BEFORE THE
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Petition for Emergency Action Pursuant to the Safe Drinking Water Act, 42 U.S.C. §300i, to Protect the Citizens of Kewaunee County, Wisconsin from Imminent and Substantial Endangerment to Public Health Caused By Nitrate and Bacteria Contamination of an Underground Source of Drinking Water, and Pursuant to the Comprehensive Environmental Response, Compensation, and Liability Act, 42 U.S.C. § 9604, and Resource Conservation and Recovery Act, 42 U.S.C. § 6973	)	EPA Docket No. _____ September ___, 2014

Submitted on Behalf of Petitioners Midwest Environmental Defense Center, Environmental Integrity Project, Midwest Environmental Advocates, Clean Wisconsin, Clean Water Action Council of Northeastern Wisconsin, and Kewaunee CARES

To: Administrator Gina McCarthy
U.S. Environmental Protection Agency
Mail Code 1101A
1200 Pennsylvania Avenue, N.W.
Washington, DC 20460

Administrator Susan Hedman
U.S. Environmental Protection Agency, Region V
Ralph Metcalfe Federal Building
77 West Jackson Blvd.
Chicago, IL 60604-3590

The above-listed Petitioners respectfully petition the United States Environmental Protection Agency ("EPA") to exercise its emergency powers established in the Safe Drinking Water Act, 42 U.S.C. § 300i, as well as its powers under Section 104 of the Comprehensive Environmental Response, Compensation, and Liability Act ("CERCLA")

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and Section 7003 of the Resource Conservation and Recovery Act ("RCRA") to investigate and address groundwater contamination that has presented, and continues to present, an imminent and substantial endangerment to the health of the residents of Kewaunee County, Wisconsin. This petition is based on historic and emerging data that have been compiled by the University of Wisconsin – Stevens Point, the Kewaunee County Land and Conservation Department, the Wisconsin Department of Natural Resources, and other agencies and individuals showing that underground sources of drinking water in Kewaunee County consistently exceed state and federal drinking water standards for nitrate and routinely test positive for the presence of bacteria (including human pathogens), and therefore put the health of Kewaunee County residents at risk. Because state and local authorities have not acted or are precluded from acting under state law to abate this endangerment, swift and decisive action by EPA is necessary.

I. INTRODUCTION AND BACKGROUND

In order to ensure drinking water security, the EPA Administrator is given certain emergency powers to abate the contamination of underground sources of drinking water. As set forth in the Safe Drinking Water Act ("SDWA"),

> [T]he Administrator, upon receipt of information that a contaminant which is present in or likely to enter a public water system or an underground source of drinking water… which may present an imminent and substantial endangerment to the health of persons, and that appropriate State and local authorities have not acted to protect the health of such persons, may take such actions as [she] may deem necessary in order to protect the health of such persons."[1]

Under this statutory provision the Administrator is authorized to, *inter alia*, issue "such orders as may be necessary to protect the health of persons who are or may be users of" the affected drinking water supplies and to commence civil enforcement to abate the public health endangerment.[2]

Prompt and decisive emergency action from EPA under the SDWA is needed in Kewaunee County, Wisconsin. As detailed in this Petition, Kewaunee County has an extensive and well-documented history of nitrate and bacteria contamination in the regional groundwater aquifer, which is the sole source of drinking water for approximately 95% of the county's population. As of June 2013, nearly a third (30.85%) of tested wells in the county contained bacteria, nitrate, or both at levels that exceed state and federal public

[1] 42 U.S.C. § 300i.
[2] *Id.* § 300i(a)(1).

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health standards. In some local communities the rate of contamination exceeds 50%.[3] So-called "brown water" incidents, where brown, foul-smelling water comes out of a faucet served by a groundwater well, are all too common.[4]

The landscape in much of Kewaunee County consists of highly fractured carbonate bedrock overlain by shallow, unconsolidated soils, and direct conduits from the surface to groundwater (including cracks, fissures, sinkholes, and other karst features) are prevalent. As such, groundwater quality in Kewaunee County is largely driven by land use practices. Land use in Kewaunee County is dominated by agriculture, and in particular livestock agriculture, and petitioners therefore request that EPA begin an investigation focused on the large livestock operations most likely driving contamination of Kewaunee County's drinking water resources.

There are approximately 200 dairies in Kewaunee County, including at least 15 concentrated animal feeding operations ("CAFOs") housing approximately 50,000 animal units, with an additional 10,000 (or more) animal units proposed by the end of 2015.[5] (By comparison, according to the 2010 census, Kewaunee County had a human population of approximately 20,505.[6]). Moreover, the dairy industry's groundwater impacts in the County are likely to increase. Although the number of dairy cattle, and dairy herds, is shrinking in most parts of Wisconsin, Kewaunee County has seen a considerable expansion in the number of cows over the past three decades. Since 1983, the total number of cattle in Kewaunee County grew from 59,800 to 80,000 (33.8%), and the total number of dairy cows grew from 30,300 to 42,000 (38.6%).[7] In fact, Kewaunee County is one of only four Wisconsin counties that saw an increase in the number of dairy cows from 1983 to 2012; the

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[3] Davina Bonness, Kewaunee County Land and Water Conservation Department, and Kevin Masarik, Center for Watershed Science and Education, UW-Extension & UW Stevens Point, *Investigating Intra-annual Variability of Well Water Quality in Lincoln Township* (hereinafter "Kewaunee Conservation Dep't Study"), attached hereto as Exhibit 1.

[4] *See, e.g.,* Laura Smith, Water contamination problems for Kewaunee County town, www.fox11online.com (March 7, 2014), attached hereto as Exhibit 2. See also 2013 well sampling data obtained from the Center for Watershed Science and Education at University of Wisconsin Stevens Point, attached hereto as Exhibit 3.

[5] *See* Exhibit 4, derived from WDNR's CAFO permittee database, available online at: http://dnr.wi.gov/topic/AgBusiness/data/CAFO/. The additional animal unit estimate is based only on proposed CAFO increases with a future date, however, the database also returns results with proposed CAFO increases for past dates that are not reflected in the current animal unit count. The 10,000 animal unit expansion data is therefore a conservative estimate based on best available data, and is likely quite a bit higher.

[6] U.S. Census Bureau, State and County QuickFacts: Kewaunee County, http://quickfacts.census.gov/qfd/states/55/55061.html.

[7] Wisconsin dairy herd count (obtained from WDNR), attached hereto as Exhibit 5.

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other three counties (Brown, Manitowoc, and Fond du Lac) saw only modest increases over the same time period.[8]

At the commonly-accepted 18:1 ratio for cow to human waste production, Kewaunee County's CAFOs currently produce the biological waste equivalent of more than 900,000 humans,[9] which must be stored and disposed of. Each year, approximately 340,000,000 gallons of liquid manure and 81,332 tons of solid manure are applied to cropland in Kewaunee County.[10] Crop production is a leading land use in Kewaunee County, and liquid manure from CAFOs and other livestock facilities is routinely applied to crop fields.[11] "Kewaunee County farmers own and manage 175,449 acres, or 80 percent, of the county's land."[12]

Compared to other counties in Wisconsin, Kewaunee County is ranked:[13]

- #1 for cattle density (number of cows per acre = 0.365)
- #1 for CAFO density (0.225 CAFO Animal Units per acre)
- #1 for recent cow herd size growth (33.8% growth, 1983-2012)
- #2 for total number of WPDES-permitted CAFOs (15)
- #2 for total number of CAFO animal units (49,327)
- #4 for percent of county cropland covered by a nutrient management plan (79% in 2013)
- #5 for cow-to-human ratio (3.89 cows per human)
- #7 for total number of milking cows (42,000 in 2012)
- #8 for most acreage covered by nutrient management plans (103,000 acres)
- #18 for total number of cattle & calves (80,000 in 2012)

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[8]WDNR Map, "% Change in Dairy Cow Numbers from 1983-2012 by County", undated, attached hereto as Exhibit 6.

[9] Ray Mueller, *CAFOs of Kewaunee County Draw State-Wide Attention*, Wis. State Farmer (Mar. 24, 2014) (citing data from Kewaunee County Land and Water Conservation Director Andy Wallander), attached hereto as Exhibit 7 and also *available at* http://www.wisfarmer.com/features/state/cafos-of-kewaunee-county-draw-state-wide-attention-b99232074z1-251987101.html.

[10] *Id.*

[11] DATCP, *2013 Wisconsin Agricultural Statistics*, attached hereto as Exhibit 8.

[12] UW-Extension, *Kewuanee County Agriculture: Value & Economic Impact* (2011), attached hereto as Exhibit 9.

[13] Statistics derived or calculated from United States Department of Agriculture, National Agricultural Statistics Service, *Wisconsin 2013 Agricultural Statistics* (October 2013), Exhibit 8. and also available at http://www.nass.usda.gov/Statistics_by_State/Wisconsin/Publications/Annual_Statistical_Bulletin/bulletin2013_web.pdf; United States Department of Commerce, U.S. Census Bureau, *Wisconsin 2010: Population and Housing Unit Counts* (September 2012), available at http://www.census.gov/prod/cen2010/cph-2-51.pdf; WDNR, Database of CAFO Permittees, at http://dnr.wi.gov/topic/AgBusiness/data/CAFO/; WDNR, CAFO Permittee Statistics by County, available at http://dnr.wi.gov/topic/AgBusiness/data/CAFO/cafo_sum.asp; DATCP, 2013 Nutrient Management Update, attached hereto as Exhibit 10.

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Unsurprisingly, WDNR records show that the Kewaunee County landscape has far exceeded its carrying capacity for the land application of nitrogen-bearing wastes, especially animal manure. A 2014 Kewaunee County Agricultural Nutrient Balance Summary indicates that animal manure from dairy cows, calves, heifers, and beef cattle alone results in approximately 12,408,423 lbs of nitrogen to dispose of by land-application to crop fields. However, the County's 130,228 harvested acres of agricultural crops are only able to utilize roughly 11,255,000 lbs of nitrogen, resulting in a net annual nitrogen loss to the environment of approximately 1,153,423 lbs.[14] This is a staggering number, and it is not difficult to see how this amount of nitrogen loss (even assuming some portion of it is lost to the atmosphere or otherwise does not reach regional groundwater supplies as nitrate) has and will continue to lead to pervasive groundwater quality problems.

While there is anecdotal evidence that other sources of nitrate and bacteria, including leaking septic tanks, land-application of industrial wastes or sewage sludge, or other activities play a relatively small role in the degradation of the county's groundwater supplies, land application of liquid manure and other agricultural wastes are undeniably the leading source of these pollutants and pose a major threat to public health.

As discussed below, the statutory prerequisites for emergency action under 42 U.S.C. §300i are satisfied here.[15] First, nitrate and bacteria, which are "contaminants" under the SDWA, are present in, and continue to be added to, the groundwater of Kewaunee County, an underground source of drinking water for thousands of county residents. Second, the presence of these contaminants in groundwater is causing an imminent and substantial endangerment to public health; an alarming number of private wells in the county have nitrate in excess of the 10 mg/L federal and state public health standard, and many more have tested positive for the presence of bacteria, forcing county residents to drink bottled water to avoid harm. Finally, neither the State of Wisconsin nor Kewaunee County have taken action to abate the public health endangerment. The Wisconsin Department of Natural Resources (WDNR) has failed to fulfill its duty to protect groundwater quality, and Kewaunee County—while actively engaged in public education and research related to groundwater quality—is largely precluded from taking action to remedy this problem by state law.

