faucet located near the pressure tank. Run 5 – 10 gallons of water out of the faucet. Then sterilize the end of the faucet using a small propane torch. Turn the water back on to a steady flow without any splashing. Use both hands to fill the sample bottle – do not set the cap down. Make sure the lab slip has the correct date on it, before sending your sample to a certified laboratory.

4. If the presence of coliform or E. Coli bacteria are confirmed in your check sample, do not drink your water or use it for food preparation. Discard any ice. Boil your well water for at least 5 minutes before using it for potable purposes. It is recommended, however, that bottled water be used for drinking purposes, since boiling water may concentrate the nitrate levels.

Please refer to the "Boil-Water Advisory Information" fact sheet developed by the Brown County UW-Extension Office for information concerning the use of your well water for bathing, dishwashing and brushing your teeth. If your well is unsafe for E. Coli bacteria, you should contact John Paul, Brown County Health Department (920-448-6418) or Chuck Warzecha, Wisconsin Division of Public Health, Madison (608-267-3732).

Free bottled water is currently being funded by DNR to Town of Morrison residents whose wells have tested unsafe. Contact Bill Hafs, Brown County Land Conservation Department (920-391-4633) to find out if you are eligible for this program. This program has an end date of August 12, 2006.

5. An unsafe well should be chlorinated as soon as possible. Follow the directions in the blue-colored DNR brochure titled "Bacteriological Contamination of Drinking Water Wells". Do not use too much bleach. Normally, 2 – 3 gallons of household bleach is sufficient. Chlorine tablets are not recommended since they do not dissolve quickly enough in groundwater. A licensed well driller or pump installer can assist you in chlorinating your well.

6. After chlorination, resample your well. Make sure that the bleach has been completely flushed from the well and plumbing system before collecting your first sample. At least 3 follow-up samples should be collected. These samples should be collected at least one week apart from one another. If the follow-up samples are safe, refer to Step 2 above.

7. If any of the follow-up samples are unsafe, it is recommended that you rechlorinate your well and resample. No more than three well chlorinations are recommended. After the first or second chlorination, you may want to contact a licensed well driller or pump installer to chlorinate your well. A licensed person can use a water truck to inject a large volume of chlorinated water into the well. This is known as the displacement method of chlorination.

   Furthermore, the well driller or pump installer should examine the pressure tank and sample faucet to ensure that your water samples were collected from a good location. Replacement of the pressure tank should be considered. Often, a sediment or sludge build-up in the bottom of the pressure tank will prevent the chlorine bleach from destroying all the bacteria in the pressure tank. The bacteria may reappear after a short time period. It is cheaper to replace a pressure tank than drill a new well.

8. You should have your well inspected by a licensed well driller or pump installer, particularly if it is producing unsafe water. A licensed person may find a minor defect, such as a loose well cap or plumbing cross-connection that could potentially cause a problem. More importantly, the inspector should help you determine how much casing pipe is installed in your well and the condition of the pipe. Is the casing pipe badly corroded? A rusted casing pipe could allow surface contamination into your well. Is the well located in a basement, old well pit, or near a septic drain field? These are the type of questions that a licensed person should help you answer.

   If your well was drilled before 1988, a well construction report may exist in the records of the Wisconsin Geological Survey in Madison. You can contact Irene Lippelt at 608-262-7430 for a request form. In order to fill out the form, you will

need to know the legal description of your property from a plat book (quarter, quarter, section, town, range) and the owner of the property at the time your well was drilled. The well construction report will tell you when your well was drilled, how much casing was installed, and the geology. Similar information may be obtained from a well driller or Gary Paplham, DNR, Green Bay (920-662-5432) for wells drilled since 1988.

9. If your well fails to produce safe water after three chlorinations or it fails to pass inspection, you should consider properly abandoning your well and drilling a new one. This is especially true if E. Coli bacteria were ever detected in your water samples. Proper abandonment requires that the entire well be filled from the bottom to the ground surface with bentonite or cement. It is recommended that a licensed well driller or pump installer be hired to do this work. For more information on well abandonment, please read the DNR brochure titled "Answers to Your Questions on Well Abandonment".

10. New well construction must comply with Chapter NR 812, Wisconsin Well Code, including any special casing requirements set forth by DNR. In portions of the Town of Morrison, it is recommended that at least 200 – 250 feet of casing pipe be installed in a new well. DNR is in the process of designating a special casing requirement for this area, which may take effect in the next few months.

    Reconstruction of your existing well is generally not cost effective. In most cases, it is required that a 4-inch diameter liner pipe be cemented in to the recommended casing depth (200 – 250 feet). Prior to installing the liner pipe, the lower drillhole must be constructed. A packer must then be installed to hold the liner pipe in place for the cementing process. The labor costs involved are substantial. Furthermore, the submersible pump installed in a 4-inch well is more expensive. A 4-inch well will also produce less water. The age, depth, and condition of the casing pipe in your existing well must also be considered. You should consult with a licensed well driller about well reconstruction.

    One of the most important steps in new well construction is the cementing of the 6-inch casing pipe in the ground. This procedure is known as well grouting. If you are drilling a new well, you may wish to speak with Gary Paplham, DNR, Green Bay (920-662-5432) about the well grouting process.

11. The Department of Natural Resources administers the Well Compensation Program. Under this program, a private homeowner who has a contaminated well may be eligible for grant money to construct a new well, connect to a municipal water supply, or install treatment equipment. An individual with an annual household income below $65,000 may be eligible for this program. The program generally pays 75 percent of eligible costs with a maximum award of $9,000.

