

October 29, 2024

Bruno Pigott  
Acting Assistant Administrator of Water  
U.S. EPA Office of Water  
1201 Constitution Ave NW  
Washington, DC 20004  
Email: [Pigott.Bruno@epa.gov](mailto:Pigott.Bruno@epa.gov)

Dear Mr. Pigott:

Everyone in America deserves access to clean drinking water. But in multiple states and rural communities across the country, the undersigned organizations have documented numerous instances where communities face increasing threats to their drinking water sources. While the details vary, there is a common problem: nitrate pollution from industrial-scale agricultural practices is reaching underground sources of drinking water and threatening human health. This pollution poses an imminent and substantial endangerment to communities across the country, while state after state has failed to take the action necessary to protect the health of their own residents. Under these circumstances, the Safe Drinking Water Act provides the EPA with robust emergency authority under Section 1431 to protect human health. We request a meeting with you to discuss EPA's critical role in preventing harm to public health and in ensuring consistent, equitable access to clean drinking water nationwide, including for those in rural communities who rely on private wells.

Over the last ten years, concerned organizations including the undersigned have submitted five Section 1431 emergency petitions, each of which identifies nitrate-contamination of drinking water. All five petitions tell the story of intensive agricultural land uses resulting in alarming nitrate levels. Animal waste storage lagoons and over-application of nitrogen in areas of the country with susceptible geology has led to increasing levels of nitrate in both private wells and public drinking water sources. The highest documented nitrate concentration from the five states represented was 190 mg/L—19 times higher than the national allowable level—recorded by EPA in the Lower Yakima Valley in Washington.

In the face of these rising nitrate levels, state officials have failed to implement necessary restrictions, and instead have relied almost exclusively on voluntary best management practices that have proven ineffective for decades. Efforts by state officials that rely on voluntary practices lack the regulatory teeth to meaningfully reduce nitrate in private wells and public drinking water supplies. This lack of effective regulation incentivizes the continued consolidation of large operations where the costs of pollution can be externalized onto the public.

Heightened nitrate levels present a threat to all individuals living in these five regions, but are especially dangerous for infants, pregnant women, and people with certain blood disorders.

Health studies have linked adverse health impacts, including thyroid problems and numerous types of cancer, to long-term exposure to high nitrate concentrations in drinking water. Despite the well-documented risk elevated nitrate levels pose, state officials have allowed these problems to develop and persist, and are now failing to make timely and effective progress to rein the problem in and begin remediation of drinking water sources. We have attached a short summary to this letter reflecting the status of each petition.

EPA regional offices have taken different approaches to address these concerns, ranging from silence to requests for meaningful action from state agencies. Nitrate contamination and the harm it poses to human health demands a national approach and response in light of the growing prevalence of the problem and the patchwork of ineffective state strategies. We request a meeting to discuss how EPA can address this widespread problem with a cohesive, coordinated response that reflects the scope and urgency of this national crisis.

Sincerely,

Allamakee County Protectors - Education Campaign

Center for Biological Diversity

Center for Food Safety

Clean Water Action Council of Northeastern Wisconsin

Columbia Riverkeeper

CURE

Environmental Working Group

Food & Water Watch

Friends of the Mississippi River

Friends of Toppenish Creek

Iowa Citizens for Community Improvement

Iowa Coldwater Conservancy

Kewaunee CARES

Land Stewardship Project

Midwest Environmental Advocates, Inc.

Minnesota Center for Environmental Advocacy

Minnesota Division, Izaak Walton League of America

Winona County Clean Water Coalition

Minnesota Well Owners Organization

Oregon Rural Action (non-petitioner community group working with the Oregon petitioners)

Sierra Club - Iowa Chapter

Socially Responsible Agriculture Project

WaterWatch of Oregon

cc: David Risley, Office of Water

**Attachment:**  
**State Petition Summaries and Status**

October 29, 2024

## *Wisconsin – Kewaunee County (2014)*

### 2014 Petition

Kewaunee County’s landscape—the focus of a 2014 Safe Drinking Water Act Petition<sup>1</sup>—is characterized by highly fractured carbonate bedrock overlain by shallow, loosely arranged soil.<sup>2</sup> Cracks, sinkholes, and fissures act as direct conduits from surface water to groundwater, meaning that water quality in Kewaunee County is driven by land use practices.<sup>3</sup> The strong connection between land use and water quality is due to the specific hydrogeology of Kewaunee County, which produces rapid groundwater recharge and therefore rapid contaminant transport from the land surface to aquifers.<sup>4</sup> Land use in the area is dominated by agriculture, including industrial livestock operations.<sup>5</sup>

