

Groundwater Contamination and CAFOs

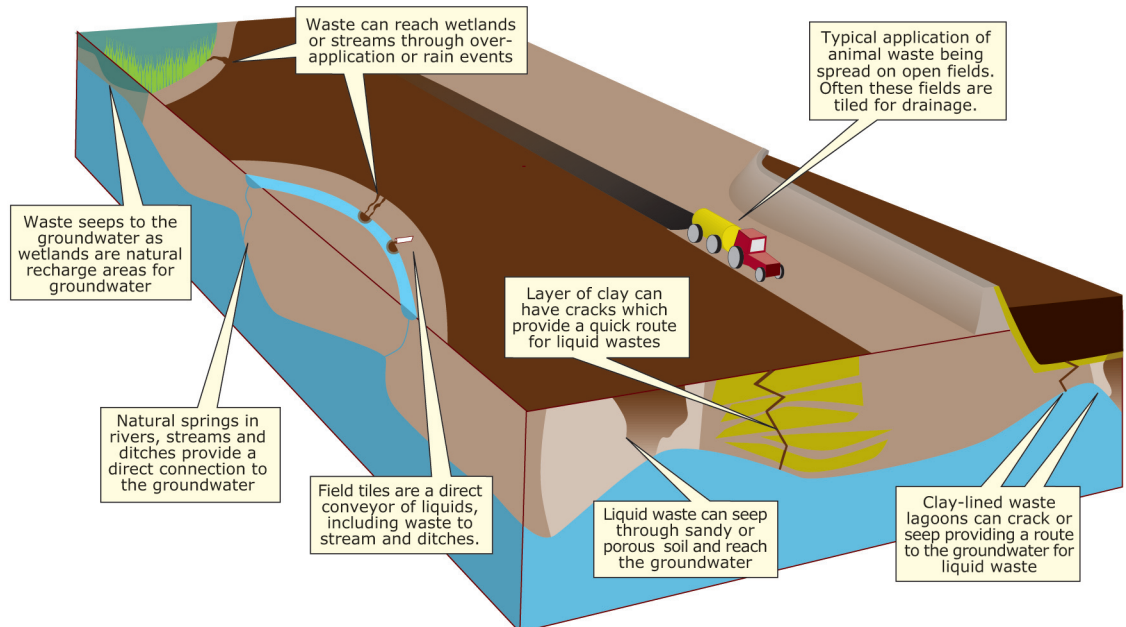
How it happens, the risk to drinking water, what you can do (Part 1 in a series)

3 Ways CAFO Waste Reaches Groundwater and Wells

1- seepage from lagoons or land-applied liquid waste can reach groundwater (the water table, or saturated zone) through sandy soil or cracks in clay.

2- pollutants can runoff to wetlands or wet low areas where the water table is high.

3- waste can enter streams where recharge zones are a direct connection to groundwater.



Pollutants from lagoons or land application of CAFO waste can seep to groundwater and contaminate drinking water

Kalamazoo Co. CAFO cited for groundwater contamination – iron, manganese, arsenic

Kalamazoo County – Water tests from monitoring wells at VDS-Scotts Dairy CAFO have shown that groundwater is contaminated with iron, manganese and arsenic.

In June, DEQ ordered VDS-Scotts to submit a work plan for a remediation study under Michigan's Environmental Remediation law. VDS-Scotts refused to comply, stating they had not discharged arsenic, iron or manganese, and even if the contamination came from the CAFO property, VDS argued their "activities are consistent with 'generally accepted agricultural management and practices'" [GAAMPs, Michigan's voluntary guidelines].

In September, DEQ notified VDS-Scotts that the facility was in fact responsible and needed to submit the remediation work plan. In addition, the CAFO was ordered to apply for a groundwater discharge permit.

DEQ explained that direct discharge of the metals was not the issue – but that **the CAFO's discharge of waste fluids high in BOD (biochemical oxygen demand) "led to the mobilization of these metals in groundwater."**

VDS was given 20 days to submit a remediation work plan and apply for a groundwater discharge permit. As of this writing, two months later, VDS has still not complied.

Concern for years

Neighbors of CAFOs have been concerned for years about groundwater contamination. The liquid waste stored at facilities, as well as field application of liquid waste, can reach groundwater in several ways.

If the practices at VDS-Scotts are "acceptable" agricultural practices, Michigan needs new practices.

Because of the multiple ways liquid pollutants can reach groundwater, and because CAFOs' high-BOD liquid waste can lead to heavy metals in groundwater, all CAFOs should be required to apply for groundwater discharge permits and all CAFOs should have aquifer monitoring wells.

CAFO Groundwater Pollutants

Nitrates – Nitrates from manure and fertilizers can cause a serious blood disorder, methemoglobinemia (blue baby syndrome), sometimes deadly in infants.

E. coli bacteria – *E. coli* and other pathogens in manure can cause diarrhea and vomiting, urinary tract infections, respiratory illness and pneumonia.

Iron, Manganese, Arsenic – Heavy metals can mobilize in groundwater from high-strength CAFO wastes. Arsenic poisoning can cause diarrhea, skin changes, digestive problems, cancers, numb hands and feet.

Chesterfield Dairy in receivership

Chesterfield Dairy in Lyons, OH, was placed in receivership in September following a lawsuit filed by Agstar Financial Services. Vreba-Hoff Dairy Development was also named as a plaintiff in the lawsuit.