The threat to public health in Kewaunee County due to nitrate and bacteria pollution of groundwater is present, pervasive, and unlikely to change absent EPA action. The

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[14] 2014 Kewaunee County Agricultural Nutrient Balance Summary, attached hereto as Exhibit 11.

[15] *See also* EPA Memorandum, Final Guidance on Emergency Authority under Section 1431 of the Safe Drinking Water Act (Sept. 27, 1991), attached hereto as Exhibit 12 (hereinafter "SDWA Emergency Authority Guidance").

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undersigned Petitioners respectfully request that EPA use its emergency powers under the SDWA, 42 U.S.C. § 300i, to identify and abate the source(s) of contamination.

II. INTERESTS OF THE PETITIONERS

Petitioners Midwest Environmental Defense Center, Midwest Environmental Advocates, Clean Wisconsin, Clean Water Action Council of Northeastern Wisconsin, Kewaunee CARES, and the Environmental Integrity Project have direct interests in protecting drinking water safety and public health in Kewaunee County.

Midwest Environmental Defense Center (MEDC) is a not for profit membership organization whose mission is to protect and restore the environment, natural resources, and public health of the upper Midwest by ensuring that laws designed to protect us are applied and enforced as they were intended.

Midwest Environmental Advocates (MEA) is a nonprofit environmental law center, founded in 1999, which provides legal services for the under-represented and advocates for the public's right to clean air, land, and water. MEA represents communities negatively affected by water and air pollution, including groundwater contamination from CAFOs and other sources. MEA's clients in Kewaunee County have experienced many of the health risks and impacts associated with groundwater contamination by nitrate and bacteria, and have had to take various actions to protect their own health and safety due to the state's failure to act, including digging new drinking water wells, drinking water from alternative sources, and paying to conduct regular well testing to evaluate whether their water is safe to drink.

Clean Wisconsin is a nonprofit organization founded in 1970 with over 20,000 members and supporters statewide. Clean Wisconsin's mission is to protect and preserve Wisconsin's air and water and to create a cleaner environment by being a leading voice in environmental protection.

The Clean Water Action Council (CWAC) of Northeast Wisconsin is a nonprofit corporation organized to promote a safe, healthy, and sustainable environment in northeast Wisconsin, to educate and inform members and the public on environmental issues, and to take action on behalf of members and the public to protect the environment and human health. All operations are exclusively for charitable and educational purposes and for the promotion of environmental justice. Clean Water Action Council is an environmental advocacy group that has fought for environmental protection in northeast Wisconsin since 1985. Our organization is led by a board of directors and composed of hundreds of eco-minded members.

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Kewaunee CARES ("Citizens Advocating Responsible Environmental Stewardship") is a public interest environmental organization whose mission is to advocate stewardship of the land, air, and water to provide a thriving environment, economy, and community in Kewaunee County, Wisconsin. Kewaunee CARES is affiliated with the Socially Responsible Agricultural Project (SRAP), a national organization that uses education, advocacy, and community organizing to empower rural communities to protect themselves from CAFOs and provides guidance and assistance to communities seeking to develop healthy, sustainable alternatives to industrialized livestock production.

The Environmental Integrity Project (EIP) is a national nonprofit organization dedicated to advocating for more effective enforcement of environmental laws, including the SDWA. EIP also works to improve federal and state regulation of CAFOs and to improve surface and groundwater quality in areas significantly impacted by CAFO pollution, focusing in the Upper Midwest and the Chesapeake Bay watershed.

III. THE CONTAMINATION IN KEWAUNEE COUNTY WARRANTS EMERGENCY ACTION UNDER THE SAFE DRINKING WATER ACT, 42 U.S.C. § 300i.

Kewaunee County clearly meets and exceeds all of the statutory prerequisites for emergency action under 42 U.S.C. § 300i. Nitrate and bacteria, both contaminants, are present in drinking water sources in the County; these contaminants pose an endangerment to public health; and the endangerment is both imminent and substantial. Moreover, the threat is likely to increase over time, and yet the state has failed to act to abate the endangerment and protect public health. EPA action is required.

A. Contaminants are Present in, and Likely to Continue to Enter, an Underground Source of Drinking Water in Kewaunee County.

(1) Nitrate and Bacteria are "Contaminants" Under the Safe Drinking Water Act.

Section 1401(6) of the Safe Drinking Water Act defines a contaminant as "any physical, chemical, biological, or radiological substance or matter in water."[16] While this broad definition does not require a substance to be regulated under the Act in order to be classified as a "contaminant,"[17] the status of nitrate and bacteria as "contaminants" under

[16] 42 U.S.C. §300f(6).

[17] SDWA Emergency Authority Guidance, *supra* note 15, at 5-6. While this Petition only discusses nitrate and bacteria, EPA should investigate all contaminants that may pose an imminent and substantial endangerment in Kewaunee County's USDWs, including other contaminants associated with CAFO waste. EPA has

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SDWA is well established. Both bacteria and nitrate are listed as contaminants with established primary, health-based standards known as "maximum contaminant levels" ("MCLs"). The MCL is the "maximum permissible level of a contaminant in water which is delivered to any user of a public water system."[18] Maximum contaminant levels are promulgated after a determination by EPA based on the best available, peer-reviewed science and data that the regulation of the contaminant will reduce a threat to public health.[19]

For nitrate, the federal MCL is 10 mg/L.[20] The State of Wisconsin uses a similar framework, and the state enforcement standard for nitrate is also 10 mg/L.[21] Wisconsin's regulations also include a "preventive action limit," which is meant to serve as an indicator to regulatory agencies that a potential groundwater contamination problem exists, at which point the agency is required to "commence efforts to control the contamination and to provide a basis for design and management practice criteria in administrative rules."[22] The preventive action limit for nitrate in Wisconsin's groundwater is 2 mg/L.[23]

EPA has described nitrate as an "acute contaminant," meaning that "one exposure can affect a person's health," and notes that "[t]oo much nitrate in your body makes it harder for red blood cells to carry oxygen."[24] High levels of nitrate in drinking water are known to cause methemoglobinemia, or blue-baby syndrome, a potentially fatal condition in which a person's skin turns blue due to lack of oxygen in the blood.[25] According to the World Health Organization, "[o]ne of the most common causes [of blue-baby syndrome] is nitrate in drinking water. It is most important in bottle-fed infants and water from wells in rural areas is of special concern."[26] Nitrate in water supplies has also been connected to birth defects and "[s]ome researchers suspect that consuming nitrate-contaminated water may increase the risk of thyroid disease, diabetes, and certain types of cancer."[27]

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established that CAFO waste often contains heavy metals and trace elements such as arsenic, pharmaceuticals that CAFO animals excrete un-metabolized, and hormones. *See* Envtl. Prot. Agency, Office of Water, EPA 820-R-13-002, Literature Review of Contaminants in Livestock and Poultry Manure and Implications for Water Quality v (2013) (hereinafter "EPA Literature Review"), attached hereto as Exhibit 13.

[18] 42 U.S.C. § 300f(3).

[19] *Id.* §§ 300g-1(b)(1)(A), 300g-1(b)(3)(A).

[20] 40 C.F.R. § 141.11(d).

[21] Wis. Admin. Code NR § 140.10, Table 1.

[22] *Id.*

[23] *Id.*

[24] U.S. EPA Region 10, *Lower Yakima Valley Groundwater: Why is Nitrate a Concern?*, http://yosemite.epa.gov/r10/water.nsf/gwpu/lyakimagw (last updated Sept. 15, 2014).

[25] Wis. Dep't of Natural Resources, *Nitrate in Drinking Water*, PUB-DG-001 2014, attached hereto as Exhibit 14 and also *available at* http://dnr.wi.gov/files/PDF/pubs/DG/DG0001.pdf.

[26] World Health Organization, *Water-Related Diseases* (2014), http://www.who.int/water_sanitation_health/diseases/methaemoglob/en/.

[27] Wis. Dep't of Natural Resources, *Nitrate in Drinking Water*, PUB-DG-001 2014, *supra* note 25.

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The federal MCL for coliform bacteria requires systems that take 40 or more samples per month to show that 5% or less of samples test positive for total coliform in a month, and if the system takes fewer than 40 samples per month, the allowable total coliform is limited to one positive sample per month.[28] The Wisconsin state standard requires that bacteria be absent from all water samples.[29]

(2) Nitrate and Bacteria are Present in and Likely to Continue to Enter Underground Sources of Drinking Water in Kewaunee County.

The emergency powers established by the SDWA apply to public water systems and "underground sources of drinking water"[30] (USDWs), including sources that supply private wells.[31] EPA has defined a USDW as an aquifer or part of an aquifer "(1) [w]hich supplies any public water system; or (2) which contains a sufficient quantity of ground water to supply a public water system; and (i) currently supplies drinking water for human consumption."[32] A "public water system" is one that provides water for human consumption and "has at least fifteen service connections or regularly serves at least twenty-five individuals."[33] Drinking water in Kewaunee County is almost exclusively supplied by groundwater, which is accessed by private wells and three municipal water systems, qualifying it as a USDW under the SDWA.[34]

Nitrate and bacteria are present in the underground water supply in Kewaunee County to an alarming extent. The Center for Watershed Science and Education at University of Wisconsin Stevens Point ("UWSP") has compiled the results of well sampling by homeowners and state and local agencies across Wisconsin and in Kewaunee County in its groundwater quality database. Data compiled from 2004 to 2014 shows that, on average, 30% of wells in Kewaunee County test positive for bacteria contamination and/or exceed the nitrate MCL, with significant concentrations of contamination in the townships of Lincoln, Red River, and Luxemburg. See Figure 1.

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[28] 40 C.F.R. § 141, App. A to Subpart O.
[29] Wis. Admin. Code NR § 140.10, Table 1.
[30] 42 U.S.C. § 300i.
[31] SDWA Emergency Authority Guidance at 6, *supra*, note 15 and Exhibit 12.
[32] 40 C.F.R. § 144.3.
[33] 42 U.S.C. § 300f(4)(A).
[34] U.S. Geological Survey, Wisconsin Water Science Center, *Kewaunee County*, PROTECTING WISCONSIN'S GROUNDWATER THROUGH COMPREHENSIVE PLANNING (Jan. 14, 2008), attached hereto as Exhibit 15 and also *available at* http://wi.water.usgs.gov/gwcomp/find/kewaunee/index_full.html. Kewaunee County consistently relies upon groundwater for 96% of its water usage. *Id.*

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Figure 1. 2013 Well Testing Data, Kewaunee County

Kewaunee Co. Townships	**Unsafe wells:** bacteria present and/or nitrate > 10ppm # of wells (% of wells sampled)
Ahnapee	4 (13.8%)
Carlton	6 (23.1%)
Casco & Village of Casco	16 (25.0%)
Franklin	8 (17.8%)
Lincoln	38 (50.7%)
Luxemburg	20 (29.4%)
Montpelier	8 (25.8%)
Pierce	6 (24.0%)
Red River	35 (44.3%)
West Kewaunee	8 (19.5%)
Total:	149 (30.85%)

2013 well sampling data obtained from The Center for Watershed Science and Education at University of Wisconsin Stevens Point. See also: Exhibit3.

