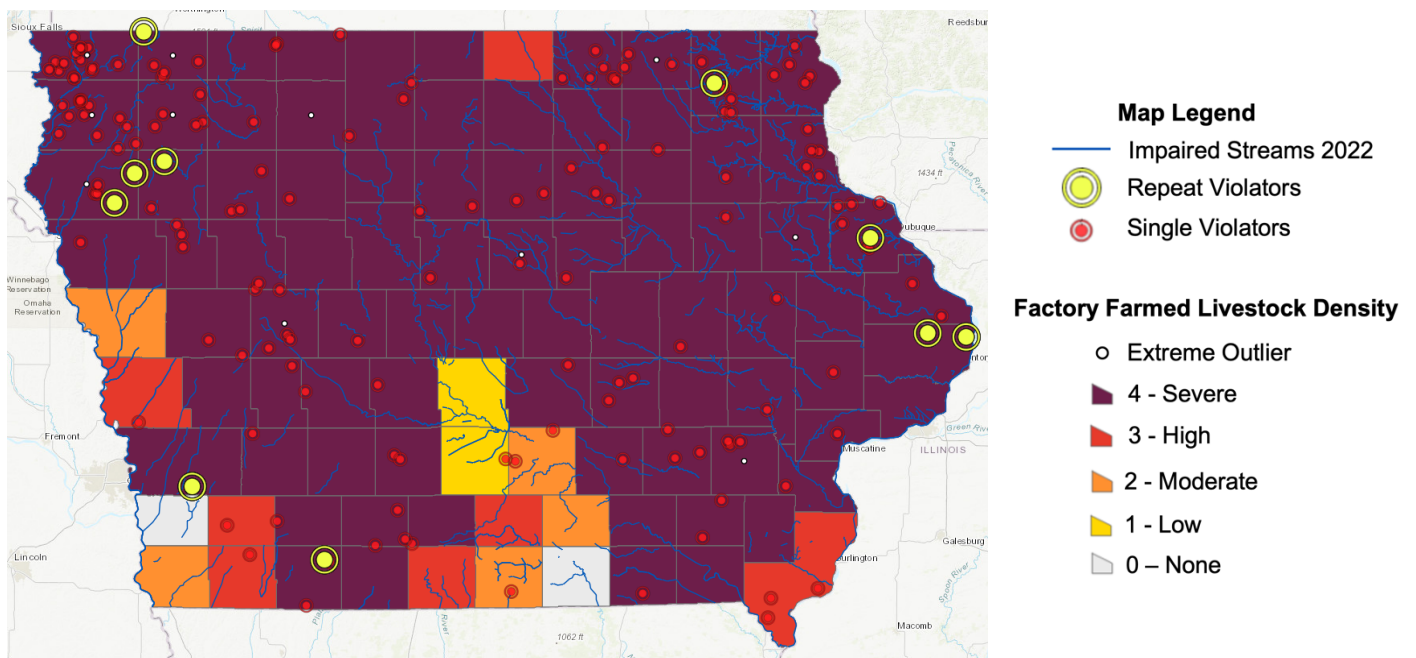


Drinking Dirty Water: Living With Big Ag’s Pollution in Iowa

Factory farming has wreaked havoc on Iowa, tearing apart the fabric of the state’s landscape. And Iowans are paying the price. Over the past decade, the Iowa Department of Natural Resources (DNR) issued enforcement notices for 179 manure discharge violations, with violations as high as 1 million gallons of manure flooding Iowa’s waterways (see Fig. 1).¹

Food & Water Watch’s analysis of this data shows impacted waterways across the state, including numerous tributaries, drainage ditches, creeks, and rivers. An area of particular spill concentration is Northwest Iowa, which is also home to extreme factory farm concentration. Six Northwest Iowa counties — Lyon, O’Brien, Osceola, Palo Alto, Plymouth, and Sioux — are “extreme outliers,” with livestock densities among the highest in the nation.²

Fig. 1: Iowa Animal Operation Discharge Map



Source: Food & Water Watch Analysis of Iowa Department of Natural Resources and U.S. Department of Agriculture

This density contributes to the decline of Iowa’s waterways. As of 2024, 52 percent of the state’s rivers and streams were designated as impaired, meaning that they did not meet quality standards for their usage, with an additional quarter of waterways lacking sufficient data to make this determination.³ In November 2024, the U.S. Environmental Protection Agency (EPA) identified an additional seven waterways to be added as impaired, citing exceedances of nitrate limits for drinking water.⁴

But numbers do not tell the full story. In this special project connecting our research with stories from the frontlines, Food & Water Watch spoke to Iowans who see, smell, and feel the disastrous impacts of Big Ag on their water supplies every day. Mothers are left unable to show their children Iowa's natural beauty, water ratepayers are left footing the clean-up bills for decades of dangerous policy, and farmers are left bearing the burdens of health crisis after health crisis. It all ties back to humanity's most fundamental need: water.

Swimming With the Toxins

Leah Slick Driscoll was born and raised in Iowa. She now lives in Tama, teaching social studies at her tribe's high school and spending as much time outdoors as possible with her husband and children. Unfortunately, due to the poor water quality plaguing Iowa's state beaches, this has become more difficult than ever. In summer 2024, Leah was forced to reroute her family's beach plans at least ten times. Summer 2024 was one of the worst years for beach closures in recent memory, with the DNR issuing 134 warnings for *E. coli* across 39 public beaches.⁵ Another 15 advisories were issued for microcystin, a liver toxin released by algal blooms.⁶ Such occurrences keep the family from spending time outdoors and exploring Iowa's natural wonders.