    A recent amendment to the Well Compensation Program allows DNR to provide grant money to homeowners whose wells are contaminated by bacteria, if certain conditions are met. The wells must be located in a specific geographical area where laboratory results show that wells in the area are contaminated by fecal bacteria and evidence demonstrates that the bacterial contamination is caused by livestock. DNR will determine this area. Furthermore, if the homeowner has any improperly abandoned wells on his or her property, the homeowner must properly abandon those

wells to be eligible for compensation. The abandonment of these unused wells will be paid for by the Well Compensation Program. For more information on the Well Compensation Program, contact Tom Riewe, DNR, Madison (608-266-8697).

12. Installation of a treatment device for bacteriological contamination is not allowed under Chapter NR 812, Wisconsin Well Code, unless the private well owner has first constructed a new well to DNR specifications. If this new well should produce bacteriologically unsafe water, then installation of an Ultraviolet (UV) Treatment Device or approved chlorination unit may be allowed.

    An exception to this rule allows the installation of an approved bacteriological treatment device on an existing well, if the well has at least 100 feet of cement grouted casing pipe. The well must be inspected by a licensed well driller or pump installer to verify that it is in compliance the well code. Furthermore, a well construction report and/or field verification of the casing depth is also required.

    Any bacteriological treatment device installed must have a plumbing product approval from the Wisconsin Department of Commerce. Furthermore, the actual installation of the device on a well system must receive written approval from DNR. Contact Glen Schlueter, Wisconsin Department of Commerce, Madison (608-267-1401) for product approval information and Bob Schaefer, DNR, Madison (608-266-3415) for the installation approval.

13. If your nitrate level is above 10 mg/l, your drinking water should not be fed to an infant under 6 months of age. Pregnant women and nursing mothers should also not drink high nitrate water. People who have heart or lung disease, certain inherited enzyme defects or cancer may be more sensitive to the toxic effects of nitrate than healthy individuals. Do not attempt to remove the nitrate by boiling the water. This will only increase the nitrate concentration. Drink bottled water.

    Nitrate is an indication that fertilizers, human or animal wastes, such as wastes from a failing septic system or manure runoff have entered into a well. Generally speaking, nitrate is not a naturally occurring contaminant in limestone. High levels of nitrate are usually associated with man-made activities. Since nitrate is a chemical, it remains in the groundwater for a longer period of time. Thus, monitoring the nitrate level in your well can provide you information about the long term quality of your drinking water. Elevated nitrate levels above 5 mg/l should be tested at least once a year. If your drinking water contains nitrate, you may also want to have your water tested for the herbicide atrazine, especially if your well is located near a cornfield.

14. New well construction is usually the best long-term solution for a high nitrate problem. A deep cased well will usually provide low nitrate water. As noted in Step 10 above, it is recommended that at least 200 – 250 feet of casing pipe be installed in most new wells in the Town of Morrison.

    The Well Compensation Program only provides grant money to a well owner if his or her well has a nitrate level at or above 40 mg/l and the well serves a livestock operation. Contact Tom Riewe, DNR, Madison (608-266-8697) for more information on the Well Compensation Program.

15. Approved treatment devices are available for nitrate removal. Reverse osmosis and distillation units are the most common type of treatment devices. These devices usually serve a single faucet, such as a kitchen sink. It is important that any device which you install has a plumbing product approval from the Wisconsin Department of Commerce. Make sure the device is designed to remove nitrate at the levels found in your well. Ask the sales representative for a copy of the product approval letter. DNR approval for installation of a nitrate removal device is generally not required.

    Have a qualified person install the device. Once installed, you must properly maintain and operate the device. If the device is not serviced on a routine basis, the concentration of nitrate may build up inside the device over time. If breakthrough of the contaminant occurs, you may consume much higher levels of nitrate in your drinking water than the level present in your well. It is advisable to sample the nitrate level before and after the treatment unit at least once a year.

    For information on product approval, contact Glen Schlueter, Wisconsin Department of Commerce, Madison (608-267-1401) or Bob Schaefer, DNR, Madison (608-266-3415).

16. Insure that any old, unused wells located on your property or your neighbor's property have been properly abandoned. These wells are an open conduit to the groundwater supply. If poorly sealed, an unused well may allow surface contamination to drain directly to the limestone aquifer.

    As noted in Step 9, proper abandonment requires that the entire well be filled from the bottom to the ground surface with bentonite or cement. It is recommended that a licensed well driller or pump installer be hired to do the work. For more information on well abandonment, please read the DNR brochure titled "Answers to Your Questions on Well Abandonment".

    Cost share funding may be provided through Brown County for well abandonment in the Town of Morrison. You should contact Bill Hafs, Brown County Land Conservation Department, Green Bay (920-391-4633) for more information on this well abandonment program. For agricultural producers, well abandonment funding may be available through the USDA Natural Resources Conservation Service. Contact Jim Hunt, NRCS, Green Bay (920-884-3910).

17. If you observe manure running off a farm field into a ditch or stream, contact Dave Bougie, DNR, Green Bay (920-662-5460). If you suspect the runoff is from the spreading of industrial wastes on farmland, call Tom Tewes, DNR, Green Bay (920-662-5110). If neither person is available, call 1-800-847-9367. This number will relay your message immediately to the local conservation warden on duty.

18. Any change to local and state laws governing the spreading of manure and industrial wastes on farmland requires citizen participation. Contact your local legislators and inform them about your concerns.