How can agriculture impact water quality?
WI Agriculture Statistics

• 77,000 farms in Wisconsin
  • All crops and animal types
  • A farm is any place where $1000 or more of agricultural products were produced and sold

• Average farm size is 195 acres

• Total farmland in agriculture is 15.0 million acres
WI Dairy Statistics

- 13,000 dairy farms
- 1.26 million dairy cows
- Dairy accounts for 40% of Wisconsin agriculture jobs
Manure...
... as a fertilizer/soil conditioner
... as a water pollutant

Nitrogen ➔ groundwater impacts (nitrate)
          ➔ fish toxin (ammonia)

Phosphorus ➔ excessive algal growth in surface waters

Organic Matter ➔ depletes oxygen in surface water (BOD)

Pathogens ➔ human health concerns in surface water and groundwater
Around the Door

Egg Harbor Town Hall needs clean water

Egg Harbor seeking bids for purification system

By Peter J. Devlin
Advocate correspondent

Provide water for human consumption is being brought to the Egg Harbor Town Hall after a sample taken in late March revealed the presence of E. coli.

"You can't drink the water and you can't cook with it." - Pam Krael, town clerk

The other 24 sites would be divided into six groups with four individuals sites clustered around a single fire pit.

Town regulations require a minimum lot size of 1.5 acres for residential purposes, even for temporary sites like a campground. Harbour Village covers nearly 170 undeveloped acres and would use about 52 of these acres to comply with the town ordinance, Krael said.

There were no requests for group campsites, and the village board approved plans to increase the number of camp sites at the Town Park at 42nd Street in Egg Harbor.

The proposal includes an additional 35 sites. Eleven of the new sites would be what Wayne Hendricks, a member of the Egg Harbor Village board of directors, called "promotional sites." The promotional sites would allow short-term camping, "the only access to these sites would be through our security gates," he said.

Problems with wells run deep at Kleten

Water contamination a real possibility, area residents learn

By Myrna Collins
Post-Crescent staff writer

CHILTON — Mary Geier, who lives near Kleten, got good readings the second time her water was tested last month, but initial results that showed high nitrates and bacteria convinced her to start testing yearly.

"We're doing one of the steps urged by Calumet County Conservationist Eugene McLeod, state Department of Natural Resources water quality specialist Liz Heinen and groundwater field specialist Michael Hanten at a meeting Thursday of about 60 people, most of whom live in the Kleten area, between Chilton and Steeple, an area where thin, low-lying, fractured dolomite bedrock combines to make well contamination a real possibility.

"Results from the first round of well testing were not encouraging. "Results from the first round of well testing were not encouraging." McLeod said.

"There was no pattern as to which wells were safe and which were not, showing that the problem was widespread and very local," Hanten said.

74 percent of the wells in these first tests found were in need of further testing.

Simple steps can help prevent the problem. If all you do is clean up your well, the water will eventually return, Heinen said. "There was no pattern as to which wells were safe and which were not, showing that the problem was widespread and very local," Hanten said.

Properly closing abandoned wells, avoiding fertilizers and chemicals near sinks, properly siting manure or compost piles, proper well water intake and periodic water sampling are among the recommended steps.

We have to protect our groundwater," she said. Some of these wells would dig deeper wells, but the water in the sandstone layer can be salty and have a mineral flavor. And when digging a well costs $2,000 to $3,000, a deep well costs $15,000, and then you might not like the results.

"Really, prevention just means using common sense."

The meetings are a series of sessions that will be held in Calumet County as part of a two-year project to identify contaminated wells and work with owners to change daily practices that contribute to the contamination.

Calumet County water concerns

About 500 families live in five areas of Calumet County targeted in a two-year program to identify contaminated wells and educate property owners about safeguards. The areas contain many topsoil and bedrock of fractured dolomite, which provides little filtering of surface water that might carry nitrate-heavy fertilizers, herbicides and pesticides, as well as leachate from septic systems, compost manure piles, animal feed and water and salt road.

Well Spring of Trouble

Davy Griesmer stands outside his rural Whitehall home as contractors dig a new well on his property. His family is one of three known to have well water contamination so severe that the water smells and looks bad and has been caused by illness. No source of the problem has been pinpointed, but further tests are being conducted on area wells.