Outdoor plans foiled

Leah's family has long loved hiking, swimming, and visiting Iowa's state beaches. "During COVID, we probably went on six hikes a week at state parks. At that point, I wasn't really super worried about things." Leah felt that a few years ago, the family was able to access the parks they loved without advance planning. Since 2019, *E. coli* advisories have risen across Iowa beaches.⁷ Lake Macbride State Park is the family's favorite. "We know the trails like the back of our hand.... My kids like to swim in the little waterfall pool by the spillway, my husband likes to fish, I love to hike. Every part of it."

However, the Driscolls feel increasingly constrained by beach closures. What used to be the highlight of their weekends together has now become a tedious endeavor. "It makes it so that we have to go to the same places within our two-hour radius quite frequently. Whereas before, it didn't feel like such a constraint." Leah tells us that her family can no longer hop in the car and expect beaches to be open. "You have to check every time now."

During the summer monitoring season, the DNR tracks beach closures on its website, with an interactive user map highlighting which beaches are open, closed, or not recommended for swimming.⁸ Leah tells us that, at the time of our interview in August 2024, the entire center of Iowa, where she lives, was designated unsafe for swimmers. "It's all yellow." Signs are also posted at the beach site once a week with the week's swimming status.⁹ On average, from 2013 to 2022, the number of



Backbone State Park in the fall

monitoring results exceeding Iowa's *E. coli* thresholds increased compared to the decade preceding it.¹⁰ Despite Iowa's Nutrient Reduction Strategy, initially released in 2013 to reduce nutrient loading in waterways,¹¹ the state's polluted waterways are not seeing relief.

Such impediments to water access take a toll, especially on Leah's children. "If my kids go on this five-mile hike with us, they want to jump into the water afterward." Leah feels that because of the persistent beach closures, her children miss out on important experiences. "It kind of dictates where you even feel comfortable going as a family, and maybe you then just do it less than you would've." For young children, playing outside is key for development, helping them to socialize, connect with the natural world, and stay healthy.¹² Access to green spaces is also essential for reducing health inequities among low-income populations, serving as free and accessible third spaces.¹³ Big Ag's pollution restricts these opportunities, contaminating the resources that many depend on.

Cultural significance of farming

Leah takes personal issue with Iowa's industrial agricultural practices. She grows some of her own vegetables in the summertime, and on the Meskwaki settlement, her tribe runs Red Earth Gardens, an organic food sovereignty farm. "We're part of the organic farmers' alliance in which we trade products with many other organic farmers and people raising animals organically. Obviously, our community feels like pesticides and animal manure and things like that should not be dumped into the waterways." The Meskwaki high school that she teaches at similarly runs a garden and greenhouse, and the foods grown there are used in school meals.

These practices are part of Leah's belief system, and she tells us that beyond just recreational opportunities, water is essential. "It's the center of who we are. It shaped our ways of living and the foods that we ate.... The Earth and water and nature is an animate being, and it has its own rights and its own spirit. Obviously, to [pollute waterways] would not only harm nature, but it would come back around and harm us, as we're clearly seeing now."

As much as the tribe may try to protect its lands and waters, it does not exist within a bubble. "Whatever's going into the river before and after us is going to affect us." This, Leah tells us, means that community conversations often revolve around how Iowa needs stricter regulations to rein in the abuses of factory farms and industrial farming. "We don't have the power to make Iowa laws, but we're affected by Iowa laws or lack thereof. We're affected by what's going on all around our sovereign nation." According to the Meskwaki Natural Resources Department, nutrient levels in its section of the Iowa River exceed values that the tribe deems necessary to protect its cultural values and interests.¹⁴

An avid fisherwoman, Leah also worries about the implications of eating fish that live in these waters. "We're right by the Iowa River, and it's one of the most polluted rivers in the United States. So, it doesn't feel safe to eat fish.... If you are a person that loves to fish and loves to eat fish, then that is definitely changing your lifestyle." The DNR claims that bacteria-filled waters pose little risk to eating fish;¹⁵ however, the science shows that mercury and common pesticides accumulate in fish tissues, creating risks for human consumption.¹⁶ The DNR advises Iowans to avoid eating muskellunge, for example, due to its high mercury levels.¹⁷

Leah applauds smaller farmers that are making efforts to reduce their environmental impacts, but tells us that corporatized and industrialized agriculture is directly harming her and other Iowans. Iowa factory farms produce 109 billion pounds of waste a year, 25 times that of the human population.¹⁸ Meanwhile, over 4,000 factory farms operate without water pollution permits.¹⁹ This enrages Leah. “It makes me feel as if whoever is making that policy is bought and paid for, and they don’t care about the people of Iowa.”

Swimming with bacteria

In mid-August, the Driscolls went to one of their favorite destinations, Backbone State Park, to float on the river and relax in the final days of summer. Their bliss was quickly broken by a stranger, who came up to warn them about the water. “He said, ‘Hey, you guys aren’t going to the beach, are you? If you have any open sores, make sure you don’t, because of worries over the water right now and what’s in it.’” Leah’s kids quickly latched onto the idea of flesh-eating bacteria in the water, talking about it nonstop during the car ride home. “It’s even starting to filter into their minds right now — is it going to be safe for us to swim at the beach?”