Approximately 58% of Kewaunee County’s residents rely on private wells for their drinking water.<sup>6</sup> Testing in 2016 indicated that 28% of private wells in Kewaunee County had coliform bacteria or nitrate levels above federal public health standards.<sup>7</sup> Private well owners in areas with shallow depth to bedrock are at an even greater risk than Kewaunee County well owners generally.<sup>8</sup> During a groundwater recharge event in 2015, 42% of private wells with less than 20 feet depth to bedrock were positive for coliforms or nitrate levels above state and federal health standards.<sup>9</sup> Current data from UW Stevens Point indicate that about 10% of private wells in Kewaunee County exceed nitrate standards, while about 19% of wells test positive for coliform bacteria.<sup>10</sup>

The nitrate and bacteria contamination in groundwater from industrial agricultural sources in Kewaunee County have real impacts on human health. Twenty years ago, contamination of water in a Kewaunee County family’s private well from a nearby CAFO caused

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<sup>1</sup> Kewaunee County Groundwater, EPA, <https://www.epa.gov/wi/kewaunee-county-groundwater> (last visited Sept. 26, 2024).

<sup>2</sup> Lee Clayton, *PLEISTOCENE GEOLOGY OF KEWAUNEE COUNTY, WISCONSIN 1* (2014).

<sup>3</sup> Mark A. Borchardt & Maureen A. Muldoon, *ASSESSING GROUNDWATER QUALITY IN KEWAUNEE COUNTY, WISCONSIN AND CHARACTERIZING THE TIMING AND VARIABILITY OF ENTERIC PATHOGEN CONTAMINATION WITHIN THE DOLOMITE AQUIFER IN NORTHEASTERN WISCONSIN*, Rep. 2019-05, 4-6 (2019); *see also* Wisconsin Department of Natural Resources, *NITROGEN IN NORTHEAST LAKESHORE TMDL STUDY AREA*, 33-34, [https://dnr.wisconsin.gov/sites/default/files/topic/TMDLs/NEL/NE\\_Lakeshore\\_Nitrogen\\_Analysis.pdf](https://dnr.wisconsin.gov/sites/default/files/topic/TMDLs/NEL/NE_Lakeshore_Nitrogen_Analysis.pdf) (2023).

<sup>4</sup> Borchardt & Muldoon *supra* note 3, at 5-7.

<sup>5</sup> Agriculture, *Kewaunee County Economic Development Corporation*, <https://kewauneecountyedc.org/market/industry/ag> (last visited Sept. 26, 2024).

<sup>6</sup> Tucker R. Burch et al., *Quantitative Microbial Risk Assessment for Contaminated Private Wells in the Fractured Dolomite Aquifer of Kewaunee County*, Wisconsin, 129 *ENVIRONMENTAL HEALTH PERSPECTIVES* 6, 1 (2021); Quick Facts Kewaunee County, Wisconsin, US Census Bureau, <https://www.census.gov/quickfacts/fact/table/kewauneecountywisconsin/IPE120223> (last visited Oct. 7, 2024).

<sup>7</sup> Borchardt & Muldoon *supra* note 3, at 12.

<sup>8</sup> *Id.* at 13.

<sup>9</sup> *Id.*

<sup>10</sup> David Mechenich, *WI Well Water Quality Interactive Viewer*, UW STEVENS POINT, <https://www3.uwsp.edu/cnr-ap/watershed/Pages/WellWaterViewer.aspx> (last visited Sept. 30, 2024).

serious health consequences and led to a lawsuit, which was eventually settled.<sup>11</sup> Data across the two decades since continue to indicate widespread well contamination and associated health risks in Kewaunee County. A pathogen occurrence study published in 2021 found that private well contamination, including contamination from land-applied manure, could be responsible for up to 301 cases of acute gastrointestinal illness per year in Kewaunee County.<sup>12</sup>

Despite health concerns, industrial agricultural operations in Kewaunee County are growing. 2022 Ag Census data for Kewaunee County indicate that although the County lost 43 dairies between 2017 and 2022, it gained over 2,300 dairy cattle.<sup>13</sup> Furthermore, the County added 8 dairies with 500 head or more between 2017 and 2022, the largest category captured by the Ag Census.<sup>14</sup> The increases in herd sizes on farms of 500 dairy cattle or more are even more telling across a longer timeline. Between 2012 and 2022, Kewaunee County added over 16,700 dairy cattle on farms of 500 head or more alone.<sup>15</sup> Installation of biodigesters on industrial dairies in Kewaunee County beginning in 2009 are contributing to the growth in herd sizes, with the number of cattle on CAFOs that have biodigesters growing by over 58% since those digesters were installed.<sup>16</sup> As industrial agriculture continues to dominate the landscape and even grow in size, there are concerns that groundwater contamination and related health consequences will be exacerbated.