Tainted water puts residents on edge

Rural Whitehall families start digging new wells, as officials seek source of problem

By Steve Kunkel

Well contamination in the Town of Franklin bad enough to cause illness has forced at least two families to dig new wells with a price tag of about $1,000 each.

Bacteria was found in water from at least four wells in the Town of Franklin, causing local residents to become ill, and other in the community of not being able to use their water as a source of water contamination.

The new well the family will be digging will cost between $10,000 and $15,000, with no insurance covering the problem.

Even after the well contamination problems, he said he had no idea why the bacteria was in the water. He said he had no idea how to reduce the amount of bacteria he spoke of his fields.

"I have asked him several times to light-
1400 cow dairy has roughly the same pollution potential as Stevens Point, Neenah, Sun Prairie, or Superior
So what about rules?
NR 151 – Runoff Rules

• 2002
  – Performance standards and prohibitions for all agricultural operations in the state
    – Regardless of the size of the operation
    – Effective October 1, 2002

• 2010
  – Updated to include additional standards and prohibitions
    – Effective January 1, 2011
Agricultural Performance Standards

- Sheet, rill and wind erosion
- Tillage setback
- Phosphorus index
- Manure storage facilities
- Process wastewater handling
- Clean water diversions
- Nutrient management
Sheet, Rill & Wind Erosion

- Applies to all land where crops or feed are grown
- Includes pastures
- Must meet the “tolerable” (T) soil rate for that soil
Tillage Setback

- No tillage within 5 feet of the top of the channel of a surface water
- May be extended up to 20 feet
- Required to maintain adequate sod or self-sustaining vegetative cover
- Prevents the destruction of stream banks
- Prevents the deposition of soil directly in surface waters
Phosphorus Index

• Applies to all cropland, pastures and winter grazing areas

• Phosphorus index (PI) = 6 or less over the accounting period
  – Accounting period = 8 years

• Cannot exceed 12 in any given year
Manure Storage Facilities

- Designed, constructed and maintained to minimize the risk of failure and leakage

- Level of material may not exceed the designed margin of safety level (freeboard)

- Properly abandon storages that are no longer in use
Process Wastewater Handling

- No significant discharge of process wastewater to waters of the state

- Examples:
  - Milkhouse waste
  - Feed leachate
Clean Water Diversions

Runoff shall be diverted away from contacting feedlots, manure storage areas, and barnyards.
Nutrient Management

- Manure, commercial fertilizer and other nutrients applied in accordance with a nutrient management plan
  - Addresses crop needs
  - Limit or reduce discharges to waters of the state
  - Proper timing of nutrient applications
  - Includes PI and T
NR 151 Implementation

- Primarily implemented by County Land Conservation Departments
  - County ordinances
  - MOUs with DNR
  - Voluntary participation

- Implementation may be tied to other programs
  - Farmland Preservation Program, DATCP
  - ACTP 50, DATCP
  - County priorities through their LWRMPs
Agricultural Enterprise Areas and the Petition Process
Farmland Preservation Program

- Support local farmland protection goals
- Support a strong local, regional and state agricultural economy
- Provide income tax credit to landowners
Farmland Preservation Plan

- Farmland Preservation Zoning
- Agricultural Enterprise Area (AEA) & FP Agreements
- Purchase of Agricultural Conservation Easements (PACE)
Agricultural Enterprise Area (AEA)

- Contiguous
- Primarily in agricultural use
- Locally identified and locally supported
- Designated by the state
AEA Program Goals

- Farmland Preservation
  - Support planning
  - Protect farmland
  - Minimize land use conflicts

- Agricultural Economic Development
  - Encourage agricultural investment
  - Help farms stay economically viable
AEA Status

- 29 areas
- ~ 925,000 acres
- 22 counties
- 85 towns
- 1,250 petitioners
West Point AEA: Boundaries

- Town of West Point
- AEA
- Land Owner
- Parcel

Total AEA Area: 15,087.62 acres
Total Landowner Petitions: 19
Total Cooperator Petitions: 16