In summer 2024, Backbone State Park’s beaches saw an *E. coli* reading 85 times higher than Iowa’s single reading safety standard.²⁰ The park has recorded the most *E. coli* warnings of all Iowa beaches, with 138 advisories issued in the past decade.²¹ Behind these dangers is a familiar suspect, with one park ranger citing the 86,000 acres of farmland that drain into the mere 50-acre lake.²² In the early 2000s, the DNR identified a need for soil retention ponds to reduce this runoff, but no action was taken.²³



Backbone State Park trail sign

Other Iowa waters similarly suffer from agricultural runoff. A 2007 study looking at Iowa’s Silver Lake found that the primary sources of fecal contaminants are cattle and hogs.²⁴ Silver Lake is still classified as an impaired waterway in the DNR’s 2024 update.²⁵ Another 2012 study identified high *E. coli* stream concentrations associated with cropland in the Squaw Creek Watershed, likely due to the land’s treatment with manure fertilizer.²⁶ Runoff following dairy manure application contains bacteria concentrations that exceed federal safety standards,²⁷ which end up polluting waterways.²⁸ Bacteria is the leading cause of pollution in Iowa’s rivers and streams, responsible for 57 percent of the state’s recorded impairments.²⁹ Agricultural water pollutants like *E. coli* and other fecal contaminants pose real dangers to those who encounter them. *E. coli* infections can cause urinary tract infections, gastrointestinal illnesses, meningitis, and even death in vulnerable populations.³⁰ The detection of *E. coli* may also indicate the presence of other bacteria like Salmonella and Cryptosporidium, both of which pose serious disease risk.³¹

Downstream destruction

Yet another disastrous byproduct of Iowa's factory farms is the flooding of waterways with algae. Fertilizer runoff causes faster growth in algal blooms than other causes of eutrophication, such as overfishing.³² Leah tells us that she now frequently sees streams covered with algae and speculates that fewer people will enjoy these waterways. "Who would want to get in and swim around in that? Or who would want to even get in their kayak and go around in that?" The algal blooms are not only visually unappealing, but also a serious danger. People who ingest or come into direct contact with the blooms are at risk of microcystin poisoning, which causes rashes, gastrointestinal problems, asthma-like symptoms, and, at high concentrations, liver damage.³³ These algal blooms also cause deadly poisoning in animals, affecting dogs or other pets that may be exposed.³⁴

Nitrogen releases also endanger ecosystems in the immediate area and downstream. A 2024 nitrogen spill resulted in over 750,000 dead fish in the East Nishnabotna River, the worst such event recorded in a decade.³⁵ Additionally, our research found that from 2013 to 2023, the DNR recorded the killing of more than 1.9 million fish from manure discharges.³⁶ Leah has witnessed fish kills too, ruining outings at her local park. "I'm not really sure how many people want to go walking on a trail when all you smell is dead fish, and terrible sights of decaying fish."

Iowa's ecological harms do not stop at state boundaries. In 2016, Iowa was responsible for 52 percent of the nitrogen load delivered to the Mississippi River Basin, despite contributing just 5.9 percent of the water.³⁷ This excess nitrogen, in turn, contributes to the Gulf of Mexico dead zone located off the shore of Louisiana, decimating marine food chains and killing off species. All this downstream destruction is driven primarily by Big Ag in the Midwest.³⁸

Future generations left in a sacrifice zone

Leah worries for future generations as the water quality declines and politicians fail to tackle the abusive industries behind it. "What does it look like when my grandchildren have children? Will they even be able to swim at any beach in Iowa? Or use the water in any way? Will they even be alive if we don't have fresh, drinkable water?"

At the behest of Big Ag, Iowa has become a sacrifice zone — a space where health and quality of life are sacrificed for profit motives.³⁹ Leah tells us, "If they are able to dump millions of pounds of manure and not have permits, and now, all Iowans are being affected.... I mean, that's the definition of a national sacrifice area. And it's to raise animals that you could argue we want maybe, but don't need." Iowa houses one-third of U.S. factory-farmed hogs, confining 23.5 million hogs.⁴⁰ This has skyrocketed in the past two decades, increasing 77 percent since 2002.⁴¹ "[Hog farming is] a desire, and it's a for-profit business, and everyone is being asked to pay the price for it."

Leah does not trust her local officials to address the state's water crisis or feel it is fair that Iowans are left cleaning up Big Ag's trail of destruction. Her own drinking water contains toxic forever chemicals, known as per- and polyfluoroalkyl substances or PFAS, at levels exceeding the EPA's lifetime health limits.⁴² "We had a local official get on, make a speech to the news that we have forever chemicals in our water in Tama, but don't worry, it's safe to drink.... That really diminished my trust, when that person said that on TV."

To begin to regain people's trust, the state of Iowa needs to concretely address the many crises plaguing its waterways. The persistent closure and destruction of Iowa's natural resources in search of profit and industrial hog production cannot continue if future generations are to be able to access the state's waterways. Legislators must pass legislation that stops the expansion of factory farms and forces polluters to clean up already polluted waterways. Until then, families like the Driscolls will be forced to live in fear of the rivers, lakes, and streams in their own backyards.

Paying Out of Pocket for Pollution

Food & Water Watch's analysis of DNR data found that Iowa factory farms paid less than \$730,000 in response to 179 illegal manure spills reported in the past decade, which killed 1.9 million fish.⁴³ Downstream, Iowans are left footing the skyrocketing bills to clean up drinking water. Joe Henry is one such Iowan. Having lived in Iowa since he was three, Joe dedicates his time to community activism, getting involved in labor fights, social justice, and protecting the rights of Iowa's Latino communities, among other issues. He also serves on the Sustainable Iowa Land Trust, which he tells us works to help young people get involved in farming.