Despite the well-documented evidence of alarmingly high nitrate levels, the Wisconsin Department of Natural Resources has failed to address the systemic groundwater contamination in Kewaunee County. In 2018, the WDNR promulgated Wis. Admin. Code § NR 151.075, establishing manure land spreading standards for Silurian bedrock zones, including Kewaunee County.<sup>17</sup> This regulation, however, has failed to adequately address the groundwater contamination that Kewaunee County residents experience.<sup>18</sup> At the local level, the Kewaunee County Board of Supervisors attempted to act by placing additional restrictions or prohibitions on the land-application of liquid manure on shallow soils during winter,<sup>19</sup> but this effort thus far has not remedied pollution.

In 2014, six organizations with interests in protecting public health in Kewaunee County came together to petition EPA to exercise its emergency powers established under the Safe Drinking Water Act. Since the petition was filed, EPA's region 5 has met with Kewaunee

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<sup>11</sup> Ron Seely, *Bacteria in state's drinking water is 'public health crisis'*, THE CAP TIMES, [https://captimes.com/news/local/environment/bacteria-in-states-drinking-water-is-public-health-crisis/article\\_30cdffeb-2548-5415-b7c0-9c99147e380d.html](https://captimes.com/news/local/environment/bacteria-in-states-drinking-water-is-public-health-crisis/article_30cdffeb-2548-5415-b7c0-9c99147e380d.html) (2016).

<sup>12</sup> Burch et al. *supra* note 3.

<sup>13</sup> US Dept. of Agriculture National Agricultural Statistics Service, 2022 Census Vol. 1, Ch. 2: County Level Data, Wisconsin, Table 11 Cattle and Calves – Inventory and Sales: 2022 and 2017 (2024).

<sup>14</sup> US Dept. of Agriculture National Agricultural Statistics Service, 2017 Census Vol. 1, Ch. 2: County Level Data, Wisconsin, Table 11 Cattle and Calves – Inventory and Sales: 2017 and 2012 (2019).

<sup>15</sup> US Dept. of Agriculture National Agricultural Statistics Service, 2012 Census Vol. 1, Ch. 2: County Level Data, Wisconsin, Table 11 Cattle and Calves – inventory and Sales: 2012 (2014).

<sup>16</sup> Carlin Molander & Molly Armus, *Making a Bad Situation Worse: Manure Digesters at Mega Dairies in Wisconsin*, Friends of the Earth & Socially Responsible Agriculture Project, 17 (2024).

<sup>17</sup> Wis. Admin. Code § NR 151.075.

<sup>18</sup> See generally Borchardt & Muldoon *supra* note 3; see also Mechenich *supra* note 10.

<sup>19</sup> See Kewaunee County, Wis., Public Health and Groundwater Protection Ordinance (Dec. 20, 2016).

County residents, inspected large livestock operations, recommended improvements that WDNR could adopt, coordinated with the WDNR to provide emergency drinking water, assisted with WDNR's enforcement response to one well contamination event in 2016, and participated in the technical advisory committee convened throughout the development of NR 151.075.<sup>20</sup> These efforts have been insufficient and have done little more than offer external support for efforts taking by WDNR that have not resolved water quality issues. Ultimately, EPA's Region 5 office's efforts over the past 10 years have failed to enforce the requirements of the SDWA and safeguard human health. Meanwhile, the water quality in Kewaunee County is not improving and large livestock operations in the County are growing.

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<sup>20</sup> Letter from Scott Ireland, Acting Director, Water Div., EPA Region 5, to Andrea Gelatt & Adam Voskuil (Dec. 21, 2022).

## *Oregon – Umatilla Basin (2020)*

### 2020 Petition

In 1990, following the passage of the Oregon Groundwater Protection Act (GWQPA) of 1989,<sup>21</sup> the Oregon Department of Environmental Quality (DEQ) designated a roughly 550 square mile area of northern Oregon as the Lower Umatilla Basin Groundwater Management Area (LUBGWMA) due to nitrate-nitrogen concentrations exceeding the federal Safe Drinking Water Act standard of 10 mg/L. The GWQPA required the establishment of a local groundwater management committee of affected and interested parties to advise state agencies required to develop an action plan to reduce the groundwater contamination back to the Oregon statutory standard of 7 mg/L or less (70% of the federal SDWA standard). In reality, the LUBGWMA Committee has historically been dominated by industrial agriculture interests and local elected officials largely beholden to those powerful interests.

