Iowa Blueprint for Clean Water

Factory farming has wreaked havoc on Iowa, destroying water quality and harming Iowans in the process. Food & Water Watch analysis finds that Iowa's factory farms produce 109 billion pounds of chemical-laden manure waste a year, 25 times that of Iowa's human population.[1] Meanwhile, 4,000+ Iowa factory farms operate without water pollution permits.[2] Iowa's water is paying the price — over half of Iowa's rivers and streams are designated as impaired, meaning that they do not meet quality standards for their use.[3] This crisis is threatening Iowans' public water supply, with average nitrate concentrations on the rise in drinking water.[4]

Nitrate is the primary pollutant of concern in Iowa's water crisis, flowing into waterways from poor manure management on factory farms.[5] Common synthetic fertilizers used on crops like soybeans and corn (feed for factory farms[a]) can also leach toxic chemicals into waterways.[6] Research consistently shows a connection between high crop or livestock densities and higher concentrations of nitrate pollution in waterways,[7] and Food & Water Watch (FWW) analysis finds that Iowa is among the most factory farm-dense states in the nation.[8] All of this factory farm pollution necessitates advanced treatment of water downstream, as is the case for the Des Moines metro area, whose water system operates one of the largest nitrate removal systems in the world.[9] In summer 2025, the nitrate removal system ran for 112 days, costing the utility $9,000 each day it ran.[10]

Unfettered nitrate pollution in drinking water takes its toll on public health. When ingested, nitrate converts to N-nitroso compounds, most of which are carcinogenic.[11] Nitrate ingestion is also linked to birth defects including infant methemoglobinemia (blue baby syndrome), and studies suggest that nitrate exposure increases adverse outcomes for conditions like thyroid disease and neural tube defects.[12] Other agricultural water pollutants like *E. coli* and fecal contaminants pose real dangers as well. *E. coli* infections can cause urinary tract infections, gastrointestinal illnesses, meningitis, and even death in vulnerable populations.[13]

Existing protections are not keeping Iowans safe. The U.S. Environmental Protection Agency (EPA) regulates drinking water nitrate concentrations at 10 milligrams per liter (mg/L), a level set solely to protect against blue baby syndrome. Numerous studies have found health risks for nitrate concentrations far below this regulatory limit.[14] A cohort study of women in Iowa found that long-

[a] *In the U.S., corn makes up over 95 percent of total feed grain produced. Forty-four percent of all domestic corn use goes to animal feed, and another 44 percent goes to fuel ethanol, leaving just 12 percent for all other uses, including human consumption. See Bond, Jennifer K. "Corn and other feed grains — feed grains sector at a glance." Available at https://www.ers.usda.gov/topics/crops/corn-and-other-feed-grains/feed-grains-sector-at-a-glance. Updated April 17, 2025.*

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term consumption of nitrates significantly increased the risk for ovarian, bladder, thyroid, and kidney cancers, even at nitrate levels below the federal limit.[15] Nonetheless, Iowa drinking water supplies are routinely contaminated in excess of the federal limit,[16] and bacteria is the leading cause of river and stream impairments.[17] The state's water crisis is at a breaking point: Iowa is one of only two states with rising cancer rates.[18]

This need not be Iowa's reality. A 2025 Polk County water report found that nitrate concentrations in Iowa waterways are the highest in the nation, exceeding other agriculturally intense regions.[19] This anomaly indicates that Iowa can and must do better, taking cues from neighboring states like Minnesota, which holds stricter requirements for row crop and animal operations.[20] As a result, only 7 percent of Minnesotans served by public systems had nitrate concentrations over 3 mg/L in 2022, compared to 24 percent of Iowans.[21]

Enough is enough. Iowa needs clean water now. Food & Water Watch proposes the following Blueprint for Clean Water to make this possible, by mandating best management practices, increasing transparency, and holding corporate polluters accountable. Iowa's legislators must pass legislation to enshrine the following slate of solutions into law to ensure that Iowa's water is drinkable for generations to come.

Solution: Mandate Best Management Practices

As it stands now, Iowa's weak regulations have led to an untenable situation. Factory farms and other industrial agriculture operations flood the state's waterways with manure and hazardous waste via several pathways, including seepage or leaking from storage lagoons and overapplication to land.[22] At the same time, Iowa relies on voluntary pollution reduction strategies, while inconsistently funding the very entities tasked with water quality management.[23] This leads to information gaps, backlogs, and mismanagement of public resources.

To address the harms wrought by animal and row crop operations, FWW's Blueprint for Clean Water proposes:

- Prohibiting new factory farms in vulnerable groundwater areas, defined to include karst topography, coarse-textured soils, areas with shallow depth to bedrock, and areas that drain to surface water or groundwater sources with nitrate concentrations that exceed 3 mg/L;
- Mandating stricter construction standards under Iowa Stat. §§ 459.308 & 459A.302 to require that manure lagoons be equipped with double synthetic liners with leak detection to ensure that lagoons do not leak;
- Following science-based management practices for land application of manure by revising Iowa Stat. § 459.313A to prohibit land application to frozen ground, saturated soils, and soils above 50 degrees Fahrenheit (conditions that facilitate nitrate runoff) and to require incorporation of spray-applied waste within 24 hours of application;
- Requiring nutrient management plans that limit nitrogen application from all sources to nitrogen uptake rates for the crop grown;
- Prohibiting application of manure or fertilizer within 250 feet of state waters;

- Mandating implementation of perennially vegetated buffer strips (50-foot minimum around lakes, rivers, and streams; 20-foot minimum around ditches) with fencing as needed to prevent livestock access to water; and
- Requiring maintenance of perennial on-field vegetation (i.e., cover cropping).