Like Leah, Joe is extremely worried about the state of his community's drinking water. For many years, his water provider has been Des Moines Water Works (DMWW), which provides more than 600,000 Iowans with water across Central Iowa.⁴⁴ Over the past decade, he has watched in horror as his average monthly water bill doubled, from \$50 a month to over \$100 a month in 2024. This, he tells us, is partly the downstream cost of agricultural pollution.

Nitrate contamination plagues waterways

As pollution worsens, public water systems are forced to grapple with expensive and dangerous nitrate contamination.⁴⁵ Recent research found that average nitrate concentrations are on the rise in Iowa's drinking water, with disproportionate impacts on vulnerable populations.⁴⁶ In 2023, nitrate contamination accounted for 40 percent of all violations of health-based standards.⁴⁷ Over the past decade, around 7.5 percent of the population serviced by public water systems has been exposed to elevated nitrate levels over 5 milligrams per liter, with hotspots centered near animal confinement facilities. Individuals in low-income communities and/or communities of color also experience higher exposure rates than the state average.⁴⁸

Des Moines' drinking water is no exception.⁴⁹ The fault for this, Joe tells us, lies firmly with upstream industrial agriculture industries. "These hog confinement facilities that were established by Big Meat, Big Pork...those big ones...really led to the poisons in our waters." Nitrates flow into



Des Moines resident and ratepayer Joe Henry

waterways from manure management practices on factory farms, which may overapply manure beyond what the land can absorb.⁵⁰ Large spills also lead to significant contamination in a short amount of time.⁵¹ On crop fields, including corn and soy fields that produce feed for factory farms, common fertilizers used to increase yield can also leach into waterways.⁵² Although it is difficult to trace stream nitrate back to just one source, research has consistently shown that high crop or livestock densities result in higher waterway nitrate concentrations, often necessitating advanced water treatment downstream.⁵³

DMWW primarily sources water from two waterways, the Des Moines River and the Raccoon River.⁵⁴ Each of these watersheds is blanketed with row crops and animal confinement facilities, contributing to the high nitrate loads. Crop fertilizer is responsible for over half of the nitrate in the two waterways, while manure from confinements fed by these crops makes up another 15 to 16 percent.⁵⁵ This has only worsened over time. As land use changed in the late 1900s from small grains and hay to corn and soybeans, nitrate concentrations increased due to corn and soy's leaching of fertilizers.⁵⁶ Across Iowa, more and more corn is being produced, with Iowa's corn production increasing over 70 percent in 40 years.⁵⁷ Around 15 percent of Iowa's corn goes to livestock feed, perpetuating the cycle of factory farm water contamination, while over 60 percent is used for ethanol, Big Ag's false climate solution.⁵⁸

The crux of the issue is that, to ensure water is clean before it reaches public water systems, the ways that farming and animal production operate in Iowa must change. Joe tells us, "We're going to need more legal action, more legislative action to expose things and to then put forth legislation that would require better quality. But it would definitely change the way in which food production is done, the way in which farming is done. Clearly more needs to be done, because no river is safe now, no beach is safe."

Treating the symptoms

Without these fundamental changes, however, Des Moines must instead operate one of the largest nitrate removal systems in the world.⁵⁹ At the start of summer 2024, DMWW officials cautioned that nitrate levels in the Des Moines River and Raccoon River were already high.⁶⁰ Drought followed by extensive rains drove nitrate levels 50 percent above the EPA's standards, forcing officials to turn on the nitrate removal system.⁶¹ Even with this technology, the city struggles to keep up, with officials cautioning that too much demand could exceed the system's capacity.⁶²

For Joe, it still isn't enough. "We've heard many times that it's one of the best treatment facilities in the country or in the world. It's really up there. But they've admitted, they can only do so much." Joe tells us that the DMWW statements contain information about meeting federal requirements, and the company's 2023 water quality report confirms that all contaminants remain below EPA standards.⁶³ "But I think, for many of us Iowans over the past several decades, we are concerned about going beyond federal guidelines." The EPA regulates nitrate levels in water, and current levels protect against infant methemoglobinemia, or blue baby syndrome. Other health risks, however, were not considered.⁶⁴ A recent literature review found that nitrate increases adverse outcomes for conditions like thyroid disease, certain cancers, and neural tube defects, with many studies finding increased risk even below the regulatory limits.⁶⁵

When asked about his biggest worries around water quality in Iowa, Joe responds simply, “That it’s killing us.” Joe’s wife passed away two years ago from breast cancer, and he tells us, “I’ve always felt that our water quality or lack of it here in the state led to the breast cancer that she had.” He believes Iowans at large are at risk, worrying about potential mental and physical health repercussions. “A lot of Iowans are dying too early.”

Pollution adds up

Rather than penalties being placed on upstream agriculture, ratepayers in Des Moines are the ones left footing the bill. From 2007 to 2024, DMWW’s water rates increased 160 percent, from \$2.30 per 1,000 gallons to a whopping \$5.98 per 1,000 gallons.⁶⁶ With an average four-person household using 7,500 gallons monthly,⁶⁷ the bill comes out to \$45 a month or \$538 a year. This is slightly higher than the average monthly water bill in the Midwest⁶⁸ and, compared to the \$17.25 per month charge of less than two decades ago,⁶⁹ represents a major burden for families struggling to pay utilities.