The Kewaunee County Land & Water Conservation Department ("Kewaunee Conservation Department") recently conducted a year-long study on groundwater quality in the town of Lincoln that produced results consistent with the UWSP data. The study found that six out of the ten study wells had a mean nitrate concentration in excess of the federal and state 10 mg/L standard.[35] The study further concludes, "[s]ince 2006, sixty-four wells have been replaced throughout Wisconsin due to confirmed contamination by livestock manure... ; three-quarters of these wells were located in areas of geologic concern in susceptibility criteria outlined in the Northeast Wisconsin Karst Task Force Report."[36] None of the study wells indicated *E.coli*; however "other investigations that performed side-by-side testing of multiple fecal indicators revealed that wells absent of *E.coli* were sometimes positive for enterococci and coliphages, which are other indicators of fecal waste sources."[37] As a result, the study concluded that

> "only using E.coli as an indication of human or animal waste likely underestimates the number of wells that are contaminated with fecal types of bacteria or other pathogens. While a positive E.coli test confirms human or animal waste source

[35] Kewaunee Conservation Dep't Study, p.13, *supra*, note 3, Exhibit 1.
[36] *Id.*
[37] *Id.* at 19.

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contamination, the absence of E.coli does not necessarily mean that a well is free of pathogenic microorganisms."[38]

Thus, more wells might be contaminated with pathogens from animal and human waste than previously thought due to the fact that researchers and agencies do not regularly test samples for all indicators.

The U.S. Department of Agriculture's (USDA's) Agricultural Research Service, University of Wisconsin – Oshkosh, and US Geological Survey Wisconsin Water Science Center recently conducted additional well sampling in order to "quantify the levels of viruses, bacteria, and protozoa from human wastewater and cattle manure in groundwater in northeastern Wisconsin."[39] These researchers sampled private wells in the Town of Lincoln in Kewaunee County, including some of the same wells tested in the Kewaunee Conservation Department Study. The researchers elected to test for these viruses and bacteria because the presence of particular microbes allowed them to confirm whether the source was bovine or human. Of the ten wells sampled in the towns of Lincoln and Red River, seven tested positive for microbial contaminants associated with human or animal waste.[40] Four wells sampled had *Salmonella* bacteria and one well was positive for the bacterium *Campylobacter jejuni*, both of which can cause serious illness in humans if the bacteria are alive when ingested.[41] The presence of pathogenic microbes in drinking water is cause for serious concern and underscores the need for action.

Due to local geology, this contamination is likely to continue. Kewaunee County's groundwater supply is particularly susceptible to contamination from nitrate and bacteria because it is located on a shallow fractured carbonate bedrock aquifer, generally referred to as a karst region. Because of deep bedrock cracks, karst areas allow water to move unfiltered through the ground to USDWs.[42] As EPA has recognized, "[g]round water in karst areas is particularly vulnerable to contamination because of the channelized nature of the rock, which allows rapid flow and may transport pathogens greater distances."[43] A report by the U.S. Geological Survey, Wisconsin Water Science Center, confirmed that much of Kewaunee County is susceptible to groundwater contamination and some parts are highly

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[38] *Id.*
[39] Data gathered for USDA – Agricultural Research Service, University of Wisconsin – Oshkosh by Borchardt, Spencer, Muldoon, Hunt, and Hubbard. Attached hereto as Exhibit 16.
[40] Id.
[41] *Id.*
[42] Kate Golden, *Hormonal Wells Found in State's Karst Region; Dairy Farms Possible Source*, Wis. Ctr. For Investigative Journalism, Dec. 15, 2013, attached hereto as Exhibit 17 and also *available at*, http://wisconsinwatch.org/2013/12/hormonal-wells-found-in-states-karst-region-dairy-farms-possible-source/.
[43] EPA Literature Review at v. *Supra* note 17, Exhibit 13.

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susceptible,[44] meaning that contaminants found in manure travel quickly into the groundwater. Similarly, the Northeast Wisconsin Karst Task Force, a group convened by University of Wisconsin-Extension and local county conservationists to study groundwater contamination in the area, has found that "[a] significant portion of Northeast Wisconsin has been mapped as very susceptible to groundwater contamination."[45]

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[44] U.S. Geological Survey, Wisconsin Water Science Center, *Kewaunee County*, PROTECTING WISCONSIN'S GROUNDWATER THROUGH COMPREHENSIVE PLANNING (Jan. 14, 2008), *supra* note 34, Exhibit 15.
[45] Kevin Erb and Ron Stieglitz, eds., *Final Report of the Northeast Wisconsin Karst Task Force* (Feb. 9, 2007) (hereinafter "Final Report"), attached hereto as Exhibit 18 and also available at http://learningstore.uwex.edu/assets/pdfs/G3836.pdf

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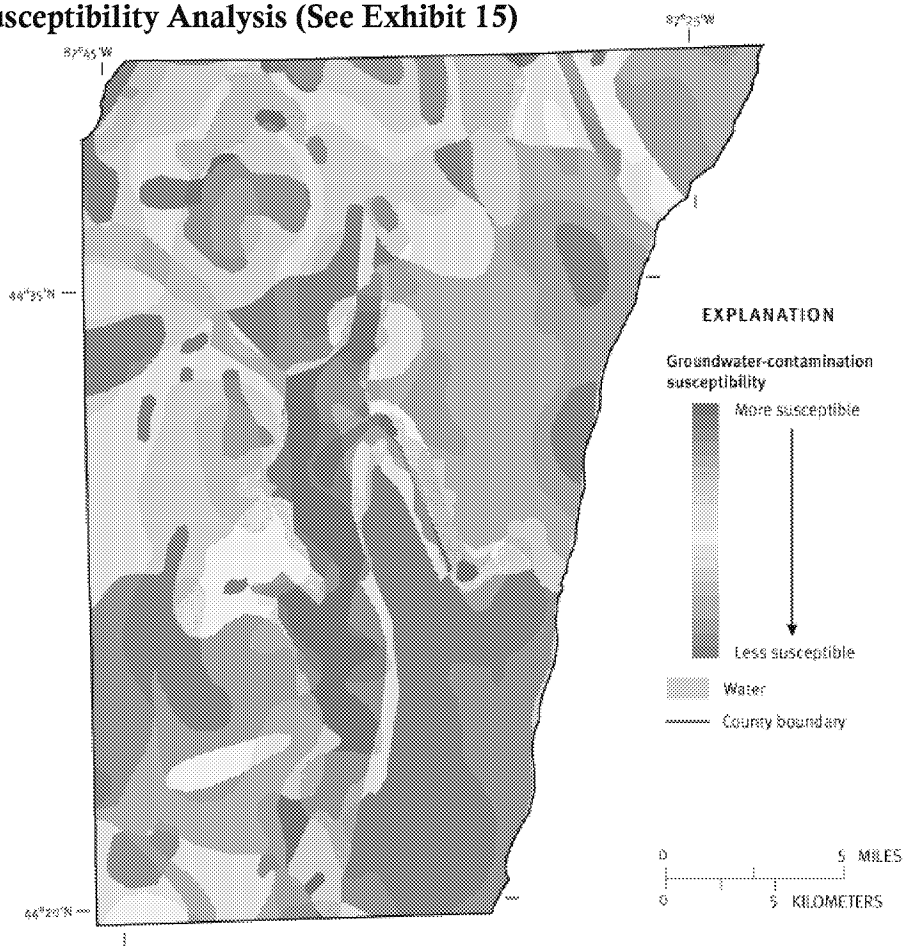
Fig. 2. Kewaunee County – Groundwater Contamination Susceptibility Analysis (See Exhibit 15)



This groundwater-contamination susceptibility map is a composite of five resource characteristic maps, each of which was derived from generalized statewide information at small scales, and cannot be used for any site-specific purposes.

Map source: Schmidt, R.R., 1987, Groundwater contamination susceptibility map and evaluation: Wisconsin Department of Natural Resources, Wisconsin's Groundwater Management Plan Report 5, PUBL-WR-177-87, 27 p.

Figure created for the "Protecting Wisconsin's Groundwater Through Comprehensive Planning" web site, 2007, *http://wi.water.usgs.gov/gwcomp/*

The Kewaunee Conservation Department's study noted that "shallow soils, found throughout Lincoln Township, have little ability to attenuate or filter contaminants, and have a greater likelihood of containing landscape features… that provide direct conduits to groundwater."[46] The study further concludes, "[s]ince 2006, sixty-four wells have been replaced throughout Wisconsin due to confirmed contamination by livestock manure . . . ; three-quarters of these wells were located in areas of geologic concern in susceptibility criteria outlined in the Northeast Wisconsin Karst Task Force Report."[47] This results in greater vulnerability to groundwater contamination. There is overwhelming evidence that

[46] Kewaunee Conservation Dep't Study, *supra* note 3 at 6, Exhibit 1.
[47] *Id.*

Kewaunee County's drinking water is currently contaminated by nitrate and bacteria, and that this contamination is likely to continue.

B. Nitrate and Bacteria Contamination of Kewaunee County's Drinking Water is Causing an Imminent and Substantial Endangerment to Public Health.

EPA's emergency powers under SDWA § 1431 are construed broadly, in order to grant the agency any authority necessary to stop or prevent a threat to public health where that threat is not likely to be addressed through other SDWA regulatory authority.[48] Importantly, the SDWA—and other statutes that use similar "may present an imminent and substantial endangerment" language—provide EPA authority to act in response to a *risk* of an imminent and substantial endangerment, as well as a present endangerment.[49] Based on these authorities, it is clear the groundwater situation in Kewaunee County "may present" an "imminent and substantial endangerment" to public health for the purposes of SDWA § 1431.

(1) The Contamination in Kewaunee County's Drinking Water Constitutes an Endangerment.

Nitrate and bacteria both endanger human health. EPA has found that nitrate levels above the MCL present an imminent and substantial endangerment to the health of persons.[50] Additionally, bacteria associated with fecal matter include *E. coli*, *Campylobacter*, and *Salmonella*, all of which are human pathogens that cause disease and infection and endanger public health.[51]

As established above, groundwater contamination with nitrate and bacteria in Kewaunee County has already occurred, is ongoing, and is likely to continue without action from EPA. This situation constitutes an "endangerment" for purposes of the Safe Drinking Water Act.[52] The prevalence of nitrate in Kewaunee County's groundwater presents a clear endangerment because, as explained above, nitrate has been determined to pose an acute human health threat.[53] Kewaunee County obtains nearly all of its drinking water from

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[48] *United States v. Price*, 688 F.2d 204 (3d Cir. 1982).
[49] *See, e.g., Parker v. Scrap Metal Processors, Inc.*, 386 F.3d 993, 1015 (11th Cir. 2004); *Ethyl Corp. v. EPA*, 541 F.2d 1 (D.C. Cir. 1976); SDWA Emergency Authority Guidance, *supra* note 15, Exhibit 12 at 6-7.
[50] In the Matter of: Yakima Valley Dairies, SDWA-10-2013-0080 (E.P.A. March 2013) (hereinafter "Yakima Valley Dairies"), attached hereto as Exhibit 19.
[51] EPA Literature Review at 13.
[52] SDWA Emergency Authority Guidance at 6.
[53] SDWA Emergency Authority Guidance at 7 (citing a nitrate MCL violation where a sensitive population is exposed as an imminent endangerment).