Approximately 46,000 residents in the Lower Umatilla Basin rely on public water systems and private wells that draw from groundwater sources. The region is characterized by porous, sandy soil and concentrated, industrialized agricultural activity. This combination places drinking water supplies at high risk of contamination. The communities of the Lower Umatilla Basin are also environmental justice communities, with the region being disproportionately Latino/Hispanic, low-income and working class, and non-English speaking compared to the rest of Oregon. Many residents in the area rely on domestic wells as the only means by which they can secure water for their basic daily needs.

The region's economy is dominated by industrial agriculture, including confined animal feeding operations (CAFOs), food processing (predominantly cheese, onions, and potatoes), and industrial-scale irrigated agriculture. According to Oregon officials, nitrogen loading from CAFOs and irrigated agriculture account for 81.6% of the nitrate that leaches into the region's vulnerable aquifers. Since that estimate was published in 2011, those sectors have continued to expand and bring more nitrogen pollution into the LUBGWMA.

“Action Plans” proposed by the LUBGWMA Committee were approved by the State in 1997 and 2020. Both relied predominantly on the voluntary use of “best management practices” to reduce nitrate levels.<sup>22</sup> The local Committee, DEQ and Oregon Department of Agriculture agreed to promote this voluntary approach, partially complemented by pollution discharge permits. As the agency with primary authority to protect the groundwater, DEQ established monitoring wells and was responsible for evaluating progress based on criteria outlined in the Action Plans. Despite warnings by DEQ staff following the agency's 2012 published nitrate trend analysis, which found that nitrate levels continued to increase despite 15 years under the 1997 Action Plan, DEQ failed to determine that the voluntary approach was ineffective or initiate efforts with Oregon Department of Agriculture to establish a different approach, including mandatory requirements, as called for in the Plans.

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<sup>21</sup> ORS 468B.150 *et seq.*

<sup>22</sup> Action Plans available at: <https://lubgwma.org/second-local-action-plan/>.



In 2020, eight public interest organizations and a local resident petitioned the EPA to intervene under its Section 1431 Safe Drinking Water Act’s emergency authority to protect public health. Petitioners noted that nitrate levels in the LUB pose a “substantial and imminent risk to human health,” which Oregon officials have been unable or unwilling to remedy more than 30 years after acknowledging the contamination. While EPA quickly acknowledged the Petition and began communicating with state officials, little happened in terms of improved efforts by EPA or the State for over two years.

In July 2022, as a result of 3 months of locally-led domestic well sampling efforts spearheaded by Oregon Rural Action and local public health officials, during which more than 6 times the federal limit for nitrate was discovered in drinking water and affected residents who were unknowingly consuming this contaminated water widely self-reported health issues associated with nitrate, EPA Region 10 sent a letter to the State of Oregon. That letter outlined the 7 “minimum components” of an “adequate response plan to address the immediate health risks in the LUB.”<sup>23</sup>

Those “minimum components” included state-led coordination among the Oregon Governor’s office, state agencies, two counties, and relevant private businesses or local entities; a hazard assessment to identify each residence that relies on a private well for drinking water; education and outreach to warn rural residents of the current risk; free testing; and the provision of alternate water where lab-certified water samples exceed 10 mg/L “at no cost to the resident and in a manner that minimizes the burden on the impacted resident to obtain safe drinking water, such as reverse osmosis (RO) treatment units, water delivery service, or connection to a public water system... until sampling shows that nitrate concentrations in their private well no longer exceed the MCL.” In addition, EPA Region 10 articulated the expectation that the State of Oregon “hold nitrate sources accountable by requiring them to assume some of the responsibilities set forth above and, more importantly, to change their practices to reduce the amount of nitrate they discharge to groundwater in order to protect the health of their employees and neighbors.”<sup>24</sup> Unfortunately, several of those “minimum components” remain unfulfilled more than two years later.

It was not until March 2023 that the Oregon Health Authority began to develop a domestic well-testing program as a result of intensive grassroots organizing and community pressure. As of July 31, 2024, the program had collected samples from approximately 1,700 wells (roughly half of those identified in the LUBGWMA). Results from that sampling show the extent and severity of nitrate contamination in the region’s groundwater today, with more than half showing unnaturally high levels of nitrate (more than 3 mg/L, the level considered natural by DEQ and EPA), and hundreds of wells exceeding the 10 mg/L MCL. Many wells show excessive contamination, and sampling has revealed drinking water containing nitrate levels as

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<sup>23</sup> Letter from Edward Kowalski, U.S. EPA Region 10, to Leah Feldon, DEQ, Lauren Henderson, ODA, and Rachael Banks, OHA at 3 (July 2022), [https://gaftp.epa.gov/region10/sites/lower-umatilla/10\\_EPA\\_response\\_to\\_OR\\_07.07.2022\\_ltr.pdf](https://gaftp.epa.gov/region10/sites/lower-umatilla/10_EPA_response_to_OR_07.07.2022_ltr.pdf).