Nitrate pollution contributes to these costs. Constructing the nitrate removal plant cost DMWW over \$4 million,⁷⁰ and operating costs run as high as \$16,000 a day.⁷¹ In years with high nitrate levels, the utility has spent as much as 9 percent of its annual operating budget just on water treatment.⁷² In 2015, for example, when intake sources exceeded nitrate limits for more than half the year, DMWW spent over \$1.4 million on the removal system’s operating costs.⁷³

Moving forward, as DMWW struggles to adapt and find new sources of water, users will likely see rate hikes of up to 10 percent annually.⁷⁴ In DMWW’s latest improvement plan, the utility lays out plans for an expansion of the Saylorville Water Treatment Plant, citing a capital investment cost of \$159 million. The primary funding source for this and other improvements is, unfortunately, water rates.⁷⁵

Without Big Ag paying its fair share to restore Iowa’s environment, Iowans are forced to pay higher bills. When costs fall onto ratepayers, the city’s low-income residents are placed at higher risk of having their water shut off. During the recession in the early 2000s, as bills piled up, Joe missed a few payments on his water bill. Shortly after, DMWW shut his water off. “It was scary, it was really scary,” Joe reflects. He was fortunate enough to have enough funds to turn his water back on but recognizes this is not the case for many. “I thought of my situation, which was totally different than a family that might not have had the money to pay their water bill. They would be left without water, and water plays such a key role in [the] daily lives of people.”

A 2018 FWW report found that DMWW was seventh in the nation for the highest rates of water shut-offs, with over 11,600 households impacted at the time.⁷⁶ Joe is unsurprised by this. He has challenged the DMWW board on the issue before, voicing concerns that there are no state moratoriums for water shut-offs. State regulations simply require 12 days’ notice before a shut-off,⁷⁷ as opposed to electric or gas utilities, which are prohibited from disconnecting services in winter.⁷⁸ Having his water shut off changed how Joe thought of water. As a real estate agent, he frequently passes houses marked with blue flags or paint, indicating a forthcoming water shut-off. “It’s expensive to turn it back on.” For the 17 percent of Des Moines residents living under the poverty

line,⁷⁹ this can prove an insurmountable cost to access a basic human right, and Big Ag's trail of destruction endangers even more residents.

Officials are failing the state

The state has failed Iowans again and again, and Joe believes that more must be done to rein in the destructive impacts of Big Ag. In 2015, DMWW attempted to do just that by filing suit against upstream drainage districts for failing to prevent agricultural nitrates from flowing into the Raccoon River.⁸⁰ Despite evidence of DMWW's claim, a federal court ultimately dismissed the case on state law grounds, never reaching the merits of the case.⁸¹ Joe commends the effort, telling us that the lawsuit was important, despite the result.

He believes similar efforts to appropriately tackle Big Ag must be made moving forward. In reference to a recent plea from DMWW for residents to voluntarily cut back on water use,⁸² Joe says, "The call to citizens for action to be safe, to be prepared, to take on the battle — that's fine, but to not confront the farming sector, the agricultural sector, the meat processing sector, the state legislature, and the governor? To not do that, it's wrong." He compares the situation in Iowa to a sinking ship. "We can't just expect to ask the passengers to grab a bucket and keep on throwing water out of the bottom of the boat and not figure out how to patch that darn ship up! So legislative action must happen, increased regulation must happen."

Iowa's water quality crisis touches all parts of people's lives, and residents of Des Moines are feeling firsthand the effects on their pocketbooks. Without common sense legislation to clean up Iowa's water and make polluters pay, this will only lead to higher bills and less safe water. Iowans like Joe Henry are demanding the right to know what is in their water and how state officials are going to address it. Government regulation is needed to challenge Big Ag's iron grip on Iowa's farming system and to enact clean water policies that put people first.

Big Ag Imperils Iowans' Health

At the time of our interview in July 2024, Nick Schutt could list 17 members of his immediate family — parents, siblings, cousins, aunts, and uncles — who have been diagnosed with cancer over the past few decades. The toll is incomprehensible. As another lifelong Iowan, Nick grew up on a farm, and he has lived around Iowa's vast agricultural lands all his life. He drinks water from a private well on his land, as have many of his family members. Nick firmly believes that this water, tainted with decades of factory farm abuse and fertilizer runoff, is a root cause of his family's cancers and other illnesses.

Playing with fire

Growing up in a town of 300, Nick and his friends didn't have much to do in town. They would ride bikes out to creeks or agricultural dredge ditches, watching minnows pass by and catching tadpoles. They would explore nearby ghost towns, playing around abandoned fields and water wells. They even used to drink from an old hand pump in one abandoned field. This may be a familiar story for rural communities across Iowa, but it is one that Nick now looks upon in horror.



Nick Schutt with FWW Organizer Michaelyn Mankel

Alongside the minnows and tadpoles in the creeks were empty, rusted-out chemical cans. He specifically remembers finding cans of Monsanto's Lasso, a toxic herbicide that has been linked to liver, kidney, and eye damage when ingested in water.⁸³ Nick tells us, "There's a lot of us kids growing up, and we all have the same sentiment that we shouldn't have been back there, catching tadpoles. That should've been roped off. We didn't know it would affect us back then. It's affecting us now."

Nick grew up to work for an infamous name in Iowa factory farming: Bruce Rastetter of Summit Farms. Rastetter founded the fastest-growing hog confinement operation in Iowa and is now the CEO of Summit Agricultural Group, which has faced massive landowner opposition over its dangerous carbon capture pipeline project.⁸⁴ Nick worked at Summit for five years, spending four years in the shop and one year feeding cattle. He tells us, "I needed a job, and I bowed my head, and I went to work for them." His time there gave him an inside eye on the daily ins-and-outs of factory farming, leaving him with a sour taste in his mouth. Today, he splits 80 acres of

inherited farmland with his brother and works in Hardin County waste management, helping with the HAZMAT program. He enjoys the work, telling us it gives him an opportunity to keep the toxins out of Iowa's waterways.