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groundwater, so all county residents—including sensitive populations—are practically certain to be users of the affected aquifer.[54]

(2) The Public Health Endangerment in Kewaunee County is Imminent.

Given that Kewaunee County's water is already contaminated, the endangerment from these contaminants is clearly "imminent." Even so, actual harm need not have materialized to trigger EPA's emergency authority under the SDWA: rather, "an endangerment is 'imminent' if conditions that give rise to it are present, even though the actual harm may not be realized for years."[55] For example, actual consumption of contaminated water is not necessary to establish imminence.[56]

The legislative history and subsequent interpretation of § 1431 also construe "imminent" liberally. The House Committee Report accompanying SDWA § 1431 states, "'imminence' must be considered in light of the time it may take to prepare administrative orders or moving papers to commence and complete litigation and to permit issuance, notification, implementation, and enforcement of administrative or court orders to protect the public health."[57] Accordingly, EPA should consider all potential delays in responding to an endangerment when evaluating the "imminence" of the risk, including the present level of contamination and the risk of increased contamination resulting from delay.

The legislative history of the 1984 RCRA amendments is also informative: "An endangerment is 'imminent' and actionable when it is shown that it *presents a threat* to human health or the environment, even if it may not eventuate or be fully manifest for a period of many years – as may be the case with drinking water contamination, cancer, and many other effects" (emphasis added).[58] In *Meghrig v. KFC Western, Inc.*, the Supreme Court evaluated RCRA's imminent and substantial endangerment provision and found, "this language implies that there must be a threat which is present *now*, although the impact of the threat may not be felt until later."[59]

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[54] U.S. Geological Survey, Wisconsin Water Science Center, *Kewaunee County*, PROTECTING WISCONSIN'S GROUNDWATER THROUGH COMPREHENSIVE PLANNING (Jan. 14, 2008), *supra* note 34, Exhibit 15 (noting that Kewaunee County utilizes groundwater for 96% of all county water usage).
[55] SDWA Emergency Authority Guidance at 7.
[56] *See Trinity American Corp. v. EPA*, 150 F.3d 389, 399 (4th Cir. 1998).
[57] H.R. Rep. No. 1185, 93rd Cong., 2d Sess. 35-35, reprinted in 1974 U.S. Code & Cong. Ad. News. 6454, 6487-88; *see also W.R. Grace & Co. v. EPA*, 261 F.3d 330, 339 (3d Cir. 2001) (holding than imminent should be given a broad interpretation).
[58] S. rep. No. 284, 98th Cong., 1st Sess., at 59 (Oct. 28, 1984).
[59] 516 U.S. 479, 485 (1996).

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The imminence of the endangerment is even more evident in this case because the existing contamination is likely to continue, and even increase, due to the geology and land use trends in Kewaunee County. Both nitrate and bacteria contamination are closely linked with over-application of manure fertilizer; in fact, "[a]t least 90% of nitrate inputs into [Wisconsin's] groundwater originate from manure spreading, agricultural fertilizers, and legume cropping."[60] When manure is land applied, the ammonia present in the manure converts to nitrite and then to nitrate.[61] In 2001, the USDA's Economic Research Service estimated that more than 60%-70% of manure nitrogen, after conversion to nitrate in the soil, cannot be assimilated by the farmland on which it was generated.[62] Although plants take up some nitrate, excessive application leads to runoff and leaching to groundwater. The large quantities of manure generated create an incentive for CAFO owners to land apply manure beyond agronomic rates as a method of waste management.[63] Excessive land application of manure is particularly harmful in Kewaunee County where, as noted above, much of the land is comprised of limited topsoil—often less than 18 inches—above karst topography.[64]

The lagoons that are used to store manure prior to land application can also leach significant amounts of nitrate to groundwater.[65] In fact, all manure lagoons result in some seepage.[66] For example, Wisconsin regulations acknowledge that liners for earthen lagoons will exfiltrate even if properly designed, and merely require that "wastewater or sludge from any lined lagoon [excluding those designed exclusively to hold animal wastes] . . . not exceed 500 gallons per acre per day."[67] Manure lagoons are also prone to spilling and overflowing due to both structural problems as well as periods of heavy precipitation. Spills and overflows provide an opportunity for nitrate and bacteria to enter groundwater.[68] Land application and storage of manure from animal operations are sources of groundwater contamination that endanger Kewaunee County's public health.

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[60] *Wisconsin Groundwater Coordinating Council FY 2013 Report to the Legislature,* "Nitrate", attached hereto as Exhibit 20 and also available at http://dnr.wi.gov/topic/groundwater/documents/GCC/GwQuality/Nitrate.pdf.
[61] Yakima Valley Dairies, *supra* note 50, Exhibit 19.
[62] EPA Literature Review, *supra* note 17, at v.
[63] Ron Seely, *Manure Spraying Under Scrutiny*, WIS. CTR. FOR INVESTIGATIVE JOURNALISM, April 27, 2014, attached hereto as Exhibit 21 and also available at http://wisconsinwatch.org/2014/04/manure-spraying-under-scrutiny/.
[64] JoAnn Burkholder et al., *Impacts of Waste from Concentrated Animal Feeding Operations on Water Quality*, 115 ENVTL. HEALTH PERSPECTIVE 308, 308 (2008) (hereinafter "Factory Farming Impacts"), attached hereto as Exhibit 22 and also *available at* http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1817674/.
[65] Yakima Valley Dairies, *supra* note 50, Exhibit 19.
[66] Wis. Admin. Code § NR 243.12(1)(d)
[67] Wis. Admin. Code § NR 213.10(2)(a).
[68] Factory Farming Impacts, *supra* note 64.

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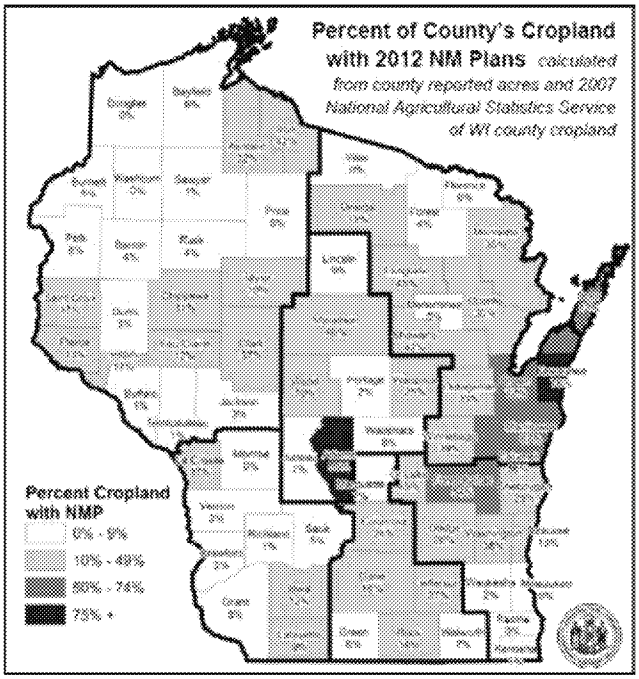
The CAFO industry is rapidly expanding in Wisconsin, and particularly in Kewaunee County, making the public health threat from manure disposal even more imminent. Within the last twenty years, the number of CAFOs in Wisconsin has increased more than fourfold. According to WDNR, in 1995 there were fewer than 50 CAFOs in the state, and currently there are 236 permitted CAFOs statewide, with 106 in Northeast Wisconsin.[69] In Kewaunee County, this means that nearly all cropland (79%) receives manure from CAFOs under a nutrient management plan.[70] The proliferation of CAFOs in Kewaunee County means that these facilities must dispose of an ever increasing amount of manure on finite cropland.

Figure 2. County Cropland under an NMP, 2012



DATCP. See also Exhibit 20.

The endangerment to public health posed by Kewaunee County's USDW contamination satisfies the imminence standard established above and in *Meghrig* because groundwater is currently contaminated and additional risks currently exist; the threat to the public health is "present now."

(2) The Public Health Endangerment is Substantial.

[69] WDNR, CAFO and CAFO WPDES permit statistics, available at http://dnr.wi.gov/topic/AgBusiness/data/CAFO/cafo_stats.asp. Of the 236 permitted CAFOs, 226 raise dairy cattle.
[70] Kewaunee Conservation Dep't Study, *supra* note 3, Exhibit 1 at 22.

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The health risks associated with nitrate and bacteria contamination in Kewaunee County's underground drinking water supplies also constitute a substantial endangerment under the SDWA. "Substantial" in the context of endangerment provisions simply means "serious,"[71] and a substantial endangerment exists "when there is reasonable cause for concern that someone or something may be exposed to risk of harm by release, or threatened release, of hazardous substances in the event remedial action is not taken."[72] Following these precedents, EPA may classify the public health endangerment as "substantial" if a risk is "serious" so that it raises a "reasonable cause for concern."[73] The term is not limited to extreme circumstances, but can apply to a range of existing or threatened hazards.[74]

As discussed above, nitrate poses significant public health risks when present in drinking water supplies at levels exceeding 10 mg/L. Nitrate consumption causes methemoglobinemia, and has also been linked to non-Hodgkin's lymphoma, gastric cancer, and bladder and ovarian cancer in older women; growing evidence also suggests that nitrate contamination may contribute to diabetes in children.[75] Although the nitrate threshold for these diseases is not known,[76] EPA and WDNR have established the maximum allowable concentration for drinking water at 10 mg/L, and groundwater in Kewaunee County frequently surpasses this level.

Existing research also demonstrates that bacteria in drinking water present a substantial endangerment to the public health. Most notably, drinking water contaminated by manure-derived pathogens can cause serious health problems. The National Association of Local Boards of Health has reported:

> There are 150 pathogens in manure that could impact human health . . . those who have weakened immune systems are at increased risk for severe illness or death. Those at higher risk include infants or young children, pregnant women, the elderly, and those who are immunosuppressed, HIV positive, or have had chemotherapy. This risk group now roughly compromises 20% of the U.S. population.[77]

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[71] *See, e.g.*, Cordiano v. Metacon Gun Club, Inc., 575 F.3d 199 (2d Cir. 2009),
[72] Burlington Northern & Santa Fe Ry. Co. v. Grant, 505 F.3d 1013, 1021 (10th Cir. 2007).
[73] SDWA Emergency Authority Guidance, *supra* note 15 at 8.
[74] *Id.* at 7.
[75] Wisconsin Groundwater Coordinating Council FY 2013 Report to the Legislature, "Nitrate," supra note 60, Exhibit 20.
[76] *Id.*
[77] Carrie Hribar & Mark Schultz, *Understanding Concentrated Animal Feeding Operations and Their Impact on Communities*, Nat'l Ass'n of Local Bds. of Health (2010), attached hereto as Exhibit 23.