<sup>24</sup> *Id.* We greatly appreciated EPA’s letter for laying out these expectations.

**high as 94.8 mg/L.** Of wells tested by OHA in 2023 and retested in 2024, **more than one in ten rose from safe to unsafe** levels between samples.

Unfortunately, Oregon Health Authority failed to implement quality control measures during these testing events, which has led the State to characterize this data as flawed and unusable to inform better mapping of contamination plumes or source controls in the LUBGWMA. This has not only further degraded other agencies' ability to utilize this data to perform much-needed groundwater analyses, but also serves as a prime example of the ongoing lack of coordination and collaboration between the state agencies involved.

On September 27, 2024, the State of Oregon unveiled its latest update to the 1997 and 2020 action plans, titled the "Nitrate Reduction Plan" (NRP). However, the plan as written offers little more than an articulation of the state's desire to meet its longstanding obligations under existing law, rather than a plan to achieve the nitrate reduction goal. Certain new tools are available to Oregon officials due to recently passed legislation, but without a commitment to real and mandatory solutions, those new tools risk falling short as well. And in fact, the state's 2024 plan itself concedes the state currently lacks the necessary resources, funds, and/or staff to execute critical parts of the plan, including sufficient resources "to implement the plan effectively."<sup>25</sup>

Based on an initial analysis, the proposed NRP plan continues to rely on voluntary practices and does little more than reiterate the same responsibilities and legal obligation to coordinate efforts that State agencies have had since the passage of the Oregon Groundwater Quality Protection Act in 1989 and the subsequent designation of the LUBGWMA in 1990. Those same obligations were recognized by both of the LUBGWMA Action Plans, which have failed to stop – much less remediate – nitrate contamination. In fact, the State's new plan amounts to little more than a re-minting of the failed 1997 and 2020 plans, ensuring that state-led efforts will continue to rely on the same failed strategies with the same lack of resources that have allowed the Lower Umatilla Basin's nitrate crisis to worsen for decades.

Nearly five years after the Petition for Emergency Action was submitted to EPA, nitrate contamination persists in the LUBGWMA and the State's latest "Nitrate Reduction Plan" indicates that state officials remain unable or unwilling to meet the urgency of this ongoing public health crisis.

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<sup>25</sup> Oregon Nitrate Reduction Plan for the Lower Umatilla Basin Groundwater Management Area, September 2024, <https://www.oregon.gov/deq/wq/Documents/GWP-OregonNitrateReductionPlan-2024.pdf>

## *Washington – Yakima Valley (2021)*

### 2021 Petition

In the Lower Yakima Valley, 24,000 residents rely on groundwater drawn from shallow alluvial aquifers.<sup>26</sup> These aquifers lie below permeable sediments and rocks, allowing nitrate to move easily into drinking water sources. Agricultural land uses and the uniquely vulnerable hydrogeology of the Lower Yakima Valley expose communities to a heightened risk of nitrate contamination.<sup>27</sup> Rural communities are particularly at risk, as private wells are more likely to draw from shallow aquifers than public water systems.

Since the 1980s, concerning levels of nitrate have been recorded in the region. Sampling conducted between 1988 and 2008 showed that 12% of private wells in the Lower Yakima Valley had nitrate levels above 10 mg/L.<sup>28</sup> In 2010, EPA found that nitrate levels in wells downgradient of some industrial dairy operations were four times higher than 10 mg/L.<sup>29</sup> Nitrate levels in drinking water sources in the region topped out at 190 mg/L, nearly 19 times the national drinking water standard.<sup>30</sup> As of 2017, well sampling showed that 26% of private wells in the Lower Yakima Valley have nitrate levels above the MCL.<sup>31</sup>

Even in the face of alarming nitrate levels in drinking water sources and the undeniable connection to dairy CAFOs, Washington has failed to adequately regulate them. In Washington, less than 10% of CAFOs have National Pollutant Discharge Elimination System (NPDES) permits with Manure Pollution Prevention Plans (MPPPs) and Nutrient Management Plans (NMP).<sup>32</sup> However, the last two general NPDES permits were so weak that they have been challenged in court, including by several Petitioners.<sup>33</sup> And MPPPs and NMPs lack substantive requirements and enforcement, ultimately failing to reduce groundwater pollution from CAFOs.

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<sup>26</sup> WASH. DEP'T OF ECOLOGY ET AL., LOWER YAKIMA VALLEY GROUNDWATER QUALITY PRELIMINARY ASSESSMENT & RECOMMENDATIONS DOCUMENT 12 (Feb. 2010) (hereinafter 2010 Groundwater Quality Preliminary Assessment), <https://apps.ecology.wa.gov/publications/publications/1010009.pdf>.