Private wells offer hidden dangers

Nick, alongside around 260,000 Iowans, relies on a private well for his water supply.⁸⁵ Although his county offers free water testing, he has not had his water supply tested since purchasing the property 26 years ago. "I'm scared to death to have it tested. To be here most of my life... I don't know how I'd react if my well tests come back bad." Nick is not alone in this; only about 10 percent of Iowa households with private wells had their water tested in 2021.⁸⁶ Either way, no one in Nick's household drinks the tap water. Every time he has his grandchildren over, Nick makes sure to stock up on water bottles.

The largest threat to drinking water supplies in the region is, again, nitrate contamination from agriculture. But unlike in Des Moines' public water system, private well owners have little recourse for filtering out these contaminants. While 70 percent of households use water filters, only 10 percent have one that removes nitrate, and 50 percent of households supplement their tap water with purchased water.⁸⁷ This is an invisible crisis for well owners. Among wells tested by the DNR, about 1 in 10 wells had nitrate concentrations above the EPA's action level (10 milligrams per liter). This doubles when the threshold is lowered to 5 milligrams per liter.⁸⁸ As noted previously, numerous health impacts have been found when consuming nitrate-contaminated water for long periods of time, even below the EPA's action level.⁸⁹

Although Nick has not tested his well, his parents have tested theirs. Their results came back showing high levels of arsenic and bacteria in the water, worrying Nick. “For Christmas, I bought my mom a water dispenser with a jug on top. Yes, I bought it for her, and my brothers and sisters giggle because Mom says, ‘Now I got two jugs of water I need brought in.’ I grunt, and I roll my eyes, and I go out and carry it in.... I seriously believe that I’m going to have to step up, purchase a system for my house, and I think that’s a shame.”

Growing up, Nick’s daughter contracted illnesses that were resistant to amoxicillin, a common penicillin antibiotic used in children to treat ear and chest infections.⁹⁰ Nick told us, “For my daughter, it didn’t work at all. We had her on many different other drugs to take care of what amoxicillin should’ve.” This is terrifying for any parent. Moreover, there is a link between the rise in factory farms and antibiotic resistance. As factory farms pump animals full of growth hormones and antibiotics, the situation can create antibiotic-resistant bacteria, which then directly infect humans or pass the gene onto other strains. Human infections of these antibiotic-resistant strains are untreatable by conventional antibiotic treatments.⁹¹

Alarming, the majority of drugs critical in healthcare go towards livestock, which consumed 65 percent of all medically important antibiotics as of 2019.⁹² Multiple studies of groundwater or surface waters near factory farms found that the majority of pathogens or bacteria identified in the water were resistant to at least one antibiotic.⁹³ One study specifically identified resistance to ampicillin, another common form of penicillin.⁹⁴

This problem is endemic to factory farms, where the crowded, stressful conditions have created breeding grounds for disease. Conversely, livestock on Nick’s family-scale farm rarely needed antibiotic intervention. “On our family farm, it’s very, very rare that we ever gave any shots. Period. We never had any trouble with disease. Very rare.”

The factory farm next door

Nick’s house and drinking water well are situated just south of a Summit Farms cattle operation, which houses around 3,000 cattle.⁹⁵ Nick objected to its construction, telling us, “I was terrified to see them spread manure around my acreage. Because I was afraid of the water contamination.” He worked for Summit at the time, putting him in a difficult position. “They told me their plans, and I said, ‘No, just because I work for you don’t mean I’m going to roll over and play dead.’ And they asked me what my concerns were. I said the manure. The water quality. Air quality. My roads. My property values. The fly issues.... I didn’t have the money to fight it in court. How do you fight your boss when he’s signing your paychecks?”

Nick now sees many of the effects he had worried about. “I’ve noticed a tremendous increase in the amount of flies and insects here at my house.... Millions and millions of gallons of manure — where are they going? They’re going on top of the land, untreated, and eventually filtering down through the pores and into our groundwater.” These are all too common occurrences across Iowa.

Iowa’s factory farms produce 300 million pounds of manure every day — 25 times more than the state’s human population.⁹⁶ Unlike human sewage, hog and other livestock waste is not typically treated, and is often sprayed on farmland.⁹⁷ Iowa’s factory hog farms can generate more manure

than can be sustainably absorbed by nearby fields, contributing to runoff that pollutes soil and water.⁹⁸ In Hardin County, where Nick lives, there are around 1,500 factory-farmed hogs per square mile.⁹⁹

Nick also tells us about a fish kill he witnessed in a nearby stream. “One day, I noticed a lot of minnows, a lot of shiners up on the bank. Lot of the time, our raccoons or possums or whatever will drag them up on the bank to eat. This day, I noticed way too many. And later on in the day, I heard through the grapevine that there was a fish kill.” Like Leah, he finds these sights troubling.