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The presence of coliform bacteria in drinking water is a key indicator that animal and/or human fecal waste, and possibly other disease-causing organisms, have entered a well.[78] Fecal matter in wells presents a serious health concern because it often carries pathogenic bacteria, viruses and parasites that cause illness. Typical symptoms of exposure to these bacteria, viruses, and parasites include nausea, vomiting, fever, and diarrhea. In some cases, symptoms can be more severe.[79] According to the EPA, ingesting water contaminated with bacteria can cause gastrointestinal illness, headaches, gastroenteritis, and meningitis, and other illness.[80] In September 2014, a Door County, Wisconsin family became ill with *E. coli* after manure had been spread on their field and it subsequently rained, potentially washing manure into a sinkhole where it could readily flow into groundwater and contaminate their nearby well.[81]

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[78] Deron Baker, *Kewaunee County well quality poor, surpasses Wisconsin Contamination average*. Examiner.com (June 12, 2012), attached hereto as Exhibit 24 and also *available at* http://www.examiner.com/article/kewaunee-county-well-quality-poor-surpasses-wisconsin-contamination-average. Well sampling as discussed in the report was actually conducted by homeowners, and state and local agencies, and compiled by the University of Wisconsin Stevens Point, and not the Kewaunee County Land and Water Conservation Department as reported in the article.

[79] Wis. Dep't of Natural Resources, Bureau of Drinking Water and Groundwater, *Bacteriological Contamination of Drinking Water Wells*, PUB-DG-003-2013, attached hereto as Exhibit 25 and also available at http://dnr.wi.gov/files/pdf/pubs/dg/dg0003.pdf .

[80] U.S. Environmental Protection Agency, *Basic Information about Pathogens and Indicators in Drinking Water*, http://water.epa.gov/drink/contaminants/basicinformation/pathogens.cfm (last updated Dec. 13, 2013).

[81] *DNR Investigates Well Contamination*, DOOR COUNTY PENINSULA PULSE (Sept. 26, 2014), attached hereto as Exhibit 26.

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Recent well sampling confirms that harmful pathogens are present in a number of wells in the Town of Lincoln, Kewaunee County. USDA's recent well sampling indicated that *salmonella* or *campylobacter jejuni* were present in several of the wells tested.[82] Both of these cause illness in humans that can be severe, especially in vulnerable populations like infants, the elderly, and those with impaired immune systems.[83] *Campylobacter jejuni* commonly causes fever, diarrhea, abdominal cramps, nausea, headache, muscle pain, and vomiting.[84] The infection can lead to complications including bacteremia, infection of various organ systems, such as hepatitis, meningitis, cholecystitis, and pancreatitis, autoimmune disorders, hemolytic uremic syndrome, and recurrent colitis.[85] Infection with *salmonella* causes nausea, vomiting, abdominal cramps, diarrhea, fever, and headache.[86] Complications include dehydration and electrolyte imbalance, which can lead to death especially in the very young and very old if not treated promptly, septicemia, and reactive arthritis.[87]

The endangerment presented by bacterial contamination in groundwater is even more substantial as a result of the widespread use of sub-therapeutic antibiotics and other pharmaceuticals

Lynda Cochart from the Town of Lincoln, Kewaunee County:

The USDA did virus testing on our water. They said they would expect to see these findings in a third world country. My well tested negative for human viruses and positive for bovine viruses with cow manure getting directly in my water supply. It has also shown salmonella. Previous tests have shown e.coli and high in nitrates. I have had various groups test my water and the results are always very troubling. It is always for studies or grants and there is never any help offered. We need someone to pay attention to our water problem. We need help. No one should be allowed to do this to another human being. We cannot live without safe water and air. I have never asked for help but I am asking now. I am asking whoever is listening. Please look closely at what is going on around our area. It's frightening. It has taken my ability to protect my children and grandchildren.

See Exhibit 50 for her full letter to the EPA

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[82] USDA data gathered by Borchardt et al., *supra* note 39, Exhibit 16.

[83] For general information about *salmonella* and *campylobacter jejuni*, *see* Centers for Disease Control and Prevention, *What is Salmonellosis?*, *available at* http://www.cdc.gov/salmonella/general/index.html, and Centers for Disease Control and Prevention, *Campylobacter, General Information*, *available at* http://www.cdc.gov/nczved/divisions/dfbmd/diseases/campylobacter/#what.

[84] Food and Drug Administration, *Bad Bug Book: Foodborne Pathogenic Microorganisms and Natural Toxins* (hereinafter, *Bad Bug Book*), 2d Ed., Pathogenic Bacteria, Gram-negative bacteria, Campylobacter jejuni, at 15 (2012), *available at* http://www.fda.gov/downloads/Food/FoodborneIllnessContaminants/UCM297627.pdf.

[85] *Id.*

[86] *Bad Bug Book*, Pathogenic Bacteria, Gram-negative bacteria, Salmonella spp., at 10.

[87] *Id.*

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by animal feeding operations. The routine use of antimicrobials results in antimicrobial resistance in particular pathogens and bacteria, including *Salmonella* and *Campylobacter*.[88] Resistant pathogens may then transfer to humans through both the food chain and water contamination.[89] Animal agriculture is responsible for the significant majority of U.S. antibiotic use, and the Centers for Disease Control and Prevention (CDC) has specifically identified large, concentrated livestock and poultry operations as a major contributor to the rise of antibiotic-resistant infections.[90] USDA surveys and reports document that concentrated livestock and poultry operations utilize antimicrobials more often than smaller operations, both to prevent disease and to increase feed efficiency and animal growth.[91]

The use of antibiotics at CAFOs and other animal operations in Kewaunee County therefore heightens the public health threat posed by the bacteria already documented in Kewaunee County USDWs by increasing the likelihood that these bacteria will become resistant to antimicrobials. In a recent Yale University study, researchers not only found eighty antibiotic-resistant genes in cow manure but also found that the antibiotic-resistant genes were likely horizontally transferred between bacterial species.[92] Horizontal transfer allows antimicrobial-resistant genes to "jump" between bacteria, including human pathogens, and this transfer can occur in a variety of media.[93] In light of growing scientific consensus that the world is moving toward a "post-antibiotic era" [94] "where there would be no effective antibiotics available for treating many life-threatening infections,"[95] the threat to human health posed by antimicrobial-resistant pathogens is undoubtedly substantial and increases the need for swift action by EPA.

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[88] CDC Report at 36-37; Jessica Snyder Sachs, Good Germs, Bad Germs 142 (2006).
[89] EPA Literature Review at 50; *see also,* SACHS, *supra* note 88, at 143 (noting that "Each year, salmonella and campylobacter, the most common causes of bacterial food poisoning, send 3 to 4 million Americans to the doctor or hospital for treatment . . . In the most serious cases, when the bacteria spread beyond the intestines, effective antibiotics can spell the difference between full recovery and serious organ damage or death").
[90] U.S. Dep't of Health & Human Servs., Ctrs. for Disease Control and Prevention, Antibiotic Resistance Threats in the United States, (2013) (hereinafter "CDC Report"), attached hereto as Exhibit 27 and also available at http://www.cdc.gov/drugresistance/threat-report-2013/.
[91] EPA Literature Review at 37.
[92] Fabienne Wichmann, et al., *Diverse Antibiotic Resistance Genes in Dairy Cow Manure*, 5 MBIO 1, 6 (March/Apr. 2014), attached hereto as Exhibit 28 and also *available at* http://mbio.asm.org/content/5/2/e01017-13.full?sid=d8382103-587c-4ea0-bf7e-9c1912393d83.
[93] *Large Number of Antibiotic Resistance Genes Discovered in Cow Manure*, MEDICAL NEWS TODAY (Apr. 23, 2014, 12:00AM), attached hereto as Exhibit 29 and also at http://www.medicalnewstoday.com/articles/275786.php.
[94] Robert Pursell, *We're Headed Toward a 'Post-Antibiotic Era,' World Health Organization Warns*, PUBLIC BROADCASTING STATION (May 1, 2014), attached hereto as Exhibit 30 and also at http://www.pbs.org/newshour/rundown/world-health-organization-warns-headed-post-antibiotic-era/.
[95] Mary J. Gilchrist, et al., The Potential Role of Concentrated Animal Feeding Operations in Infectious Disease Epidemics and Antibiotic Resistance, 115 ENVTL. HEALTH PERSPECTIVES 313, 313 (2007), attached hereto as Exhibit 31.

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The health risks posed by nitrate and bacteria contamination are substantial at the EPA and WDNR established maximum allowable contaminant levels. Those levels have already been exceeded in Kewaunee County, fulfilling the criteria in House Report 93-1185 for what a "substantial" endangerment may be: "'a substantial likelihood that contaminants capable of causing adverse health effects will be ingested by consumers if preventative action is not taken'."[96] Because the public health endangerment in Kewaunee County is both imminent and substantial, EPA should take action.

C. Appropriate State and Local Authorities have not Acted to Protect the Health of Persons Affected by Groundwater Contamination in Kewaunee County.

EPA must act because neither the State of Wisconsin (acting through its relevant agencies, WDNR or DATCP) nor Kewaunee County or any other unit of local government has acted to protect the health of the public in Kewaunee County from the nitrate and bacteria contamination described above.

(1) The Wisconsin Department of Natural Resources has Authority to Act, but has Failed to Protect the Health of Persons Affected by Groundwater Contamination in Kewaunee County.

The WDNR has "general supervision and control over waters of the state."[97] The agency has been instructed to use this authority to "protect, maintain and improve the quality and management of the waters of the state, ground and surface, public and private."[98]

Relevant to this Petition, under Wisconsin law, the WDNR is expressly authorized or required to:

- Promulgate regulations to ensure that regulated facilities in Wisconsin will not cause the concentration of substances in groundwater to exceed state enforcement standards or preventive action limits;

- Adopt regulatory standards or take any other actions where "necessary to protect public health and welfare or prevent a significant damaging effect on groundwater or surface water quality for present or future consumptive or nonconsumptive use;" and

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[96] SDWA Emergency Authority Guidance at 8.
[97] Wis. Stat. § 281.12(1).
[98] *Id.* §281.11.

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- "Order or cause the abatement of pollution which the department . . . has determined to be significant and caused by a nonpoint source [including agricultural sources] . . . which is deleterious to human health or which otherwise significantly impairs water quality[.]"[99]

Under state law, exceedence of groundwater standards at a "point of standards application" is intended to trigger certain remedial actions at both the site-specific and programmatic levels. WDNR has defined a "point of standards application" for purposes of compliance with groundwater enforcement standards to include (a) any point of present groundwater use; (b) any point beyond the boundary of the property on which the regulated facility, practice or activity is located; and (c) any point within the property boundary but beyond a WDNR-established design management zone.[100] The sampling data referenced throughout this petition are taken from private and public drinking supply wells which are "points of standard application" under this regulatory definition.