Created: 2/9/2014 | Updated: 3/26/2014 | RLP
West Point AEA:
Petitioner Lands

- Town of West Point
- AEA
- Petitioners
- Parcel
- Land Owner

Petitioners:
1. Larry & April Sawyer Living Trust
2. Miller, John & Dawn (Fourth Generation Homestead, LLC)
3. Miller, Herman
4. Miller, Paul
5. Ness, Scott (Ness Enterprises, Inc.)
6. Cairncross, Gordon
7. Bialek, Jon (Bialek Farms, LLC)
8. Enloe, Dolarman
9. Benish, Mike (Aspin Acres)
10. Benish, Dan (Aspin Acres)
11. Hartmann, Howard (Hartmann Farms, LLC)
12. Treinen, Alan
13. Lochner, Pat (Lochner Dairy, LLC)
14. Affler, Doug
15. Unke, Rolland
16. Uebersax, James (J&N Uebersax Family Trust)
17. Schoepf Farms, LLC
18. Cairncross, Craig & Jon
19. Schoepf, Steve & Lavem (L&S Farms of Sauk City, LLP)
1) DFA, Richland Center  
Dairy cooperative(# plants)
2) Premier Cooperative, Mount Horeb  
Agronomy, grain
3) Landmark Services Cooperative, Cottage Grove  
Agronomy, grain
4) United Cooperative, Sauk City  
Agronomy, grain
5) Foremost Farms, Baraboo  
Dairy Cooperative (# plants)
6) Equity, Arlington  
Livestock sales
7) Howard Hartmann, Lodi  
Grain
8) Big Gain Wisconsin LLC, Lodi  
Feed
9) Lodi Vet, Lodi  
Veterinary Service
10) McFarlane’s, Sauk City  
Farm Equip
11) Mid-State Equipment, Sauk City  
Farm Equip
12) Carl F Statz & Sons, Waunakee  
Farm Equip
13) Kalscheur Implement, Cross Plains  
Farm Equip
14) Johnson Sales, Arlington  
Farm Equip
15) L&N Tractor Repair, Sauk City  
Farm Equip repair
16) Sauk Prairie Vet, Sauk Prairie  
Veterinary Service
17) K & K Trucking, Sauk City  
Milk Hauler
18) Ellefson, Plain  
Milk Hauler
19) Meffert Oil Co, Waunakee  
Fuel, oil
20) Consumer Coop Sauk City  
Fuel, oil
21) Midway Oil, Sauk City  
Fuel, oil
22) Accelerated Genetics, Baraboo  
Cattle Breeding
23) Select Sires, Waupun  
Cattle Breeding
24) CRI Genex Cooperative, Shawano  
Cattle Breeding
25) Semex, Madison  
Cattle Breeding
26) Bushnell Ford, Lodi  
Farm Vehicles
27) Ballweg Motors, Sauk City  
Farm Vehicles
28) Do-All Construction, Lodi  
Construction cont.
29) Lanzendorf Excavating West Point  
Excavating, sand for bedding
30) 4th Generation Farms, West Point  
Custom farm work
31) ITAC of WI, Inc (Dave Cole)  
Agronomy Services
32) Wipp Brothers Ag Services, LLC  
Custom Manure Hauling
33) FS Cooperative Arlington  
Fuel/Fertilizer
34) Elsing Oil  
Fuel Services
35) Didion Milling Cambria  
Milling Services, Ethanol
36) United Wisconsin Grain Producers Friesland  
Ethanol plant
37) Ray Maly Trucking Dane  
Livestock sales/Trucking
38) WS Ag Center, Inc Columbus  
Livestock Feed
39) Badger Land Financial Madison  
Ag Lending
40) Bob’s Digging and Landscaping  
Excavating work
41) Lodi Sausage & Meat Market  
Meat Processing
42) Johnsons Sausage Shop (Rio)  
Meat Processing
43) D & G Custom Meat Processing  
Meat Processing
44) Wyttenbach Meats LLC. (Prairie du Sac)  
Meat Processing
45) Paul Olsen Excavating  
Excavating
46) Ag Consulting Team Inc  
Feed/Nutrient Mgmt
Why do this?

- Enables eligible landowners to enter into a voluntary Farmland Preservation Agreement
  - Income tax credit of $5 or $10 depending on zoning
    - ~100,000 acres so far
    - $260,000 in tax credits to landowners in one area
Why do this?

- Community planning/visioning
- Economic investment
- Local support and partnerships
- Deliberate land use
- Target limited resources
What doesn’t the designation do?

- Does not control land use
- Does not impose additional restrictions on land use
For more information:

http://workinglands.wi.gov

- Petition guidance documents and materials
- Successful petition narratives and maps
- Link to interactive map showing designated AEAs

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