According to the complaint, Chesterfield Dairy owes \$8.5 million and has not made a payment since March.

FDA Violation

In June, Chesterfield Dairy was cited by the U.S. Food and Drug Administration for selling a cow for slaughter as food that tested high in residues of flunixin. An FDA inspection of the CAFO found the facility held "animals under conditions that are so inadequate that medicated animals bearing potentially harmful drug residues are likely to enter the food supply."

Dozens of lawsuits against Vreba-Hoff

Sources show in the last two years that Vreba-Hoff Dairy Development, Vreba-Hoff Genetics and other Vreba-Hoff entities have been sued for fraud, personal injury, or breach of contract resulting in bankruptcies and receiverships, including Hopewell Dairy, Arts Dairy in Conroy, and Maple Grove Dairy in New Baltimore.

EPA announces meeting on MICHINDOH Aquifer as “Sole Source Aquifer”

–includes Bean Creek, St Joseph River Watersheds

EPA Region 5 has scheduled two meetings on the MICHINDOH aquifer designation as Sole Source Aquifer, on Wed. Jan 13 in New Era Auditorium, Bryan, OH. An informational meeting will be held from 6:30 to 7:30 p.m., followed by a formal public hearing from 8 to 9:30 p.m. Public comment on the designation will continue until Friday, Jan. 29. Send comments to William Spaulding, EPA Region 5 (WG-15J), 77 W. Jackson Blvd., Chicago, IL 60604 or email: spaulding.william@epa.gov

When an aquifer is designated the sole or principal source of drinking water for an area, EPA must review all federally funded projects in the area to determine their potential for contaminating the aquifer. No federal funds may be spent on projects which EPA determines may contaminate the aquifer.

What's a Sole Source Aquifer?

A Sole Source Aquifer is an aquifer that supplies 50 percent or more of the drinking water for an area and for which there is no reasonable alternative source should the aquifer become contaminated.

The research conducted as part of the petition included a physical description of the aquifer and the local boundaries; identification of alternative drinking water sources; population, income, and water demand statistics within the designated area; and feasibility analyses of alternative source implementation design and costs.

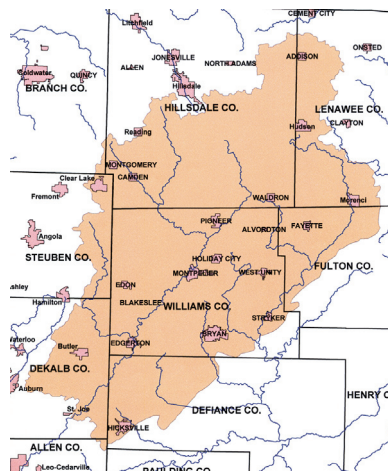
The MICHINDOH Glacial Aquifer is the source of drinking water for cities, villages and private wells in portions of Branch, Hillsdale, and Lenawee counties in Michigan, portions of Steuben, and Dekalb Counties in Indiana and most of Williams, and portions of Fulton, and Defiance counties in Ohio. The development of a regional ground water partnership will help protect our unique aquifer. (source: City of Bryan Municipal Utilities)

HELP PROTECT OUR GROUNDWATER

Attend the MICHINDOH aquifer meeting

Jan 13, 2010 – 6:30 p.m.

New Era Auditorium
520 W. Mulberry St
Bryan, OH



MICHINDOH aquifer

Area where groundwater wells supply 50% or more of drinking water, and where no alternative source exists if groundwater is contaminated



ECCSCM plans 2010 air monitoring project

Because of ongoing concerns about the health effects of emissions from CAFOs, ECCSCM is working to fund and implement a 1-3 yr study of air quality in the vicinity of local CAFO facilities and land application.

The monitoring would use professional air meters and follow professional protocols similar to the ECCSCM water monitoring project of 2001-2003 (See <http://nocafos.org/sampling.htm>).

The study would use either the Jerome 631X meter or several Honywell SPM meters (or both).

The Jerome meter is a portable hand-held device; the Honywell meters are stationary, providing continuous, real-time readings for Hydrogen Sulfide or Ammonia. These units are widely accepted industry-wide and are in use by state air quality agencies.

Air monitoring would be done on a regular basis and results would be shared with environmental and health agencies.

How to document the health impacts on our community

When you notice manure emissions and have physical or mental health symptoms, when you have to change your daily activities, please report the details to ECCSCM. All information will be anonymous. We use the health data to raise awareness and to inform policy makers, legislators and health departments.

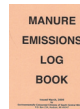


To report health symptoms from manure emissions

1) go online: www.nocafos.org/reportform.htm

OR

2) use printed log: contact us for a free copy of *Manure Emissions Log Book*



ECCSCM Meetings - 3rd Wednesday of the month, 7:30 p.m. Hudson Community Center

JOIN US: Yes, I want to help protect our water and promote sustainable agriculture. Contributions support water monitoring and community education.

Name: _____

Address _____

City _____ State _____ Zip _____

____ Annual Membership \$25 ____ Senior Membership \$10

Mail to: ECCSCM, P.O. Box 254, Hudson, MI 49247

Thank You!

We Support Sustainable Agriculture

that preserves and protects water quality in streams and lakes

that raises animals in a healthy, natural environment, grazing, absorbing sunshine

that avoids the steady diet of hormones and antibiotics given animals in the crowded, confined conditions of industrial facilities

that values and protects farmland, the environment and the rural community