Wisconsin law requires WDNR to take action at specific sites where groundwater quality standard exceedences have occurred. Where it identifies preventive action limit exceedances at a point of standards application, WDNR must investigate the cause of the exceedence and develop and implement appropriate response actions.[101] Where an enforcement standard is exceeded at a point of standards application, WDNR must prohibit the activity or practice that uses or produces the substance exceeding the standard, and require implementation of such further remedial actions as are necessary and appropriate for the site.[102] However, WDNR is not required to prohibit a practice or activity or order the closure of a facility that has caused or contributed to exceedences of the enforcement standard if (1) the substance is nitrate, and DNR has determined that the enforcement standard was exceeded, in whole or in part, because of high background nitrate concentrations <u>and</u> the additional concentration of nitrate does not present a public welfare concern; or (2) the facility causing the exceedence is regulated under the WPDES permit program.[103] Nevertheless, in all circumstances where an enforcement standard is exceeded, WDNR's response should, at a minimum, "achieve compliance with the enforcement standard at the point of standards application."[104]

At the broader programmatic level, if a preventive action limit is exceeded at a point of standards application, WDNR is required to "review its rules and, if necessary, revise the rules to maintain or achieve the objectives" defined by Wisconsin's groundwater law,

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[99] *See* Wis. Stat. §§ 160.001(4), (7); 281.20(1)(a).
[100] Wis. Admin. Code § NR 140.22(2)(b).
[101] Wis. Stat. § 160.23(1).
[102] *Id.* § 160.25(1)(a).
[103] *Id.* § 160.25(2)-(3).
[104] *Id.* § 160.25(1)(a), (2).

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including the objective to "minimize the level of substances in groundwater and to maintain compliance by these facilities, activities and practices with preventive action limits, unless compliance with the preventive action limits is not technically and economically feasible."[105] Similarly, if an enforcement standard is exceeded at a point of standards application, WDNR is required to "review its rules and, if necessary, revise the rules to ensure that the enforcement standard is not attained or exceeded at a point of standards application at other locations in the future."[106]

Separately, WDNR also implements a well compensation program under which certain income-limited landowners with contaminated wells (i.e., wells that produce water exceeding an enforcement standard established under Wis. Stat. ch. 160) may seek state compensation for the abandonment of contaminated wells, the construction of a new well, and temporary provision of drinking water.[107] However, private water supply wells contaminated only by nitrate and/or bacteria are generally excluded from this program, unless there is bacterial contamination within a WDNR-designated "area of special eligibility" for well compensation.[108]

WDNR has failed to invoke its broad authority or comply with its statutory obligations under Wis. Stat. ch. 160 to protect underground sources of drinking water or address the widespread and pervasive bacteria and nitrate exceedences in Kewaunee County. According to records recently obtained from WDNR,

- In the past approximately five years (since January 1, 2009), WDNR has not undertaken **any** review of its groundwater quality protection rules pursuant to Wis. Stat. § 160.19(4)(b) to address exceedences of the nitrate or bacteria enforcement standards anywhere in the State of Wisconsin, including Kewaunee County.[109]

- In the past approximately ten years (since May 9, 2004), WDNR has not issued **any** formal notification pursuant to Wis. Admin. Code §§ NR 140.24(1)(a) or NR 140.26(1)(a) that a preventive action limit or enforcement standard for nitrate or bacteria has been attained or exceeded at a point of standards application in Kewaunee County.[110]

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[105] Wis. Stat. § 160.19(2)(a), (4)(a).
[106] Wis. Stat. § 160.19(4)(b).
[107] *See generally* Wis. Stat. § 281.75; Wis. Admin. Code § NR 123.
[108] Wis. Stat. § 281.75(11)(a)(8), (ae).
[109] Letter from Mary Ellen Vollbrecht, Chief, WDNR Groundwater Section, to James N. Saul, McGillivray Westerberg & Bender LLC (May 12, 2014), attached hereto as Exhibit 32
[110] *Id.*

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- In the past approximately ten years (since May 9, 2004), WDNR has not issued **any** formal report pursuant to Wis. Admin. Code §§ NR 140.24(1)(b) or NR 140.26(1)(b) assessing the cause and significance of the increased concentration on nitrate or bacteria and proposing a response to meet the objectives of Wis. Admin. Code §§ NR 140.24(2) or NR 140.26(4) in Kewaunee County.

- WDNR has established special well casing requirements for portions of three towns in Kewaunee County (Town of Red River, Town of Lincoln, and Town of Ahnapee), and on May 29, 2013 declared a small portion of the Town of Lincoln a "Special Area of Well Compensation Eligibility" due to livestock waste contamination (Bovine Bacteroides).[111] While possibly helpful to reduce the risk of future health impacts due to nitrate and/or bacteria-contaminated drinking water supplies in these areas, these steps will not remedy any current groundwater contamination or prevent future contamination of existing wells.

- In the past approximately ten years (since May 9, 2004), the **only** site-specific remediation efforts undertaken by WDNR to address an exceedence of the nitrate or bacteria enforcement standard in Kewaunee County has been to investigate the contamination of a private well used by the Mindak family, residing at N8326 Tamarack Road, Casco, Town of Lincoln, Kewaunee County, Wisconsin. WDNR awarded Mr. Mindak up to $9,000 in state funds for a replacement well.[112]

- The WDNR has no full-time staff designated to address groundwater contamination from CAFOs that are WPDES-permitted, despite the fact that permittees are prohibited from discharging pollutants to groundwater in excess of the water quality standards in Wis. Stat. ch. 160.[113]

The WDNR is clearly aware of the extent and significance of the groundwater quality problem in Kewaunee County. For example, in April of 2006, University of Wisconsin-Extension and county conservationists convened the Northeast Wisconsin Karst Task Force to investigate and address groundwater contamination issues in the five-county region of Northeastern Wisconsin (Brown, Calumet, Door, Kewaunee, and Manitowoc Counties). The Task Force was created because its members recognized the region's history

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[111] WDNR, Bureau of Drinking Water & Groundwater, Special Well Casing Pipe Depth Areas, http://dnr.wi.gov/topic/Wells/documents/SpCsgDpthAreaLst.pdf (last modified June 12, 2013).
[112] Letter from Mary Rose Teves, Director, WDNR Bureau of Community Financial Assistance, to David & Judy Mindak (July 3, 2013), attached hereto as Exhibit 33.
[113] Wis. Stat. § 283.31(3)(f).

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of widespread groundwater contamination was likely due to the interaction of surface land-uses practices (predominantly agricultural) and the subsurface geology (the Silurian bedrock, a sequence of shallow and highly fractured dolomitic limestone). The Task Force was charged with the goals of (1) determining where human impact on the karst aquifer begins; (2) evaluating the best methods to reduce the impact of agriculture on groundwater quality; (3) prioritizing the implementation of available technologies to prevent future problems; and (4) identifying gaps in our knowledge base.[114] The Task Force was comprised of 18 individuals from the public and private sectors with extensive expertise in agricultural practices, groundwater quality, and geology—including two WDNR employees.[115]

In 2007, the Northeast Wisconsin Karst Task Force issued its Final Report, which represents the most thorough, broad-based, multi-disciplinary investigation of the causes of and potential solutions to the pervasive nitrate and bacteria contamination issues in Kewaunee County and the surrounding area to date. The Task Force asserted that "contamination of the shallow fractured bedrock aquifer" in Northeastern Wisconsin "is not a new environmental problem," but that "despite decades of educational efforts and millions of dollars spent helping municipalities, farmers, and rural homeowners address the issue, the number of contaminated wells and the severity of the contamination continues to rise."[116]

In its Final Report, the Northeast Wisconsin Karst Task Force recognized that "some of the existing technical standards and specifications are not adequate to protect groundwater" and therefore recommended additional research, along with follow-up action in six categories:

1. Establishment by the Legislature of a Carbonate Bedrock Management Zone;

2. Cooperation among federal, state, and local agencies and units of government responsible for the regulation of agricultural and other types of waste to ensure uniformity of state codes based on current scientific understanding;

3. The adoption of a Contamination Vulnerability Ranking for the Northeastern Wisconsin Carbonate Bedrock Region;

4. Implementation of a set of simple proactive steps and management practices developed and endorsed by farmers and professional service providers that would reduce incidents of contamination to the aquifer;

[114] Final Report, *supra* note 45 at 4.
[115] *Id.* at 3-4.
[116] *Id.* at 1 (emphasis in original).

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5. Implementation of a broad array of basic low-cost actions and practices that can be initiated without modification of existing or enactment of new statutes or codes;

6. Implementation of enhanced longer-range actions and practices that require investment or action at the town or county level.[117]

To date, however, WDNR has made no effort to implement any of the recommendations of the Karst Task Force, or to take any actions of its own initiative to address the systemic groundwater contamination in Kewaunee County. In short, it has not acted to protect the health of persons in Kewaunee County.

(2) Kewaunee County Has Attempted to Take Action, but is Generally Preempted by State Law from Acting to Protect the Health of Persons Affected by Groundwater Contamination in Kewaunee County.

Kewaunee County is well aware of the long-standing groundwater quality problems suffered by its residents, and it has taken a number of laudable steps to better understand the causes of, and potential solutions to, expansive nitrate and bacteria contamination. Petitioners are aware that Kewaunee County's government (acting primarily through its Land and Water Conservation Department) has worked proactively with area farmers to address manure management and storage issues believed to be a leading cause of the contamination, engaged in extensive well sampling, and sought to educate its citizens about the risks so that they can protect themselves and their families. But the County's hands are largely tied by preemptive state laws, and the County knows it lacks the sufficient legal authority to comprehensively address the sources of the contamination. As explained below, Kewaunee County has recently taken several important steps to abate the groundwater contamination described in this Petition, but its efforts have reached the boundaries of its authority and will not be enough to remedy the public health threat posed by nitrate and bacteria contamination of the county's groundwater.

On June 17, 2014, the Kewaunee County Board of Supervisors adopted, by a vote of 20-0, Resolution No. 9-6-14, which among other things requested "the state of Wisconsin Departments of Health Services ["WDHS"], Natural Resources, and Agriculture to provide any resources they can to the Kewaunee County Land and Water Conservation Committee and Board of Health to assist the County and local Towns with the protection of groundwater quality, specifically in areas of the County where shallow fractured bedrock is

[117] *Id.* at iii-iv.