Nick feels that the DNR has failed to respond properly to manure spills. Iowa law prohibits any manure from entering waterways of the state or tile drainage systems.¹⁰⁰ However, the DNR relies on producers to self-report these discharges,¹⁰¹ as budget cuts have significantly reduced the department’s inspection and enforcement capacity.¹⁰² As factory farms continue to operate without National Pollution Discharge Elimination System (NPDES) permits,¹⁰³ the DNR assumes that these facilities routinely operate with no discharges, despite ample evidence to the contrary.¹⁰⁴ NPDES permits are the EPA and the state’s primary pollution control mechanism, imposing strict limits on pollution and ensuring technological compliance.¹⁰⁵ Instead, Iowa’s waterways continue to fill with pollution and manure, and, as Nick said, it is likely some of these discharges go unreported and unaccounted for by the DNR. Even those that are reported often lack information on volumes spilled,¹⁰⁶ leaving it an open question just how much manure enters Iowa’s waterways annually.

Cancer diagnoses

With all this pollution, Nick says it’s no surprise that Iowa has the fastest growing rate of new cancers and is second in cancer incidence overall.¹⁰⁷ “I can’t believe Iowa’s not number one [in incidence], with the gallons and gallons of chemicals and herbicides that I see going up and down the road every day. Semi-loads of people out spraying.... It’s trickling down somewhere, and it’s going into our water.”



Nick Schutt speaking about his experiences at FWW's Clean Water Forum in Des Moines

Nick knows all too well about the rate of cancer in Iowa, with three of his four siblings receiving cancer diagnoses. His father has been diagnosed with breast, prostate, and bladder cancers, and his mother had bladder and kidney cancer. Twelve of his siblings and other close relatives have also suffered cancer diagnoses, including liver, stomach, thyroid, and brain cancer, among others. His younger sister had a double mastectomy and hysterectomy due to abnormal cervical cells, which breaks his heart. “She’s never had kids, she never will have kids now. All she’s ever wanted is to be a mom. She’s a pretty good mom to my grandkids, so that’s the best we can give her.”

Shortly after our interview, Nick's older sister, Tammy, passed away from cancer. As a nurse, Tammy would accompany her family members to their appointments, helping them understand the medical jargon and treatment options. She also helped Nick create a chart of the family's medical history prior to our interview, tabulating the seemingly endless diagnoses. Tammy was going to testify her story alongside Nick's in this piece, but tragically became too sick to do so.

Although Nick has not received a cancer diagnosis, he has found seven or eight cysts all over his body. "I've had them on my neck, on my arm, my tailbone, my chest. The scary thing about these is, I have a neighbor, who is a cousin of mine, she's also had a lot of these in the same places. So, it really makes you wonder." The cysts have been benign thus far, but Nick worries. The cause of all of this, he firmly believes, is Iowa's poisoned water.

A major focus of concern in Iowa's cancer discussions is the prevalence of nitrate in drinking water.¹⁰⁸ Half of the synthetic nitrogen fertilizer that is applied runs off, contaminating surface and groundwater, and nitrate levels in aquifers under agricultural land are three times the national level.¹⁰⁹ Health concerns emerge as ingested nitrate travels through the body and converts to N-nitroso compounds — most of which are carcinogenic.¹¹⁰ A cohort study of women in Iowa found that long-term consumption of water contaminated with nitrate greatly increased the risk for ovarian, bladder, thyroid, and kidney cancers, even at levels below federal standards.¹¹¹ A national study estimates that the annual toll of nitrate-attributable cancers is as high as 12,594 diagnoses, with the strongest association for colorectal cancer.¹¹²

Other on-farm sources like pesticides and exposure to ultraviolet radiation also contribute to cancer rates. Agricultural populations have excesses of certain types of cancer, including prostate, brain, and lip, as well as lymphoma, myeloma, leukemia, and melanoma.¹¹³ Many pesticides are linked to thyroid-disrupting properties, contributing to the risk of thyroid cancer in these populations.¹¹⁴

In 2024, an estimated 21,000 new cancers were projected to be diagnosed in Iowa, with an estimated 6,100 Iowans dying.¹¹⁵ Nick sees this happening more and more. "It seems like people around here are dying younger and younger all the time. You go to their service, and everyone gets the general consensus it was too early for them." Cancer mortality is not distributed evenly, either. Iowa has the third highest cancer mortality rate for Black residents, with death rates for breast and prostate cancers higher among the Black population compared to the state as a whole.¹¹⁶

Meanwhile, medical facilities are shuttering. In Hardin County, Nick tells us, there is no longer an OB-GYN who can deliver a baby, a common problem in Iowa.¹¹⁷ The county's mental health facility has also closed. It is well-documented that the moving in of a factory farm degrades a community's social fabric, resulting in greater income inequality, declining populations, deteriorating civic participation, and fewer and/or poorer public services.¹¹⁸ Nick tells us, "It's just very scary.... Our services are disappearing, and the [factory farms] we're creating are basically places that are killing us." Almost half of rural Iowans say that access to medical specialists is a problem in their community.¹¹⁹ When the factory farms come in, only the corporations benefit.

Iowa needs to address these crises

As with the other residents we interviewed, Nick mistrusts state officials. In April 2024, the Iowa Senate voted to shield Bayer, the manufacturer of the herbicide Roundup, from lawsuits over health impacts.¹²⁰ Nick thinks this is completely wrong. “Right there is showing a cover-up, people should have the right to be reimbursed or redeemed for the damages done.... Right there, our governor is showing her willingness to keep companies like that going, by prohibiting and restricting the amount a person can seek for damages.” The bill did not get a House vote in 2024,¹²¹ but was reintroduced in the 2025 session as Senate Study Bill 1051,¹²² teeing up another fight against Big Ag for Iowans’ health and safety.