<sup>27</sup> WASH. DEP'T OF ECOLOGY, MANURE & GROUNDWATER QUALITY: LITERATURE REVIEW 20 (Jun. 2016) (hereinafter 2016 Ecology Literature Review), <https://apps.ecology.wa.gov/publications/documents/1603026.pdf>.

<sup>28</sup> 2010 Groundwater Quality Preliminary Assessment, at 11.

<sup>29</sup> LOWER YAKIMA VALLEY GROUNDWATER ADVISORY COMMITTEE, LOWER YAKIMA VALLEY GROUNDWATER MANAGEMENT PROGRAM, VOL. I: THE PROGRAM, 4 (2019) (hereinafter 2019 LYVGWMA Program), <https://www.yakimacounty.us/DocumentCenter/View/22177/GWMA-VolumeI-July2019>.

<sup>30</sup> U.S. EPA, MONITORING WELL INSTALLATION & DATA SUMMARY REPORT: LOWER YAKIMA VALLEY 1 (Mar. 2013), <https://www.epa.gov/sites/default/files/2017-12/documents/lower-yakima-valley-groundwater-monitoring-well-installation-data-summary-report-2013.pdf>.

<sup>31</sup> R.L. HUFFMAN, U.S. GEOLOGICAL SURVEY, CONCENTRATIONS OF NITRATE IN DRINKING WATER IN THE LOWER YAKIMA RIVER BASIN, GROUNDWATER MANAGEMENT AREA: 2017 1, 18 (“At least one nitrate concentration above the MCL was detected in 26 percent of wells.”), <https://pubs.usgs.gov/ds/1084/ds1084.pdf>.

<sup>32</sup> WA Ecology Permitting and Reporting Information System, <https://apps.ecology.wa.gov/paris/PermitSearch.aspx>.

<sup>33</sup> Center for food Safety, Ecology's Rewrite of Industrial Dairy Permits Endangers Public Health; Threatens Waterways, Aquifers, Ecosystems Across the State (Jan. 10, 2023), <https://www.centerforfoodsafety.org/press-releases/6782/ecologys-rewrite-of-industrial-dairy-permits-endangers-public-health-threatens-waterways-aquifers-ecosystems-across-the-state>.

Changes by some dairies to operations to reduce nitrogen/nitrate contribution in the Lower Yakima Valley have been brought on by settlement of citizen suits.<sup>34</sup>

In 2012, state and local agencies developed the Groundwater Management Program, meant to bring drinking water quality within safe levels.<sup>35</sup> After seven years of planning, \$2.3 million in costs, and the involvement of multiple Washington agencies,<sup>36</sup> the Program had engaged primarily in sampling and monitoring rather than tangible action to abate nitrate contamination in the Lower Yakima Valley.<sup>37</sup> Tangible actions recommended by the Program that may actually abate nitrate contamination are primarily voluntary; if the recommendations are backed by enforcement powers, the recommendation is designated as low priority. State and local authorities have taken various actions to address nitrate contamination in the Lower Yakima Valley, including testing, monitoring, and establishing action plans. However, these actions have not been timely or effective.<sup>38</sup>

In 2021, three non-governmental organizations came together to petition EPA to invoke its emergency powers under Section 1431 of the Safe Drinking Water Act to abate imminent and substantial endangerment to the health of persons caused by drinking water contamination. In May 2022, EPA's Region 10 Office requested additional information from pertinent agencies and that access to alternative water sources for areas of the Lower Yakima Valley most at-risk of nitrate contamination.<sup>39</sup> EPA has continued to correspond with state agencies regarding the threat to human health posed by nitrate in drinking water. In September 2023, EPA expressed concern that "Washington's response plan is not designed to include and reach all potentially impacted [Lower Yakima Valley] residents."<sup>40</sup>

Most recently, in July 2024, EPA brought an enforcement case against a cluster of dairies in the Lower Yakima Valley, invoking its emergency powers under the Safe Drinking Water