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likely to be found within 20 feet of the land's surface."[118] By letter dated July 24, 2014, Wisconsin Department of Health Services, WDNR, and Department of Agriculture, Trade & Consumer Protection (DATCP) officials responded to the County, noting that they would collaborate in an attempt to conduct a literature review and to provide the additional resources sought by the County, but that "there are difficulties earmarking additional state funding for Kewaunee County without resulting in negative impacts to funding for other counties."[119]

On September 23, 2014, the Kewaunee County Board of Supervisors unanimously voted to approve a county-wide ordinance that would place additional restrictions or prohibitions on the land-application of liquid manure on shallow soils during winter months.[120] The ordinance garnered broad community support,[121] including from several noted experts in the field of geology with extensive field experience in Kewaunee County,[122] and yet was criticized by lobbyists for Wisconsin's industrial agricultural community who made a thinly-veiled threat to sue the County if the ordinance is ultimately enacted.[123] (Notably, the Wisconsin Farmer's Union—a group that represents family farmers, including many dairies, throughout the state—commended the County for its efforts, recognizing that "current state regulations are not serving to protect public health in Kewaunee County" and that groundwater pollution from the land-application of wastes on shallow soils "has become a major problem in Kewaunee County[.]"[124])

Despite developing an understanding of the cause and extent of the bacteria and nitrate groundwater contamination within its borders, Kewaunee County has not been able to protect public health from threats of nitrate and bacteria pollution because it lacks sufficient authority and resources to do so. Importantly, state law limits local units of government such as Kewaunee County from taking decisive action to address pollution

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[118] Minutes of the June 17, 2014 meeting of the Kewaunee County Board of Supervisors, attached hereto as Exhibit 34 and also available at http://www.co.kewaunee.wi.gov/docview.asp?docid=16604&locid=192.
[119] Letter from Karen McKeown, WDHS, John Petty, DATCP, and Russ Rasmussen, WDNR, to Ron Heuer, Chairman, Kewaunee County Board of Supervisors (July 24, 2014), attached hereto as Exhibit 35.
[120] Kewaunee County Public Health and Groundwater Protection Ordinance, Attached Hereto as Exhibit 36.
[121] *See* Jim Lundstrom, *Groundwater Ordinance Supported*, Door County Peninsula Pulse (September 12, 2014), attached hereto as Exhibit 37 (noting that "not a single word was uttered against the proposed ordinance" at a September 9 public hearing).
[122] See Letter from Dr. Maureen Muldoon, UW-Oshkosh, to Andy Wallander, Kewaunee County Land & Water Conservation Department (September 8, 2014), attached hereto as Exhibit 38, Letter from Dr. Ronald Stieglitz, Professor Emeritus, UW-Green Bay, to Andy Wallander, Kewaunee County Land & Water Conservation Department (September 4, 2014), attached hereto as Exhibit 39.
[123] *See* Letter from Laurie Fischer, Dairy Business Association, et al. to Ron Heuer, Kewaunee County Board of Supervisors (September 18, 2014), attached hereto as Exhibit 40 (repeatedly claiming that the ordinance is "illegal"); Green Bay Press-Gazette, Guest Commentary of John Holevoet, Dairy Business Association (September 17, 2014), attached hereto as Exhibit 41 (noting that "the ordinance will likely face legal challenges.")
[124] Letter from Wisconsin Farmer's Union to Kewaunee County Board (September 22, 2014), attached hereto as Exhibit 42

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from the land-application of wastes to cropland generally, and from livestock facilities more specifically. For example:

- Regulation of CAFOs waste management (including the issuance of WPDES permits to Large CAFOs, of which there are 15 in Kewaunee County[125]) is handled by the WDNR under Wis. Stat. ch. 283 and Wis. Admin. Code § NR 243. Counties are not authorized to issue WPDES permits or to dictate the terms and conditions of those permits.

- Under Wisconsin law, local governments are barred from imposing water quality requirements, nutrient management requirements, or conservation practices upon livestock facilities that are more stringent than those found in state regulations without express WDNR or DATCP approval.[126]

- No governmental entity (including local governments) may enforce Wisconsin's agricultural performance standards against existing livestock facilities or existing cropland (excluding WPDES-permitted CAFOs) unless state or local government has offered at least 70% cost share.[127] These agricultural performance standards relate to erosion, tillage setback, manure storage facilities, process wastewater handling, clean water diversion, nutrient management, and other practices known to have a significant impact on both surface and groundwater quality in Kewaunee County.[128]

- Wisconsin law precludes local governments from enacting zoning or permitting requirements for the siting of livestock facilities that are more stringent than the standards established by DATCP in most circumstances.[129]

In short, Kewaunee County's efforts have been as proactive as can be expected, given that its legal authority is limited by state laws, and given the threats of litigation it faces when it exercises its remaining authority. However, the County's activities are insufficient to protect the public health of its residents.

Because appropriate state and local authorities have not acted to protect the health of Kewaunee County residents from demonstrated groundwater contamination, Section 1431 enforcement action is necessary.

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[125] Wisconsin DNR Runoff Management, CAFO Permittees, Wisconsin CAFO Operations Summary, at http://dnr.wi.gov/topic/AgBusiness/data/CAFO/cafo_sum.asp.
[126] Wis. Stat. § 92.15(3); Wis. Admin. Code §§ NR 151.096 and ATCP 50.60.
[127] Wis. Stat. § 281.16(3)(e); Wis. Admin. Code §§ NR 151.09; NR 151.095; ATCP 50.54(2).
[128] *See* Wis. Admin. Code § NR 151.02-.08.
[129] Wis. Stat. § 93.90(3)(a).

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IV. EPA SHOULD EXERCISE ITS SECTION 1431 AUTHORITY BY INITIATING AN INVESTIGATION FOCUSED ON THE GROUNDWATER IMPACTS OF CAFOS IN KEWAUNEE COUNTY.

A. EPA has Broad Authority to Investigate and Remediate Public Health Threats under the SDWA

"Once EPA determines that action under Section 1431 is needed, a very broad range of options is available" as necessary to protect the health of persons and users of an USDW.[130] Among the list of remedial actions EPA may take are:

- Orders to provide "alternative water supplies, at no cost to the consumer by persons who caused or contributed to the endangerment (e.g., provision of bottled water, drilling of new well[s],)[131]

- Studies "to determine the extent of contamination, including inventory and monitoring of . . . private wells or groundwater,[132]

- "[A]n engineering study proposing a remedy to eliminate the endangerment and timetable for its implementation,[133]

- "[T]he halting of the disposal of contaminants that may be contributing to the endangerment,"[134]

- Orders to install groundwater monitoring wells that assess pollution from a potential source,[135]

- Orders to modify land application practices to prevent nitrate and bacteria infiltration and to conduct soil testing,[136] and

- Orders to modify waste and other material storage to prevent pollutant discharge to groundwater.[137]

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[130] SDWA Emergency Authority Guidance at 10.
[131] *Id.* at 10; *see also* Yakima Valley Dairies at 4-5 *supra* note 50, Exhibit19.
[132] SDWA Emergency Authority Guidance at 10.
[133] *Id.*
[134] *Id.*
[135] Yakima Valley Dairies, App. B at 5-10.
[136] *Id.* at 10-11.
[137] *Id.* at 12-13.

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In fact, "EPA may take such actions notwithstanding any exemption, variance, permit, license, regulation, order, or other requirement that would otherwise apply."[138] Further, EPA may employ a Section 1431 administrative order or a civil judicial action.[139] The SDWA grants EPA Section 1431 authority over state or local governments, area or point source polluters, or any other person whose action or inaction requires prompt regulation to protect public health, among others.[140]

B. Remaining Uncertainties are not a Barrier to EPA's Use of its Section 1431 Authority in Kewaunee County

EPA need not have absolute certainty as to the risk of contamination to public health or as to the source(s) of existing or likely contamination in order to exercise its Section 1431 authorities. Courts have provided broad latitude to EPA in order to protect public health, especially where, as here, drinking water is at risk. In the seminal case *Reserve Mining Co. v. EPA*, the Eighth Circuit held that Reserve Mining's discharges of waste rock from taconite ore mining into Lake Superior presented a potential threat to the public health, despite the fact that EPA could not establish that the probability of harm was more likely than not, because discharges created a "reasonable medical concern" for public health that "should be removed."[141] The court emphasized that understanding the potential harms from Reserve's discharges lay "on the frontiers of scientific knowledge."[142] *Reserve Mining* has come to represent a precautionary standard for protecting human health: EPA should act when contamination causes a "reasonable medical concern."[143] As demonstrated above, this standard has been met in Kewaunee County, where levels of contaminants in groundwater regularly exceed health-based standards and contaminated groundwater has sickened individuals and entire families.

Given the ubiquity of CAFOs and other animal operations in Kewaunee County and their status as a known source of nitrate and bacteria—the primary contaminants at issue in this Petition—EPA should specifically address the role of these facilities in causing the endangerment to public health. There is precedent for this kind of investigation; EPA exercised its SDWA emergency powers to address suspected groundwater contamination by CAFOs in Washington State's Yakima Valley. There, out of 115 private wells tested within the affected area, 61% had well water exceeding the 10 mg/L MCL for nitrate or had

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[138] SDWA Emergency Authority Guidance at 9.
[139] *Id.* at 11.
[140] *Id.* at 13.
[141] 514 F.2d 492, 520 (8th Cir. 1975).
[142] *Id.* at 519.
[143] *Id.* at 520.

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already installed a reverse osmosis system.[144] The EPA relied on its SDWA emergency authority to assess groundwater pollution from CAFOs through groundwater monitoring and concluded "that the dairies in the study are a likely source of nitrate contamination in residential drinking water wells downgradient of the dairies."[145] In its report, EPA noted that "[t]he primary sources of nitrogen at the dairies include application fields, manure lagoons, manure piles, silage and cow pens."[146] Notably, the EPA's study area for Yakima Valley was larger than Kewaunee County:

> The study area included a portion of the Yakima Valley, referred to as the Lower Yakima Valley encompassing portions of the Toppenish Basin (western area) and the Benton Basin (eastern area) along the Yakima River (Figure 3). Together, both areas cover approximately 368,600 acres within Yakima County. The Lower Yakima Valley has about 75,000 people, of which about 24,000 use private, unregulated residential wells (Ecology 2010).[147]

Yet even if sources other than CAFOs are potentially contributing to the contamination in Kewaunee County's USDWs, EPA may still invoke its emergency powers under SDWA § 1431 to respond to contamination.[148] As the Fourth Circuit Court of Appeals has stated, "EPA need not *rule out* other possible sources of contamination for it to properly exercise its emergency power."[149] Similarly, in *Ethyl Corp. v. EPA*, the D.C. Circuit considered whether EPA regulations requiring the phase-out of leaded gasoline were consistent with CAA § 211(c)(1)(A), which allows EPA to regulate gasoline additives whose emission products "will endanger the public health or welfare."[150] The court recognized the difficulty in determining whether leaded gasoline emissions posed a threat to the public heath due to the multiple sources of exposure.[151] Nonetheless, the court held that EPA may regulate leaded gasoline when the agency finds that "lead automobile emissions significantly increase the total human exposure to lead so as to cause a significant risk of harm to the public health."[152]

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[144] Arcadis, Yakima Valley Dairies Provision of Water Residential Well Sampling Report (March 6, 2014), at vii, attached hereto as Exhibit 43 and also *available at* ftp://ftp.epa.gov/reg10ftp/sites/yakima/Residential_Wells/2014-03-06_Residential_Well_Report_Final.pdf

[145] EPA, Monitoring Well Installation and Data Summary Report Lower Yakima Valley, Yakima County, Washington 7 (Mar. 2013), attached hereto as Exhibit 44 and also *available at* http://www.epa.gov/region10/pdf/sites/yakimagw/ monitoring_well_installation_and_data_summary_report_march2013.pdf.

[146] *Id.* at 7 n.2.

[147] US EPA Region 10, Relation Between Nitrate in Water Wells and Potential Sources in the Lower Yakima Valley, Washington, at 6 (March 2013), attached as Exhibit 45.

[148] *Trinity American Corp. v. EPA,* 150 F.3d 389, 397 (4th Cir. 1998).

[149] *Id.* (emphasis in original).

[150] 541 F.2d 1, 6.