When it comes to water monitoring, Nick believes the state is going backward. In 2023, Republican lawmakers cut half a million dollars from the Iowa Nutrient Research Center, which operates 70 real-time water quality sensors across the state. While the loss of funding has not shut down the program completely, it has severely hindered the ability to analyze these data.¹²³ To Nick, this is just another admission of guilt by the Iowa legislature. “I do believe that right there...is an admission that we’re not doing as good as what we claim we’re doing.”

But instead of the blame lying at the feet of Iowa’s government and Big Ag, Nick has his complaints twisted around back on him by the industry. “If I complain about the flies or a smell issue — ‘Well, you got horses out there.’ I got five horses. There’s [3,000] head of cattle north of me.... I think people need to sit down and think about the issues and determine where this pollution’s coming from.... It’s the facilities with 2,000 head of cattle and 2,400 head of pigs, distributing 1.2 million gallons of manure on the land. That’s where it’s coming from.”

Iowans recognize that factory farms endanger health and safety in unimaginable ways, and people are scared. When Nick asked his family if he could share their stories, they responded, “Share the story, please, share the story.” He tells us, “My family’s scared. My neighbors are scared. We gotta get something going.”

Climate Change Worsens the Crisis

Iowa’s water pollution crisis will only accelerate as climate change worsens. Already, in 2024, Iowa experienced drought followed by intense rains, leading to high nitrate runoff in waterways.¹²⁴ Over the next century, average precipitation is likely to increase, and severe storms will intensify.¹²⁵ At the same time, summer droughts are projected to worsen.¹²⁶ Every resident we spoke with is concerned about the grave dangers posed by climate change.

Leah spoke to us about how algal blooms were rare when she was growing up; now, she describes small waterways as “choked with it.” Sixty percent of Iowans have witnessed at least one algal bloom, and 39 percent have seen two or more.¹²⁷ As climate change intensifies, conditions for algal bloom growth are more favorable as extreme precipitation events become more frequent and temperatures warm. More agricultural runoff funnels more nutrients into the waterways, and intense precipitation followed by long drought encourages blooms even more.¹²⁸ The Midwest is particularly vulnerable to increasing algal growth.¹²⁹

Joe believes “without a doubt” that climate change will lead to increased water rates. Water scarcity leads to increased rates when emergency measures or new infrastructure becomes needed during drought,¹³⁰ but that does not even factor in ensuing water quality issues. Drought followed by rains, coupled with higher water demand in summer, leads to increased need for the nitrate removal system in Des Moines, putting even more pressure on the costs of water.¹³¹ DMWW officials know this too. For several years, officials have sounded the alarm about difficulties sourcing and cleaning up water due to the increased nitrate loads following drought.¹³²

Climate change-induced flooding poses yet another danger, wherein floodwaters breach manure lagoons and flush a toxic “fecal soup” mixture laden with bacteria, parasites, viruses, and nitrates into homes and waterways.¹³³ Nick tells us, “We’ve seen it this year, with the flooding that’s happened.... I believe I had heard the story of 17 different [livestock] confinements that were [under] water.” In June 2024, catastrophic storms and flooding caused the Biden-Harris administration to announce a disaster declaration in five northern Iowa counties.¹³⁴ FWW analysis finds that these five counties are home to over 900 factory farms, producing a collective 23.6 billion pounds of animal waste annually — 175 times the counties’ human waste.¹³⁵ Numerous lagoon discharges occurred in Clay, Dickinson, Lyon, O’Brien, Osceola, and Sioux counties.¹³⁶

Nick tells us, “You’ve got that manure in the pits that becomes submerged. That water flows down through the waterways of some of these towns. This water is actually getting into people’s houses, with them having to go in and clean up the mess afterward. I think that’s a total shame.” He also worries about the overflowing of “dead boxes” — the uncovered storage containers where factory farms stack dead animals.¹³⁷ “When they’re lying in that box, all swelled up, the fluids are secreting from their bodies, whether its blood, urine, pharmaceuticals — that’s all getting into our water by running down into our ditches.” The thousands of miles of rivers, communities, and farmlands alongside these waterways will see increased flooding,¹³⁸ putting even more people in danger from factory farm overflows.

Conclusion and Recommendations

Iowa’s water crisis is urgent and deadly, but there is hope. Even as factory farms continue to mangle Iowa, people are fighting back. Everyone we spoke to is determined to advocate for a cleaner and safer Iowa, to protect their communities and future generations. Concerned residents like Leah, Joe, and Nick are stepping up to do their part, by teaching future generations about climate impacts, by advocating for a moratorium on water shut-offs, and by calling the DNR relentlessly to report instances of factory farm mismanagement.

This crisis should not fall upon their shoulders, however. They are also calling on Iowa’s elected officials to finally break free from the stranglehold of agribusinesses and to take action to protect people. Legislation like the Clean Water for Iowa Act, which would require that all medium and large concentrated animal feeding operations obtain water pollution permits, is an important first step in addressing factory farm pollution and Iowa’s failed voluntary nutrient management system.

Food & Water Watch recommends:

- **Pass the Clean Water for Iowa Act:** Voluntary approaches have proven that Iowa's corporate agriculture industry will not regulate itself. The Iowa legislature must pass the Clean Water for Iowa Act, a mandatory approach to keeping waste out of the state's water.
- **Pass a factory farm moratorium:** The legislature must also pass a moratorium on new and expanding factory farms to prevent this crisis from worsening.
- **Stop Big Ag power grabs:** Iowa's elected officials must reject any efforts to provide immunity to the manufacturers of the dangerous pesticides and chemicals used throughout the state as part of industrial agricultural practices.

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