To proactively protect water and its management, FWW's Blueprint for Clean Water proposes:

- Eliminating the legal provision in Iowa Stat. §§ 455B.173(2) & 459.311(2) that bars the Iowa Department of Natural Resources (DNR) from taking steps in exceedance of federal law;
- Amending Iowa Stat. § 466B.22 to fund Watershed Management Partnerships (WMPs), which are tasked with conservation and restoration of water quality, and to grant these WMPs authority to regulate; and
- Mandating and funding a public mapping tool for nutrient management plans, allowing the DNR to accurately monitor application.

Solution: Increase Transparency

While lax policies lead to pollution, a lack of transparency leaves the public in the dark. As Iowa's water crisis deepens, the state's response has been to simply look away. In 2023, the Iowa legislature defunded the Iowa Water Quality Information System (IWQIS), which provides real-time water monitoring in streams across the state. The system is poised to shut down in 2026 if funding is not allocated.[24] Blocking access to water quality data will not make the problem go away; rather, it will only guarantee that the public is at higher risk.

Iowa's current policies fail to keep the public informed or to address pollution before it reaches people's drinking water. The DNR relies on producers to self-report manure discharges,[25] as budget cuts have significantly reduced the department's inspection and enforcement capacity.[26] Even discharges that are reported often lack information on the volumes spilled,[27] leaving it an open question just how much manure enters Iowa's waterways annually.

FWW found that between 2013 and 2023, the DNR recorded 179 instances of manure discharges into Iowa's waterways. Volumes spilled reached as high as 1 million gallons, and these violations killed nearly 2 million fish in total.[28] This analysis, however, is likely an undercount. The true toll of Iowa's animal agriculture remains an open mystery, and increased transparency is desperately needed to begin to address the problem.

To properly alert the public and monitor Iowa's water crisis, FWW's Blueprint for Clean Water proposes:

- Establishing numeric water quality standards for nitrate pollution in recreational and aquatic life waterways, to trigger remedial water quality measures before the problem festers into drinking waters;
- Permanently allocating $600,000 annually for Iowa State University's Research Center to operate IQWIS;

- Funding six additional DNR staff to review monitoring reports, conduct unannounced farm inspections, levy fines for legal infractions, and make enforcement recommendations to Iowa's Attorney General's office; and
- Requiring the DNR to inspect a fifth of all permitted animal operations annually.

Solution: Hold Corporate Polluters Accountable

Factory farms do not operate in good faith, prioritizing profit over people, and Iowa laws allow this to occur with impunity. As factory farms continue to operate without National Pollution Discharge Elimination System (NPDES) permits,[29] the DNR assumes that these facilities routinely operate with no discharges, despite ample evidence to the contrary.[30] These facilities sidestep regulation by keeping animal units just below permitting thresholds, enabled by the so-called "LLC Loophole." This loophole allows large operations to artificially divide into smaller entities on the same tract of land under different names to avoid regulation that would otherwise apply.[31] Even if these multiple small facilities pose a larger threat than one large, regulated facility, no permits are required.

Iowa must instead operate on the assumption that these facilities will leak, and the state must put the onus on the facility to prove otherwise. To hold these polluters accountable, FWW's Blueprint for Clean Water proposes:

- Mandating that factory farms operate under NPDES permits by presuming that all large factory farms, as defined by 40 C.F.R. § 122.23(b)(4), discharge to state waters;
- Amending Iowa Stat. § 459.312 to mandate that facilities with manure management plans submit regular data in a publicly available database to demonstrate compliance;
- Instructing the DNR to amend manure management plan requirements at Chapter 65.111 to mandate that farms monitor for discharges during and immediately after land application and upload results to a publicly accessible portal monthly;
- Instructing the DNR to update Iowa Admin. Code Ch. 65.2 to mandate that written reports on manure discharges are uploaded to a public portal within a week of release and that laboratory analysis of discharge, including the total nitrogen and nitrate concentrations, are submitted within a month;
- Lowering permitting thresholds under Iowa Stat. § 459.303(1)(a)(1) from 1,000 animal units (AUs) to 300 AUs; and
- Revising Chapter 65.1 of the Iowa Administrative Code to redefine "owner" to cover any entity with ownership interest, and "common management" to include ownership interest in two or more facilities.

Additionally, to protect Iowans over pesticide manufacturers, the Iowa legislature must resist and oppose all efforts to protect corporate pesticide manufacturers through language granting pesticides immunity from liability. The Cancer Gag Act failed twice in Iowa,[32] with 89 percent of Iowa voters opposed to such language.[33] Any future efforts to pass this bill would be against the objections of suffering Iowans and purely to the benefit of large corporate polluters.

Conclusion

It is long past time to address Iowa's industrial agriculture water crisis. While state cancer rates continue to rise, the Iowa Cancer Registry estimates a staggering 21,200 cancer diagnoses in 2025.[34] As the U.S. EPA takes the unprecedented step of delisting several key waterways from the impaired waters list despite serious and ongoing pollution,[35] Iowans need state legislators to take up the mantle of clean water. Food & Water Watch urges the Iowa legislature to bring forth legislation that enshrines the Blueprint for Clean Water into law to finally bring desperately needed best management practices, transparency, and accountability to Iowa's worsening water crisis.

Endnotes

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