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<sup>34</sup> See *CARE v. Cow Palace, LLC*, 80 F. Supp. 3d 1180, 1222 (E.D. Wash. 2015) ("Defendants' application, storage, and management of manure at Cow Palace Dairy violated RCRA's substantial and imminent endangerment and open dumping provisions."); but see Order on Consent Decree Sanctions, *CARE v. George DeRuyter & Son Dairy, LLC, et al.*, No. 13-CV-3017- TOR (E.D. Wash. July 14, 2020), [https://gaftp.epa.gov/region10/sites/yakima/Lawsuits/02\\_CARE\\_v\\_DeRuyter/2020-07-14%20Order%20on%20Sanctions.pdf](https://gaftp.epa.gov/region10/sites/yakima/Lawsuits/02_CARE_v_DeRuyter/2020-07-14%20Order%20on%20Sanctions.pdf). While several dairies entered consent decrees following *CARE v. Cow Palace* summary judgment, see, e.g., Consent Decree (May 19, 2015), [https://gaftp.epa.gov/region10/sites/yakima/Lawsuits/01\\_CARE\\_v\\_Cow-Palace/DeRuyter\\_Consent\\_Decree.pdf](https://gaftp.epa.gov/region10/sites/yakima/Lawsuits/01_CARE_v_Cow-Palace/DeRuyter_Consent_Decree.pdf), not all have adhered to the requirements and timelines, requiring further court intervention. See Second Quarter 2019 Groundwater Monitoring Data Report, *In the Matter of Yakima Valley Dairies*, SDWA-10-2013-0080, Table 6 (Aug. 2019), [https://gaftp.epa.gov/region10/sites/yakima/Lawsuits/01\\_CARE\\_v\\_CowPalace/Well\\_Monitoring\\_Data\\_2019\\_Q2.pdf](https://gaftp.epa.gov/region10/sites/yakima/Lawsuits/01_CARE_v_CowPalace/Well_Monitoring_Data_2019_Q2.pdf).

<sup>35</sup> WAC 173-100-100.

<sup>36</sup> Letter from Jean Mendoza, FOTC, to Vincent McGowan, Wash. Dep't of Ecology (Aug. 8, 2021) (on file with Friends of Toppenish Creek).

<sup>37</sup> 2019 Lower Yakima Valley Ground Water Management Area Program, Vol. I, at 203, 87-98. (144)

<sup>38</sup> See H.R. Rep. No. 1185, 93rd Cong., 2d Sess., 35-36 (1974) (discussing the legislative intent to "direct the Administrator to refrain from precipitous preemption of effective State or local abatement efforts" unless action is not timely or effective).

<sup>39</sup> Letter from Edward Kowalski, Enf't & Compliance Assurance Div., EPA Region 10, to Petitioners (May 11, 2022) (on file with author).

<sup>40</sup> Letter from Edward Kowalski, Enf't & Compliance Assurance Div., EPA Region 10, to Petitioners (Sept. 21, 2023) (on file with author).

Act. In the lawsuit against the three dairies, which house more than 30,000 animals, EPA alleges that the dairies have failed to comply with a legal agreement they entered into with EPA in 2013. Region 10 EPA staff continue to meet with state and local officials and quarterly with Petitioners, although many residential wells in the Lower Yakima Valley are still untested, and the state's general NPDES permit for CAFOs has yet to be re-written to comply with state and federal law and to address this significant source of drinking water pollution.

## *Minnesota – Southeast Minnesota Karst Terrain (2023)*

### 2023 Petition

In April 2023, eleven local, regional, and national organizations petitioned EPA Region 5 to use its SDWA Section 1431 emergency authority to address persistent groundwater nitrate contamination above federal health limits in the karst region of Southeastern Minnesota. In November 2023, EPA Region 5 responded with a letter to the responsible state agencies that recognized an “evident need for further actions to safeguard public health” for the over 9,200 residents in the region are estimated to have well water above the maximum contaminant level (MCL) for nitrate. The letter directed state agencies to take seven explicit measures to address immediate public health needs and advised the state to strengthen its available regulatory tools – such as the general feedlot permit and technical rules for the land application of manure and commercial fertilizer – as long-term solutions to reduce nitrate concentrations in drinking water supplies.

In January 2024, Minnesota state agencies released a work plan to address nitrate in Southeast Minnesota. The work plan was divided into three phases: the immediate response, public health intervention, and long-term nitrate goals and strategies. In the 2024 legislative session, approximately \$16 million in state funds were invested in public health and conservation measures, such as a private well inventory, well test kits, easements for vulnerable groundwater areas, and manure management grants for unpermitted feedlots. In June 2024, state agencies created a local task force to discuss long-term nitrate goals and strategies, and the Minnesota Pollution Control Agency proposed revisions to the general feedlot permit for the largest feedlots in the state. Several of the SDWA petitioners submitted extensive comments on the proposed permit revision, which is expected to be finalized by December 2024.

**Two key issues remain in Minnesota’s response to the EPA petition.** First, the public health response remains piecemeal, with only 150 free well test kits available as of September 2024 and reverse osmosis treatment cost share available to approximately 1,000 area residents out of the 9,200 estimated to have well water above the federal MCL for nitrate. These are important steps to address immediate public health needs, but more remains to be done. As far as we are aware, there has not been an investigation into the most cost effective and environmentally sound strategies to provide alternative water supplies – such as centralized distribution systems or connection to rural water providers. From a public health perspective, the state must accelerate access to free well tests for private well owners across the karst region and find a sustainable fund source to support private well mitigation and treatment.