[151] *Id.* at 25.

[152] *Id.* at 35.

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Thus, despite prior WDNR complaints that Kewaunee County has a long history of water contamination and identifying the source may be difficult,[153] EPA may, and should, respond to a likely source of contamination—in this case CAFOs—even if other sources may also exist. The *Ethyl* court endorsed conclusions drawn from suspected factual relationships that need not be proven beyond a reasonable doubt in order to protect the public health. The court specifically noted that when a statute is precautionary in nature, the standards of proof for health-related regulations are relaxed. "The Administrator may apply [her] expertise to draw conclusions from *suspected, but not completely substantiated*, relationships between facts, from trends among facts, from theoretical projections from imperfect data, from probative preliminary data not yet certifiable as "fact," and the like."[154] Consequently, it is within EPA's authority to invoke SDWA § 1431 to protect human health from groundwater contamination from CAFOs, as a source sector that significantly increases total human exposure to nitrate and bacteria.

C. EPA Should Prioritize Investigating and Abating Groundwater Contamination from CAFOs and other Large Livestock Operations

As noted previously, there are currently 15 WPDES-permitted CAFOs in Kewaunee County, and most of these CAFOs are planning to expand during their current five-year permit cycles:[155]

CAFO	Animal Units (Current)	Animal Units (Proposed)
Da Ran Dairy LLC	2503	2907
Dairy Dreams LLC	5242	4354
Deer Run Dairy LLC	1709	4627
Ebert Dairy Enterprises LLC	6442	8642
El Na Farms LLC	2306	3888
Halls Calf Ranch	960	1360
Heims Hillcrest Dairy LLC	1284	2358
Kinnard Farms Inc	4936	8710
Pagels Ponderosa Dairy	9561	9561
Rolling Hills Dairy Farm	2678	2678
Seidls Mountain View Dairy LLC	1617	1617
Skyline Blue Acres	1500	1500

[153] Seely, *supra* note 39.
[154] *Id.* at 28 (emphasis added).
[155] Wis. Dep't of Natural Resources, CAFO Permittees, http://dnr.wi.gov/topic/AgBusiness/data/CAFO/ (last visited Oct. 9, 2014).

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Stahl Bros Dairy LLC	2060	2140
Stahl Farms	1781	2006
Wakker Dairy Farm Inc	4748	4612

The Petitioners request that EPA begin evaluating the imminent and substantial endangerment to public health in the County by conducting an investigation to trace pollutants from these facilities' manure lagoons and waste application fields, as well as testing the residential wells of nearby and down-gradient residents for indicators of bovine fecal contamination. The Yakima Valley study provides a useful template for designing and implementing this investigation.

Additionally, Petitioners request that the EPA consider the following additional responses:

- Supply a free source of clean drinking water to residents in Kewaunee County whose well water exceeds safe limits for nitrate and pathogens

- Install groundwater monitoring wells to further assess the extent of pollution in Kewaunee County's groundwater

- Investigate whether Wisconsin's nutrient management standards and practices are sufficient to protect groundwater from contamination in areas of karst topography and shallow depth to bedrock and/or groundwater, such as are present in Kewaunee County.

Regarding this final point, Wisconsin's waste-spreading regulations presume that compliance with nutrient application practices and rates set by the Natural Resource Conservation Service and University of Wisconsin-Extension will ensure compliance with groundwater quality standards, *see* Wis. Admin. Code § NR 243.14 (citing NRCS Standard 590 and UW-Extension Publication A2809). However, no research has established such a link, and the standards themselves caution that compliance will not necessarily avoid violations of water quality standards.[156] Further investigation of this issue could thus be

[156] NRCS Standard 590 states, "Implementation of this standard may not eliminate nutrient losses that could result in a violation of the law." NRCS 590 § IV (2005), *available at,* http://efotg.sc.egov.usda.gov/references/public/WI/590.pdf. UW-Extension Publication A2809 similarly notes that while its N recommendations are being used "as a vehicle for achieving environmental objectives, . .. the basis for developing these recommendations is agronomic." See Laboski and Peters, UW-Extension, Nutrient Application Guidelines for Field, Vegetable, and Fruit Crops in Wisconsin at 56 (2012), *available at* http://learningstore.uwex.edu/assets/pdfs/A2809.pdf.

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very productive and assist achieving a longer-term resolution of the problems identified in this Petition.

V. EPA SHOULD USE ITS AUTHORITY UNDER CERCLA § 104 AND RCRA § 7003 TO ABATE THE IMMINENT AND SUBSTANTIAL ENDANGERMENT TO PUBLIC HEALTH IN KEWAUNEE COUNTY.

In addition to the SDWA emergency authority and remedial actions described and requested in this Petition, the undersigned Petitioners hereby petition EPA for action pursuant to Section 104 of the Comprehensive Environmental Response, Compensation, and Liability Act ("CERCLA"), 42 U.S.C. § 9604, and Section 7003 of the Resource Conservation and Recovery Act ("RCRA"), 42 U.S.C. § 6973, to investigate, monitor, remediate, and abate the imminent and substantial endangerment to public health in Kewaunee County described above, and to hold those responsible for such endangerment accountable.

Petitioners note that these statutory provisions provide crucial supplemental authority to EPA beyond what is provided in SDWA section 1431 and, once invoked and applied by EPA, will facilitate a more comprehensive and effective response to the groundwater contamination in Kewaunee County. Moreover, EPA has relied upon these authorities to address nitrate and bacteria contamination in groundwater before, and to bring about response actions from the agricultural sources of pollution which caused and contributed to the public health endangerment.[157]

A. EPA's Response Authority Under CERCLA § 104

EPA, as delegated by the President of the United States, has broad authority to take any "response measure consistent with the national contingency plan" which may be necessary to protect the public health or welfare or the environment.[158] This authority is triggered whenever "there is a release or substantial threat of release into the environment of any pollutant or contaminant which may present an imminent and substantial endangerment to the public health or welfare[.]"[159] As discussed extensively above, there has been a release, and continued threat of future release, of nitrate and bacteria (both of

[157] *See, e.g.,* EPA Memorandum, Findings in Support of Use of the Comprehensive Response Compensation and and Liability Act, Section 104(e) to Address Contamination in Yakima Valley Groundwater, Washington (April 15, 2010), attached hereto as Exhibit 46; *In the Matter of Golden Gate Hop Ranches, Inc.*, Magistrate No. MJ-10-4066-0, Administrative Warrant for Entry, Inspection, and Sampling Under CERCLA Section 104(e) and Safe Drinking Water Act Section 1431 (E.D. Wash., April 16, 2010), attached hereto as Exhibit 47; *In the Matter Of Seaboard Farms, Inc.*, U.S. EPA Docket No. RCRA-06-2001-0908, Unilateral Administrative Order (June 26, 2001) (hereinafter, "Seaboard Farms Order"), attached hereto as Exhibit 48.
[158] 42 U.S.C. § 9604(a)(1).
[159] *Id.*

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which are "contaminants" under the SDWA and CERCLA) into the environment which has and will continue to present an imminent and substantial endangerment to the public health in Kewaunee County. Nothing further is needed to invoke EPA's CERCLA response authorities here. Importantly, CERCLA provides EPA with investigation, entry and inspection, and other authorities which supplement the agency's emergency authority under SDWA § 1431.[160]

B. EPA's Enforcement Authorities Under RCRA § 7003

Section 7003 of the Resource Conservation and Recovery Act ("RCRA") authorizes the EPA Administrator to bring suit against, or issue an administrative enforcement order to, any person who "has contributed or is contributing to" the "past or present handling, storage, treatment, transportation or disposal of any solid waste or hazardous waste" which "may present an imminent or substantial endangerment to health or the environment." [161] A "solid waste" under RCRA is any discarded material, including any "solid, liquid, semisolid, or contained gaseous material" resulting from, *inter alia*, "agricultural operations."[162] Manure, dairy effluent, and associated process wastewaters from dairy operations, which are land-applied and subsequently leak into groundwater, are discarded materials from agricultural operations and thus a solid waste under RCRA.[163] Moreover, as discussed extensively above, nitrate and bacteria in Kewaunee County's groundwater presents an imminent and substantial endangerment to public health. Nothing further is required to trigger and invoke EPA's enforcement authority under RCRA § 7003.

EPA guidance encourages regional offices to "explore the wide range of uses of this authority to compel responsible persons to abate conditions that may present an imminent and substantial endangerment."[164] Importantly, RCRA § 7003 gives EPA a valuable tool to address multiple-source contamination scenarios such as exists in Kewaunee County because it adopts joint and several liability.[165] It also gives EPA broad authority to order each person responsible for the endangerment "to take such action as may be necessary," which EPA has interpreted to include a range of injunctive relief, and the authority to "to require in appropriate cases environmental assessment, controls on future operations, and, potentially, environmental restoration."[166]

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[160] *See, e.g.*, 42 U.S.C. § 9604(b), (e).
[161] 42 U.S.C. § 6973(a)
[162] *Id.* § 6903(27).
[163] *See, e.g.,* Seaboard Farms Order at ¶¶30-33.
[164] EPA Memorandum, Guidance on the Use of Section 7003 of RCRA at 2 (October 1997), attached hereto as Exhibit 49.
[165] *Id.* at 18-19.
[166] *Id.* at 19.

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VI. CONCLUSION

In conclusion, the undersigned Petitioners respectfully but urgently request that EPA invoke its emergency authority under section 1431 of the Safe Drinking Water Act, 42 U.S.C. § 300i, as well as to address the imminent and substantial endangerment to public health in Kewaunee County, Wisconsin from widespread and pervasive groundwater contamination from nitrate and bacteria. Please feel free to contact the undersigned with any questions or for more information.

Respectfully Submitted on October 22, 2014.

/s/ James N. Saul
James N. Saul, on behalf of Petitioner
Midwest Environmental Defense Center
McGillivray Westerberg & Bender LLC
211 S. Paterson Street, Suite 320
Madison, WI 53703
(608) 310-3560
saul@mwbattorneys.com

/s/ Kim Wright
Kim Wright, on behalf of Petitioner
Midwest Environmental Advocates
612 W Main Street, Suite 302
Madison, WI 53703
(608) 251-5047
kwright@midwestadvocates.org

/s/ Tarah Heinzen
Tarah Heinzen, on behalf of Petitioner
Environmental Integrity Project
1000 Vermont Avenue NW, Suite 1100
Washington, DC 20005
(202) 263-4441
theinzen@environmentalintegrity.org

/s/ Elizabeth Wheeler
Elizabeth Wheeler, on behalf of Petitioner
Clean Wisconsin
634 W. Main Street, Suite 300
Madison, WI 53703
(608) 251-7020 x 21
ewheeler@cleanwisconsin.org

/s/ Dean Hoegger
Dean Hoegger, on behalf of Petitioner
Clean Water Action Council of Northeastern Wisconsin
P.O. Box 9144
Green Bay, WI 54308
920-495-5127
contact@cleanwateractioncouncil.org

/s/ Lynn Utesch
Lynn Utesch, on behalf of Petitioner
Kewaunee CARES
P.O. Box 84, Kewaunee, WI 54216
(920) 388-0868
lnutesch@yahoo.com

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