Second, we strongly feel that greater urgency must be placed on long-term strategies to reduce nitrate concentrations in groundwater. Mitigation strategies like reverse osmosis treatment address immediate public health needs but do not protect groundwater resources now and into the future. The state feedlot rules – which apply to feedlots of all sizes across Minnesota – have not been significantly revised in 25 years, despite significant changes in animal agriculture in that time. Because many of the feedlots in the karst region fall below the threshold for the general feedlot permit, a timely revision of the state feedlot rules is necessary to fully

address the role of concentrated animal agriculture in groundwater nitrate contamination. In addition, the state rules for the land application of commercial fertilizer largely exclude private well owners and there has been no regulatory enforcement of mitigation strategies in the five years since they went into effect.



## *Iowa – Northeast Iowa Karst Terrain (2024)*

### 2024 Petition

Iowa’s Driftless region, much like southeastern Minnesota, is characterized by high-porosity karst geography and rapid movement of water in and out of the ground, blurring the distinction between groundwater and surface water.<sup>41</sup> Because of this fluid interaction between groundwater and surface water, groundwater in the karst region is particularly vulnerable to contamination driven by land use practices. Iowa’s Driftless region is dominated by industrial row crop agriculture and animal feedlots. The Driftless region encompasses twelve counties and is home to 316,074 individuals.<sup>42</sup> About 250,000 residents rely on community water systems, while the remaining 63,000 use private wells.<sup>43</sup>

In 2020, only 6.5% of private wells were tested statewide.<sup>44</sup> Despite a limited amount of private well testing, a substantial number of wells continue to exceed the MCL. Between 1989 and 2023, 37,358 private well samples were collected from the Driftless region; 15.2% of these samples tested at or above the 10 mg/L drinking water standard for nitrate.<sup>45</sup>

Nitrate contamination in public water systems is also dire. The 12-county area of focus houses 407 transient community public water systems.<sup>46</sup> Despite additional protections available to public water systems, 82 health-based nitrate violations were reported between 2016 and 2023.<sup>47</sup> Non-transient community public water systems also show impacts of nitrate contamination, with some water supplies reporting 7 mg/L or higher averages in finished drinking water.<sup>48</sup> Public water supplies have retired wells to avoid nitrate-contaminated groundwater.

State and local regulations have failed to address the well-documented adverse impacts on groundwater and public health caused by manure storage, excessive or poorly timed manure application, animal feeding operations, and industrial row-crop agriculture. In Northeast Iowa, public policy has made polluting actions cheaper and easier than sustainable practices. As a result of inaction by state and local officials, 13 non-governmental organizations came together

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<sup>41</sup> See “NE Iowa Watershed and Karst Map,” Iowa DNR (Nov. 2010), <https://www.iowadnr.gov/Portals/DNR/uploads/water/wells/IGWS%20Karst%20Map.pdf>.

<sup>42</sup> See Iowa Secretary of State, “2020 U.S. Census Iowa Counties Population,” <https://sos.iowa.gov/elections/pdf/2020census/counties.pdf> (last visited Apr. 15, 2024).

<sup>43</sup> U.S. EPA tracks populations served and the county for each public water supply. U.S. EPA ECHO Database, <https://echo.epa.gov/facilities/facility-search/>. The population not served by public water supplies was assumed to be served by private well.

<sup>44</sup> “Workbook: Private Water Well Services,” Iowa Department of Public Health, [https://data.idph.state.ia.us/t/IDPH-DataViz/views/PrivateWaterWellServices/DatabyCounty?iframeSizedToWindow=true&%3Aembed=y&%3AshowAppBanner=false&%3Adisplay\\_count=no&%3AshowVizHome=no&%3Arender=false](https://data.idph.state.ia.us/t/IDPH-DataViz/views/PrivateWaterWellServices/DatabyCounty?iframeSizedToWindow=true&%3Aembed=y&%3AshowAppBanner=false&%3Adisplay_count=no&%3AshowVizHome=no&%3Arender=false) (last visited Apr. 15, 2024).

<sup>45</sup> Analysis of PWS violation data obtained from DNR’s Drinking Water Portal at <https://programs.iowadnr.gov/iowadrinkingwater> (last visited March 26, 2024).

<sup>46</sup> *Id.*

<sup>47</sup> *Id.*

<sup>48</sup> *Id.*



to petition EPA to act under Section 1431 of the Safe Drinking Water Act in April 2024. EPA has not responded to the petition.